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1. General overview

The various verb tenses of Logoori are marked not only by adding segmental prefixes and suffixes such as *-ra-*, *-ki-*, *-l-*, *-aa-*, they also involve various tone patterns on the stem or Mstem. This chapter focuses on how tone functions as a component of the verb inflection system. There are a number of distinct melodic patterns of Logoori verb inflection, and this chapter strives to organize the data so that instances of the same pattern are found together. The main problem is that patterns are epiphenomenal, arising from the interaction of various factors, especially particular tone rules, which may apply in more than one group of tenses.

See Chapter Z for an overview of general tone processes in Logoori, in particular Leftward Spread, and general phonotactics (the lack of rising tones, the restricted distribution of falling tone; the interpretation of non-H tone as “toneless” versus “L toned”). The main pattern-independent details of tonology are as follows. Logoori phonology operates primarily in terms of a few syllables that are marked as H-toned, as opposed to most syllables which are toneless. Every verb root is lexically either H or L, alternatively H or Ø. No other morphemes in the verb clearly have underlying H, instead, their surface H tones are a consequence of being in a particular inflectional construction. For example, the various subject and object prefixes do not have distinctive lexical tone, instead the tone of a subject or object prefix is determined by the particular tense form that they appear in. No tense prefixes or suffixes clearly have their own tones, and there is no reason to treat any of the prefixes *-ri-*, *-ra-*, *-ka-*, *-ta-*, *-ki-*, *-a-* as having a particular lexical tone.

The lexical distinction between H roots and toneless roots is somewhat variable. The evidence for identifying a root as H vs toneless is always limited and not lexically robust (minimal pairs are rare). As will be seen throughout this chapter, in numerous tenses the H/Ø distinction is totally erased. In many tenses, it is contextually obscured so that H vs. Ø is detectable only sometimes, for example, vowel-initial verbs often neutralize the lexical distinction, and long stems (3+ syllables) tend to neutralize the distinction. All other aspects of verbal tone can be predicted from morphological and phonological context. The tone of the verb is computable from knowing the tense (including clause type and other inflectional characteristics), the presence of an object prefix (OP), phrasal position, root tone, and prosodic properties of the (M)stem. An interesting quasi-phonetic quirk is that final lexical H in a CV stem is subject to a tone copying rule whereby /kʊ-ryá/ → [kó!ryá], but a melodic tone in an otherwise analogous context does not undergo such copying, for example [va-ryí ~ vá-ryí] ‘that they eat’ where the final H is the M3 melodic H.

Certain positions in the stem are targeted for H assignment, depending on the lexical class of the root and the verbal form. Lexically-H verbs inflected with the M1 pattern have a H on the root-initial syllable, or on the object prefix if one is present. Depending on the verb form, there may be a final H, a penult-variable H, or one on the second stem mora. H generally spreads to the left by Leftward Spreading but can also spread to the right in the M3 pattern. The locus of tone assignment can be variable, so that in the M2 pattern, H is assigned to the second stem mora with a toneless root (*vaki-gánágana* ‘they are still thinking’) but to the final mora with a H root (*vake-vodóng’ánú* ‘they are still going around’). There can be as many as three H tones in the Mstem: one

on the OP, one on the final syllable and one on the penult, e.g. [ɔry-úú!mbá!ká] ‘the one who will build’. Then depending on prosodic conditions of the stem, there may be local readjustments, for example theoretically-expected rising tone does not exist, instead H delinks from the would-be rising toned syllable (example: /va-ri-éyá/ undergoes glide formation and would be expected to create *varyeéyá*, but instead H delinks from the penultimate syllable and we find [varyeeyá] ‘we will sweep’).

The basic melodic patterns can be summarized as follows. There is a necessary lexical distinction between L vs. H roots, and some evidence that the distinction is registered on the root-initial syllable. Depending on inflectional form, one or two H tones may be added to the stem. The first melodic tone is assigned to various positions in the verb, and the second H is any is assigned to the final vowel. T1 can be word-initial, root-initial, on the second syllable or the second mora, it may spread to the right under restricted conditions but usually only spreads to the left. T1 may unconditionally be assigned to the final vowel, or it may have a variable position (second mora or final, depending on lexical tone). A lexical H deletes if there is a melodic H, but the position of assignment of the melodic tone may still be sensitive to whether the root is a H root versus a L root. Verb forms then also differ in terms of whether their melodic tones are sensitive to the H / L distinction, or treat all verbs the same. The distinction between deleted H vs. L is also detectable in terms of lexically-governed limits on LS – in certain tenses, deleted H (usually) defines the left edge of an LS span. Finally, patterns differ in terms of phrasal deletion of melodic H. Certain melodic Hs delete when followed by a word in the clause, and others retain their H. The general pattern is that final melodic tones delete, though only ‘intentionally’ final, that is those H assigned to the final as opposed to to some other position which happens to be in a certain case word-final.

The overall structure of the presentation focuses on particular tenses sorted by stem-pattern. Secondary variants of the main melodies can be identified by a specific change in pattern associated with some morphological feature. Since double-OP structures were not well-studied (they are not uniformly accepted), the tonology of double OP forms is briefly discussed separately, after the various melodic patterns have been presented. We move from main clause to relative clause and then to relative-negative clause verb forms, since these are the main clause-type determinants of tone pattern. Within those groups, verbs without an OP are considered first, then verbs with an OP. In the parts that involve an OP, it may be necessary to first present patterns for CV OPs then the 1s and reflexive OP, but the two subsets may be treated together if there is no tonally-significant difference in pattern. In all sections, it may also be necessary to subdivide verbs in terms of the subject prefix (SP), especially when the prefixes may contrast the shapes V (ɔ- 2s), N (1s) and CV (kɪ- Cl. 7 etc).

At the end of each pattern’s section there is a summary analysis of the disposition of the melodic tones when followed by modifiers. There are three issues of interest. First, citation H tones in the stem may be deleted when followed by other words. This deletion is relatively restricted in scope compared to the range of realizations for the various melodic tones, so it is possible to devise general rules regarding M1 (there is no deletion) or M2 (final H deletes in main clause forms), and so on. Second, the extent of Leftward Spread from following words into the verb is sensitive to the melodic tone pattern of the verb. Third, certain words receive a H because of the immediately preceding verb: whether or not this happens is partially a function of the verbs melodic pattern.

Within the subsections on relative verb forms, separate treatment may be given to headless relative forms especially those in cl. 1, which can significantly modify the general pattern of a tense.¹ Then finally, verb stems are considered in terms of increasing size from 1 to 5 or more syllables, controlling for length in at least the first two stem syllables, and also considering V-initial stems after C-initial stems because V-initial stems present additional complications. The structure of each section is ultimately adjusted according to the descriptive requirements of the section, thus H vs. L roots are not extensively distinguished under pattern M1 with OP because H and L roots are indistinguishable: but under pattern M2, H versus L lexical tone on the root plays a more significant rule in the tone pattern. In short, the factors affecting verb tone are extremely complex, yet rule-governed.

One of the fundamental limitations of this study of Logoori especially in the area of verbal tone is that the immensely complex details spelled out here have not been fully checked with all speakers, thus certain forms may derive (almost) exclusively from one speaker. Verbs analogous to *vakadeechi* ‘did they cook’ – the ‘dubitative’ perfective were only gathered starting in 2022 because it was not previously known that such constructions exist. Proper attention to relative clause variants only started in 2018 when tonal differences between main and relative clause verbs was observed, by which time work with FA, PM, RL and BK had come to an end.

Although verb tone is rule-governed, the system of rules is obscured because some of those principles are optional, therefore one or more pronunciations exist. This is especially true with the distributionally-dominant M2 pattern, which has significant variants, one manifesting (at most) a single stem H and the other with two or even three stem Hs. Hence we find both *rwá vatarikorákóóra* and *rwá vatarikorá!kóóra* ‘when they will not release us’. There are multiple factors which weight the frequency of one outcome versus the other in the data, which may give the impression of a numerically-based gradient system. It is therefore important to understand the nature of the data, so that one does not reach improper theoretical conclusions, thus I reiterate points made in the introductory chapter. The data have been collected from over a dozen speakers and many years. EM is the speaker who figures most prominently in these data, and there is little verbal-paradigm data of any sort for a number of the speakers. Moreover, in the course of elicitation, vast numbers of new facts were uncovered which implied even more new lines of investigation. Data on a particular grammatical issue may therefore be limited to around three sessions of interrogation. This means that control over variables that may influence linguistic form is weak,² and not suitable for statistical analysis. For

¹ This is because the subject prefix may be /ó/ whose tone shifts to the right, causing a cascade of other effects – though in some tenses, especially when followed by a number of other tense prefixes, H shifting from the SP has no effect on stem tone.

² For instance, future tenses of the form SP-ri-ka-STEM-e are superficially very similar to those of the form SP-ri-ka-STEM-a, indeed the semantic difference seems to reduce to the latter meaning in addition ‘V will happen *provided something else happens*’. The two formal differences in the forms are the final vowel, and the tone pattern. It therefore becomes a significant contextual variable whether, in eliciting the pattern SP-ri-ka-STEM-a, I have previously elicited SP-ri-ka-STEM-e within the month (speakers do not erase all memory of prior elicitation sessions). The significance of prior elicitation of such “similar” patterns is that a surface analogy can influence a speaker to adopt a tone pattern that he would not otherwise adopt. Multiple elicitations then allow robust generalizations to come to the surface, but there can also be a

this reason, I limit my analysis of frequency of occurrence to vague qualitative statements such as “rarely”, “sometimes” or “often”.

2. M1: No melodic tone

The M1 pattern imposes no special tone requirements on the verb stem, and only reflects application of ordinary tonal rules. The basic pattern is that the initial syllable of a H root has H, there is no H when the root is toneless, and if there is an OP, that prefix has the only H. There are many ways that this pattern could be encoded in a formal grammar.³ The theoretical interpretation of the generalizations about roots and OPs is outside the scope of this work. For all intents and purposes, we are dealing in this section with a H on the OP or root-initially for H roots, as our phonological initial state. Given that initial state, other tonal processes determine the exact realization of the M1 pattern. Those patterns are uniform in the set of M1 tenses. The exposition starts with the infinitive, where we scrutinize contextual tone modifications closely, then we move to other forms which confirm the generality of these processes.

Two tenses, discussed in X and Y, formed on the pattern -{ri/ra}-(ka)-ROOT-e, vacillate in their tonal behavior between the M1 and M2 patterns, where these form have a disignificant tendency to follow the M2 pattern in relative clause forms.

2.1. Infinitive

The structure of this section is as follows. First, the pattern with no OP is presented, then that with an OP is presented. Within those sub-patterns, a distinction is made regarding L versus H roots, and within both of those groups we see the realization of C-initial vs. V-initial stems

2.1.1. WITHOUT OP

The simplest pattern is found in L verbs: regardless of shape of the stem, the verb is entirely L-toned.

kosha	‘to grind’
korima	‘to plow’
koteeva	‘to ask’
kosarama	‘to boil’
korakoora	‘to release’
koyiinzira	‘to work’
koyoombooka	‘to be all over the place’

residue of pseudo-variation where certain uttered forms are simply mistaken. The variable patterns that constitute the single H / double H sub-patterns of M2 are quite robust and consciously volunteerable, but numeric data on frequency is not meaningful given the elicitation circumstances.

³ For example, H roots presumably have an underlying H: that H might be lexically associated to the root-initial vowel, or might be floating and assigned by rule. The OP might also have H, and a rule might assign any H’s to the first Mstem vowel. The reduction of lexical root and OP H to a single H might be the result of a tone mapping rule targeting a single position.

kotavagira	‘to be boiling’
koveenzegeera	‘to belch’
kudaangooyana	‘to stagger’
kosimugokiza	‘to revive’
kogaraangatana	‘to fall and roll over’
koroungikizirana	‘to straighten for e.o.’
kouza	‘to come’ ⁴
kweepa	‘to want’
kwiivilla	‘to forget’
kweepana	‘to want e.o.’
kwaanigira	‘to go up’
kwaambokirana	‘to ford for e.o.’

If the root is H-toned, the first root syllable has a H tone.

kovéga	‘to shave’
kukáraga	‘to judge’
kukáraanga	‘to fry’
kovódong’ana	‘to go around’
kofóñiriza	‘to sniff’
kukáraangiriza	‘to fry over and over’

If the root-initial syllable has a long vowel, it is realized with a falling tone in disyllabic roots.⁵ If the first root vowel is long and precedes the penult, it is realized with a level H.

koréeta	‘to bring’
kosiísora	‘to chop weeds’
kokóúmbeella	‘to hug’
kutóóngamija	‘to invert’
koháángarizana	‘to argue’

A H-toned CV root has up to four realizations. One is with a single final H, and a second is with a generally-L level pitch throughout the word (notated with ° at the end). Final H and the ‘final flat pitch’ sequence are transparently interchangeable, in that any word with final ...L° can also be produced with single final H, which is to say, there is a rise in pitch at the end in the case of a single final H. Transcriptions also include both [kónwá] and [konwa°], which are phonetically distinguished by the former having a higher pitch than the latter. The distinction [...CVCV°, ...CVCV́, ...CVCV́] could in principle be phonologically distinct representations, where perhaps ...CVCV° has a floating H after

⁴ The root /Vza/ ‘come’ behaves like a vowel-initial verb but does not have a clear and specific underlying vowel, instead it causes lengthening of whatever vowel immediately precedes the root or in case the preceding prefix is /-N-/, the vowel [i] is inserted. Examples of this root will be presented along with roots like /-ep-/ ‘want’, to which they are most similar.

⁵ As noted in X, there is phonetic variation in the realization of fall which at times gives the impression that fall optionally becomes level H.

the word, ...CVCV́ has H on the final vowel and ...CVCV́ additionally undergoes Leftward Spreading. There are other reasonable interpretations of these phonetic patterns, for example ...CVCV° and ...CVCV́ may both have a single H linked to a sequence of vowels, and ...CVCV° is simply the case where that H has a relatively low F0 – thus ...CVCV° vs. ...CVCV́ (which are in free variation) merely reflect the continuum of possible pitch realizations for final H.

Finally, final H may split into two Hs separated by a downstep, thus ...CVCV́!CVCV́. Final tone splitting does at least in some cases represent a special phonological property of final lexical (non-melodic) H in a CV stem, but may also represent a variable phonetic pitch-lowering of H on just the final syllable. Insofar as it is not firmly established that these effects are phonological or that they are phonetic, they will be included in transcriptions. The reader is cautioned to not thereby assume that a particular pitch pattern in a token must derive from a phonological rule.

konwá, konwa°, kónwá, kó!nwá	‘to drink’
kuryá, korya°, kó!ryá	‘to eat’
kutyá, kotya°, kó!tyá	‘to fear’

When a H root is vowel-initial, the infinitive prefix merges syllabically with the first root syllable, resulting in a long vowel in all cases. The resulting pattern is the same as with CVV-initial roots. When the H is on the penult, the H tone is realized as a falling tone, and otherwise the syllable has a level H.

kwíita	‘to kill’
kwíígota	‘to be sated’
kwíítana	‘to kill e.o’
kwáávokapa	‘to separate’
kwáataanya	‘to smash’
kwáámbaaya	‘to swing while hanging’
kwííchigatira	‘to not know what to do’
kwéévoyooga	‘to be slow to act’
kwííyaamora	‘to sneeze’

2.1.2. WITH OP

When an object prefix is added, the distinction between L and H roots is eliminated: instead, there is a single H on the OP. This is transparently seen below in the case of a CV OP.

L roots

kogásya	‘to grind it. ₆ ’
kogúrima	‘to plow it. ₃ ’
kováteeva	‘to ask then’
kómírimira	‘to plow for him’
kokórákoora	‘to release us’
kováyíinzira	‘to work for them’

kováveengegella	‘to belch on them’
kuńsimohikiza	‘to revive him’

H roots

kogánwa	‘to drink it. ₆ ’
kokóvega	‘to shave us’
kokéreeta	‘to bring it. ₇ ’
kovákaraga	‘to judge them’
kokíkaraanga	‘to fry it’
kovávadong’ana	‘to go around them’
kokófujiriza	‘to sniff you’
kuzísiisora	‘to chop them. ₁₀ ’
kuńkuumbella	‘to hug him’
kokítuungamija	‘to invert it. ₇ ’

When such an OP precedes a vowel-initial root, the result is a long vowel (either with glide formation where the first vowel becomes *y* or *w*, or vowel deletion in case the first vowel is /a/). The tone pattern is the same as any H root that has initial CVV, that is falling tone in the penult, level H before the penult.

L verbs

kovépa	‘to want them’
kokwíivilla	‘to forget us’
kuńwáánigriza	‘to make him go up’
kokwáámbokira	‘to ford for us’

H verbs

koviita	‘to kill them’
kokwíígotiza	‘to satisfy us’
kucháávokapa	‘to separate it. ₇ ’
kokwáávokapiraa	‘to separate for us’
koviíyaamolla	‘to sneeze on them’

In the case of the reflexive prefix -i- or the 1s prefix -N-, the preceding infinitive prefix vowel merges syllabically resulting in [kóú...] in the case of the 1s OP, and [kwíí..., kwéé...] with the reflexive. Examples of these prefixes before CV stems are omitted for the moment because they pose an additional complication.

L roots

kwééroga	‘to bewitch self’
kóóndoga	‘to bewitch me’
kwíisiinga	‘to bathe self’
kóúsiinga	‘to bathe me’
kwíiyavira	‘to bury self’
kwóónzavira	‘to bury me’
kwíírakouora	‘to release self’

kóúndakúora	‘to release me’
kwíísúvira	‘to believe self’
kóúsúvira	‘to believe me’
kwíísimúgokiza	‘to revive self’
kóúsimúgokiza	‘to revive me’
kwííróngikizira	‘to straighten for self’
kóúndúngikizira	‘to straighten for me’

H roots

kwéévega	‘to shave self’
kóómbega	‘to shave me’
kwééreeta	‘to bring self’
kóóndeeta	‘to bring me’
kwííkaraga	‘to judge self’
kóúngaraga	‘to judge me’
kwéévohoola	‘to untie self’
kóómbohoola	‘to untie me’
kwíígírong’anyira	‘to invert for self’
kóúngírong’anyira	‘to invert for me’
kwíífojíriza	‘to sniff self’
kóómbójíriza	‘to sniff me’
kwíísiisolla	‘to chop for self’
kóúsiisolla	‘to chop for me’
kwííkúombeella	‘to hug self’
kóúngúombeella	‘to hug me’
kwíítúngamjira	‘to invert for self’
kóúndúngamjira	‘to invert for me’

From the perspective that the OP has a H tone, we expect underlying /kú-é-vega/, or *kweévega* given the effect of Glide Formation (the vowel of /kú/ has no H, the vowel /é/ has H, that tonal distribution is retained in the output of Glide Formation). Logoori has no rising tones, and the surface form [kwéévega] with level H reflects the regular realization of would-be rising tone as level H.

When the verb root is vowel initial and the OP is -*Ń*- or -*Í*-, the infinitive prefix has a long vowel with level H tone.

L verbs

kwééyena	‘to want self’
kóónena	‘to want me’
kwííyagira	‘to scratch for self’
kóúnzagira	‘to scratch for me’
kwííyanígiriza	‘to make self go up’
kóúnánígiriza	‘to make me go up’

H verbs

kwííyita	‘to kill self’
----------	----------------

kóúnzita	‘to kill me’
kwííyomíja	‘to dry self’
kóúnomíja	‘to dry me’
kwííyigotiza	‘to satisfy self’
kóúnzigotiza	‘to satisfy me’
kwííyoonyaya	‘to damage self’
kóúnoonyaya	‘to damage me’

In case the stem following CV+{N,I} is a single syllable, the H toned penult is level H and not falling.

kóúmba	‘to give me’
kóúndya	‘to eat me’
kóúsha	‘to grind me’
kwíísha	‘to grind self’ *kwíísha
kwííha	‘to give self’
kwíílya	‘to eat self’
kwíítya	‘to fear self’

The explanation for the divergence between [kóúmba] and [koviita] ‘to kill them’ is that the long H-toned syllable in the penult straddles the root boundary in the case of [koviita] but is entirely outside of the stem in [kóúmba]. We can say that a penult long H syllable that is *in the stem* becomes a falling tone, but not if it precedes the stem.

2.2. Near future -ra-

This tense, with the prefix *-ra-* and the final vowel *-a*, only has main clause forms – there are no relative or completive variants (relative clauses use the bare future, covered in §3.6). The distribution of tone is the same as in the infinitive.

2.2.1. MAIN CLAUSE WITHOUT OP

As expected, L roots have no H.

L roots

kurasha	‘we will grind’
ndaaza	‘I will come’
kirarorwa	‘it ₇ will be seen’
ndamoroma	‘I will speak’
varagayana	‘they will prohibit e.o’
varasamehana	‘they will forgive e.o’
kurayaara	‘we will sue’
varaseembera	‘they will weed’
orarakoua	‘you will release’
varaziizagilla	‘they will continue’
varasaamboroganya	‘they will destroy’

koreeya	‘we will sweep’
kireelleka	‘it. ₇ will go downhill’
ndiigora	‘I will open’
orimilla	‘you will go ahead’
oreejekana	‘you will be necessary’

H roots have their only H on the root-initial vowel. In CV roots it may (and usually does) undergo final tone copy. Disyllabic C-initial roots with a long vowel manifest the H with a falling tone, and longer stems with an initial long vowel have a level H.

H roots

aránwá, ará!nwá	‘he will drink’
ndáména	‘I will reside’
arávódong'ana	‘he will go around’
varakáraga	‘they will judge’
varachérizana	‘they will greet e.o’
varavóhoolla	‘they will untie’
varatáaga	‘they will plant’
varaháanzuka	‘they will shout’
oráháambaana	‘you will join up’

When the root is H and V-initial, the vowel of the prefix -ra- fuses with the stem initial vowel, and is falling toned when the stem is VCV, level H otherwise.

varóona	‘they will sin’
keróoneka	‘it will be spoiled’
orígiza	‘you will teach’
lláagoroka	‘it. ₅ will come down’

Many tenses allow the progressive suffix (acceptance is highly variable), realized as final [aa] instead of [a] in the near future. The one tonal effect of this suffix variant is that a CVVC H root realizes the H tone as level H rather than falling.

L verbs

ararímaa	‘he will be plowing’
korasheezaa	‘we will be grinding’
aravarizaa	‘he will be counting’
ndaambokaa	‘I will be crossing’

H verbs

aravégaa	‘he will be shaving’
aravóraa	‘he will be lacking’
aradéekaa	‘he will be cooking’
korakáraangaa	‘we will be frying’
vararízaa	‘they will be eating’
varíitaa	‘they will be killing’

orígizaa

‘you will be teaching’

2.2.2. MAIN CLAUSE WITH OP

As in the infinitive, H and L roots behave the same when an OP is present, with the only H being the one on the syllable of the OP (which may merge syllabically with a root-initial vowel) – with the provision that the H can spread to the left due to Leftward Spread.

L roots

aragásya	‘he will grind it’
arágórimí	‘he will plow it. ₃ ’
kurávárínda	‘we will wait for them’
arákóvariza	‘he will count us’
orávárakúolla	‘you will release them’
aráváhaandiikiri	‘he will write to them’
arákómoromera	‘he will speak to us’
orákwéepa	‘you will want us’
árákwéeyera	‘he will sweep for us’
varámwáámbakana	‘they will refuse him’

H roots

árágánywe	‘he will drink it. ₆ ’
korám’roma	‘we will bite him’
aravávega	‘he will shave them’
kurávákooŋa	‘we will help them’
arákóŋagúolla	‘he will run for us’
orákóvodong’ana	‘you will go around us’
varágíforovaanya	‘they will eat it. ₉ gluttonously’
arágíkaraanga	‘he will fry it. ₉ ’
orávásaalliiza	‘you will injure them’
varákwáata	‘they will do surgery on us’
aráváalli	‘he will spread a bed for them’
orámwíjjiza	‘you will teach him’
varákwíisyamolla	‘they will sneeze on us’
varákwáágorokiza	‘they will make you come down’

When the 1s or reflexive OPs are present, the syllable of the OP merges with that of the tense prefix *-ra-*, whereby that syllable has a long vowel and H tone.

L roots

varááša	‘they will grind me’
aráángúolla	‘he will buy for me’
ndééseka	‘I will laugh at myself’
aráámbeezegelle	‘he will belch on me’
aríivariza	‘he will count self’

aríibomolla	‘he will demolish for self’
aráánepa	‘he will want me’
arééyepa	‘he will want self’
aríiyimbira	‘he will sing for self’

H roots

aráánda	‘he will bury me’
aráámbege	‘he will shave me’
aráámbo dong'ane	‘he will go around me’
aráámbaanzookira	‘he will shout at me’
aráánzate	‘he will do surgery on me’
aríiyata	‘he will do surgery on self’
aráánzigizi	‘he will teach me’
aráánzimidli	‘he will go ahead of me’

Because of the extra vowel of the progressive suffix, a long vowel arising from combining an OP with a vowel-initial root has a level H tone.

arachéeyaa	‘he will be sweeping it’
korarwímbaa	‘we will be singing it’

2.3. Immediate past -aku-

This tense has no completive variant, but can (occasionally) be used in relative clauses. The form seems to be functionally identical to the recent past of §2.4, which is preferred for subordinate clauses.

2.3.1. MAIN CLAUSE WITHOUT OP

As with other tenses having the M1 tense, H appear on the first syllable of lexically H roots, and there is no H in L-toned verbs.

L verbs

kwaakugwa	‘we have fallen’
kwaakugora	‘we have bought’
kwaakoteeva	‘we asked’
kwaakuburuka	‘we have flown’
yaakovarizaa	‘he was counting’
kwaakumaliiza	‘we have finished’
chaakuyingoka	‘it has melted’
kwaakoheeraana	‘we have breathed’
kwaakugarokiza	‘we returned’
kwaakugarangatana	‘we fell and rolled over’
kwaakusaamboraganya	‘we dismantled disorganizedly’
mwaakweeya	‘2p have swept’
yaakweeyaa	‘he was sweeping’

kwaakwiivilla	‘we forgot’
kwaakwiiruura	‘we winnowed’
yaakweelleeka	‘he has gone down’
kwaakwaanigira	‘we went ahead’

H verbs

chaakó!shá	‘it is cooked’
vaakóryá	‘they have eaten’
kwaakónóga	‘we have picked’
yaakovégaa	‘he was shaving’
yaakokóónaa	‘he was helping’
ndaakósóora	‘I refused’
chaakókádoka	‘it has just broken’
kwaakósógaanya	‘we have mixed’
kwaakochéeriza	‘we have already greeted’
kwaakufúúmbeella	‘we made a fire burn’
mwaakuvóroganya	‘2p have stirred’
kwaakwiiva	‘we stole’
yaakwíta	‘he killed’
yaakwítaa	‘he was killing’
mwaakwíinika	‘2p have fermented’
kwaakwaáyúora	‘we shouted’
kwaakwíisyaamora	‘we sneezed’

2.3.2. MAIN CLAUSE WITH OP

The OP has the H tone, when it is present, and the lexical tone of H roots is deleted after the OP.

L roots

yaakukísya	‘he has ground it. ₇ ’
vaakogígora	‘they have bought it. ₉ ’
yaakováraanga	‘he has called them’
vaakógé bomora	‘they have demolished it’
yaakokórakúora	‘he has released us’
yaakokúseembella	‘he has weeded for us’
yaakókógurizira	‘he has sold for us’
yaakováveenzegella	‘he has belched on them’
ndaakogwéeya	‘I have swept it. ₃ ’
ndaakogwáámboka	‘I have crossed it’

H roots

yaakagánywa	‘he has drunk it. ₆ ’
vaakókóvega	‘they have shaved us’
yaakokóraanga	‘he has called you’
vaakokévohoola	‘they have untied it-7’

vaakokótaandolla	‘they have torn for us’
yaakovávodong’ana	‘he has gone around them’
yaakokóhaanzookira	‘he has shouted for us’
ndaakuchiita	‘I have killed it.’ ⁷

In the case of the reflexive and 1s OP, /-kũ-/ either lengthens (before 1s -N-) or undergoes glide formation, and the resulting long vowel has falling tone in case it is in the penultimate syllable of the stem.

yaakwírya	‘he ate himself’
waakóúndya	‘you feared me’
vaakóúmba	‘they gave me’
ndaakwíta	‘I buried self’
chaakwígwiira	‘it has fallen on itself’
gwaakwéeyonoonya	‘it has destroyed itself’
vaakwéedeekera	‘they have cooked for selves’
yaakóúmbaandíkira	‘he has written to me’
yaakóúnaanga	‘he has called me’
yaakóúndeeta	‘he has brought me’
yaakóúngurizira	‘he has sold for me’
yaakóúnzigiza	‘he has taught me’
yaakóúsinkiza	‘he has annoyed me’
yaakwíikaraangilla	‘he has fried for self’
yaakwíiyizuumija	‘he has praised himself’

2.3.3. RELATIVE CLAUSE WITHOUT OP

For relative clauses, speakers tend to switch to the perfective or the *-aa-ka-* recent past, and may reject relative clause use of this tense form. Enough data is available to conclude that the relative forms of this tense do not involve any modifications of the basic tone pattern.⁶

L roots

omóóndu yaakúsha	‘the person who has ground’
haí ha yaakugwa	‘where did he fall’
vwahá yaakoroha	‘who is tired’
omóóndu wa yaakugaya	‘the person who he has forbidden’
rwá yaakoseka	‘when he has laughed’
omóóndu waakúhaanda	‘the person who is stuck’
omóóndu yaakugoriza	‘the person who has sold’
vwahá waakorora	‘who has seen’
rwá yaakuyiinziira	‘when they have worked’
rwá kwaakoveezegera	‘when they have belched’

⁶ Presumptive relative forms were relatively easily elicited in a frame of the type “He arrived, having driven”, a strategy that was uncovered relatively late in the investigation.

aváándo vaakweeya
rí rú waakwiikara

‘the people who have swept’
‘when did you sit’

H roots

aváándo vaakó!tyá
omóó!ndó yáákókína
omóóndu wa yaakóvéga
vwahá wa kwaakókóoŋa
omóóndó !yáákókórora
vwahá wa ndaakósáálliza
rwá ndaakogírong’anya
aváándo vaakóvódong’ana
vwahá yaakwíiva

‘the people who have feared’
‘the person who has played’
‘the person who he has shaved’
‘who did we help’
‘the person has coughed’
‘who did I injure’
‘when they have reversed’
‘the people who have gone around’
‘who stole’

There are a number of subordinate constructions where, in this tense, the SP has a H tone. Headless relative verb forms (‘the one who V’d’) are one easily-accessible example. Here, the SP syllable has H tone (usually level H owing to the limited distribution of falling tone, but in some tokens falling). The augment (*a-* for cl. 2, *o-* for class 1) may also be present.

L verb

wáakogwa
wáákuchoora
váákoveezegera
váákorakuora
wáákweeya

‘the one who has fallen’
‘the one who has drawn’
‘the ones who belched’
‘the ones who have released’
‘the one who has swept’

H verb

owáá!kóryá
owáá!kóvéga
wáá!kódééka
váákochéeriza
váákokáraanga
váákovódong’ana
wáá!kwíita

‘the one who has eaten’
‘the one who has shaved’
‘the one who has cooked’
‘the ones who greeted’
‘the ones who fried’
‘the ones who have gone around’
‘the one who has killed’

Other contexts with a H toned SP include conditional and participial constructions in this tense.

L verbs

arav-iyáákogwa
vakoror-íikwáákusha
arav-iyáákorima
ndííkar-índáákorima
kopóó!r-íómwáán-iyáákorima
aratóór-íkwáákusaara

‘if he had fallen’
‘they saw us having ground’
‘if he had plowed’
‘I will sit down having plowed’
‘we found the child having plowed’
‘he will leave, us having prayed’

arav-iyáákuchoorá	‘if he had drawn’
arav-iyáákotuumá	‘if he had jumped’
arav-iyáákovariza	‘if he had counted’
varakótuung-íwáákoyiinzira	‘they will pay you having worked’
arav-iyáákuganagana	‘if he had thought’
varakó!túúng-í!kwáákoseembella	‘they will pay us (we) having weeded’
kugóósh-óm’sóórér-íkwáákuganagana	‘we praised the boy having thought’
arav-iyáákweeya	‘if he had swept’
arav-iyáákwaambuka	‘if he had crossed’

H verbs

arav-iyáákóryá	‘if he had eaten’
arav-iyáákókóra	‘if he had done’
arav-iyáákókóopa	‘if he had helped’
korav-íkwáákódééka	‘if we had cooked’
ndakó!kóóp-índáákóhíiza	‘I will help you having hunted’
kororí!márov-iyáákódééka	‘we saw Marova having cooked’
opaanyi wá!ákótúonga	‘you ate, having paid’
marov-árav-iyáákódééka	‘if Marova had cooked’
arav-iyáákukáraga	‘if he had judged’
vam’kámat-aváánd-íváakopágora	‘they caught him the people having run’
arav-iyáákovódong’ana	‘if he had gone around’
arav-iyáákwiíta	‘if he had killed’
arav-iyáákwiígiza	‘if he had talked’

In these constructions, a complementizer /ni/ and possibly an auxiliary verb immediately precedes the verb. The associated H tone is discussed in greater depth in Q, but for purposes of understanding verbal tone, there is a pre-verbal H which appears on a complementizer in some cases, on the pre-verbal noun in others, and on the SP syllable otherwise.

2.3.4. RELATIVE CLAUSE WITH OP

An object prefix is also possible in this tense, in which case the OP bears the H tone, as is the general rule for the M1 pattern.

L verbs

rwá!váákókísha	‘when they have ground it’
rwá!váákógóríma	‘when they have plowed it’
rwá!váákókóvariza	‘when they have counted us’
rwávaakóóndakoorá	‘when they have released me’
rwávaakókéseembella	‘when they have eaten it’
rwá!váákókínwa	‘when they have drunk it’
rwá!váákókíríya	‘when they have eaten it’
rwáyaakóómbega	‘when he has shaved me’
rwá!váákókóvega	‘when he has shaved us’

rwá vaakókíkaraanga	‘when they have fried it’
rwá vaakókóvodong’ana	‘when they have gone around us’

Examples of headless subject relatives and participials follow the same pattern, but also have H on the subject prefix.

L verbs

aváákovósha	‘the ones who have ground it’
owáákokígora	‘the one who has bought it’
owáákokígíinga	‘the one who has carried it’
owáákóónguróora	‘the one who has dragged me’
aváá!kócháaga	‘the ones who have scratched it’
aváá!kócháara	‘the ones who have spread it’
owáákucháámbuka	‘the one who has crossed it’

H verbs

aváá!kógánwa	‘the ones who have drunk it’
aváá!kóóndya	‘the ones who have feared me’
aváá!kwíítya	‘the ones who have feared themselves’
owáá!kóómbega	‘the one who has shaved me’
owáákovídeeka	‘the one who has cooked them’
aváá!kóóñaapa	‘the ones who have eaten me’
owáákokíkaraanga	‘the one who has fried it’
owáákokóvodong’ana	‘the one who has gone around us’
aváá!kókwiita	‘the ones who have killed you’
owáákokwígíza	‘the one who has taught us’

Further examples of participial uses including in conditional clauses (as V2) are as follows.

L verbs

korav-ikwáakúsha	‘if we had ground it’
orav-íwáákovárora	‘if you had seen them’
orav-íwáákokórora	‘if you had seen us’
varííran-íváákokígora	‘they will return having purchased it’

H verbs

orary-í!wáákokédeeka	‘you will eat having cooked it’
kogoní kwáákokédeeka	‘we slept having cooked it’
kurwíimbi kwáákorwíiga	‘we sang having learned it’
varárwíimb-íváákorwíiga	‘they will sing it having learned it’
korárwíimb-ikwáákorwíiga	‘we will sing it having learned it’
korágón-ikwáákuhíranya	‘we will sleep having returned it’

2.3.5. NEGATIVE RELATIVE

There is also no variation in the previous pattern in negative relative forms, where the negative prefix *-ta-* precedes *-ako-*. Verbs without an OP have root initial H in the case of H roots, and no H in the case of L roots

L verbs

vwah-átaakogwa	‘who didn’t fall’
omódogá gwa kutaakogora	‘the car which we didn’t buy’
rwá ndataakoteeva	‘when I didn’t ask’
kĩndĩ kĩ kĩaakoyĩngoka	‘what didn’t melt’
omóónd-ataakosaamburaganya	‘the person that didn’t dismantle’
r-ótaakweeya	‘when you didn’t sweep’

H verbs

vwahá vataakó!ryá	‘who didn’t eat’
omokári wa ndataakósóra	‘the woman that I didn’t refuse’
omóóndu wa vataakochéeriza	‘the person who we didn’t greet’
iziséendi zitaakwiivwa	‘the money which wasn’t stolen’

When an OP is present, there is a H on the OP which shifts to the vowel of /ko/ in case the OP is 1sg.

L verb

rwá vataakokígora	‘when they didn’t buy it’
vwah-átaakokórakoura	‘who didn’t release us’
vwah-átaakóómbaandĩkĩra	‘who didn’t write to me’
rw-átaakokóhaanzookĩra	‘when he didn’t shout for us’
rw-átaakóúnzayura	‘when he didn’t shout at me’

H verb

aváána va kutaakokóvegera	‘the children who we didn’t shave for you’
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2.4. Recent Past *-aka-*

The recent past with *-aka-* is challenging because of variation in tone and interpretation. As discussed in X, there is a difference between “completive-focused” forms versus “explanatory” forms of the scheme SP-aa-ka-STEM-a. In the completive-focused form, which usually has a H tone on the SP syllable, the function of the form is to say that the action has now been performed e.g. *ndáákavariza* ‘I have now counted (so we can continue with the project)’. This is distinct from the “explanatory” version which explains why a certain situation exists (*ndaakaváriza* ‘I just counted (that’s how I know how many there are)’), which employs a special tone pattern discussed in §8.3. Speakers do not all easily access the subtle distinction between these usages, and at present the vast majority of examples come from speakers EM, RK and ML. Many attempts to elicit such forms have resulted in conversion of the intended form to the *-aaku-* past. of 2.3.

There are two patterns of attestation in the M1 stem tone patterns, one with no prefix H, and one with H on the SP and the M1 pattern and one with no H on the SP but

with the M1 pattern. Examples of variant of the type *yaakavónaanya* ‘he broke’ are not common, and it is not clear what their pragmatic properties are (do they serve the “explanatory” function, or are they focused on completion of the action?). Some examples of forms without prefixal H are therefore included in this section. Data from EM are generally clear on the correlation between prefix H, completive-focus interpretation and the M1 pattern. All relative clause forms have the M2 stem pattern, therefore relative clause forms for this tense / tone pattern do not exist. Further investigation into speaker variation in the correlations between interpretation, subject tone and stem tone pattern are called for.

2.4.1. MAIN CLAUSE WITHOUT OP

L verb roots are all-L in this tense. In tokens with a prefixal H, the H may either appear as a falling tone on the syllable [SP-áa], or as a level H, [SP-áá].

L verb

yaakasya	‘he ground’
váakagwa	‘they fell’
yáákaríma	‘he has now plowed’
koozá !yáakadína	‘uncle has now gotten stuck’
kwaakaseka	‘we laughed’
váakamoojina	‘they gossiped’
yáákayavira	‘he has now buried’
ndáákarakóora	‘I released’
kwaakasóovira	‘we believed’
váakaraandiza	‘they spread’
ndáákayíinzira	‘I’ve done the working part’
váakahaangaara	‘they argued’
yáákahaandiika	‘he wrote’
ndaakaríndílla	‘I waited’
ndáákaganagana	‘I thought’
yaakasaamboroganya	‘he dismantled’
yáakeeya ~ yáákeeya	‘he just swept’
yáákaaza	‘he has now come’
kwaakíimba	‘we sang’
yáá!káámboka	‘he has just crossed’
kwáákaambókija	‘we caused to ford’

H roots have stem-initial H which spreads to the left, and is realized as fall on a long vowel just in case it is on the penultimate syllable. If the prefix has H, it may surface as a level H (separated from the lexical H by a downstep) or as a fall.

H verb

ndaakáryá	‘I just ate’
ryaavóri yáaká!ryá	‘Ryavuri has now eaten’
ndáá!kánwá	‘I just drank’
kwá!ákárása	‘we have thrown’

ndaakáraága	'I promised'
ikijámajó !cháakátégwa	'the squirrel has now been trapped'
kwáakádéeka	'they just cooked'
ndaakádéeka	'I just cooked'
yaakákáraga	'he judged'
váakavógora	'they have just received'
avíisokur-aváángó váakapágora	'the quick grandchildren have now run'
váá!kávónaanya	'they just snapped'
yaakákáraanga	'he fried'
vaakaráágira	'they ate ugali'
váá!káríngola	'they unfolded'
kwaakaháambaana	'we came together'
waakásírohara	'you were foolish'
ndaakátóóngamijna	'I inverted'
váá!kátóóngamijirana	'they inverted for e.o.'
vaakiíta	'they killed'
izing'óómbé vózá zyáakáana	'only the cows just mooed'
vaakiítana	'they killed e.o.'
cháá!káádika	'it burst'
vaakóóghiza	'they sharpened'
ndáakayóóyooma	'I've done the slow running part'
ndáá!kávódong'ana	'I just went around'
váakiíta	'they just killed'
váakiíroka	'they have fled'

2.4.2. MAIN CLAUSE WITH OP

Examples of this tense with the M1 tone pattern more strongly tend to have H on the SP syllable in the data.

L verb

yaakáasha	'he ground me'
yáá!kákísha	'he has now ground it'
yáá!káasha	'he has ground me'
ndáakakígora	'I bought it-7'
ndáakamseka	'I laughed at him'
yáakakíkweesa	'he has now pulled it'
váá!kááduunga	'they just paid me'
váá!kíisiinga	'they have bathed self'
yáakakórakoura	'he has now released us'
váakambariza	'they have now counted him'
yáá!kíivarizira	'he just counted for self'
ndáakavámoroma	'I spoke about them'
ndáakavámoromera	'I spoke for them'
ndáá!káchéeya	'I have swept it'

kwáákambuokiza

‘we have now woken him’

H verb

vaakáándya

‘they feared me’

ndáakakírya

‘I ate 7’

yáá!kákínwa

‘he has now drunk it’

ndáakavíruma

‘I bit 8’

yáakakóvega

‘he shave us’

waakáándege

‘you trapped me’

ndáá!kéévoha

‘I have tied self’

yáá!kákírasa

‘he has now thrown it’

yáakakédeeka

‘he has now cooked it’

ndáá!kéévohoola

‘I have untied self’

ndáakavákaraangira

‘I fried for them’

váá!káángaraangira

‘they have fried for me’

kwáá!kámwááta

‘we have surgeried him’

ndáakaviígiza

‘I taught them’

ndáá!kácháátanya

‘I broke it-7’

2.5. Hesternal Completive Perfectives

Completive-variant perfectives, which only occur in main clauses, select the M1 pattern (in contrast to unmarked-clause forms, which have a distinct tone pattern presented in X). Completive forms are marked prosodically by lengthening the vowel of the SP if it is before a consonant, or by placing H on the SP if it is before a vowel. This pattern explains the presence of H on the SP syllable in the -aka- past tense in §2.4, though the infrequent occurrence of apparently completive forms without a H tone suggests that completive-marking may be optional in some tenses. Completive marking in the two perfective tenses seems to be regular. This section presents the hesternal perfective completive, which has the tense prefix -a- that triggers the H-tone version of completive marking, thus the prosody of the SP syllable is more uniform. The next subsection presents the hodiernal perfective completive, where completive marking varies between H tone (before a vowel) and vowel-lengthening (before a consonant).

2.5.1. HESTERNAL COMPLETIVE WITHOUT OP

The hesternal completive perfective has falling tone on the initial syllable composed of SP-a, following the general rule that completive-marking on the SP is realized as a H tone before a vowel (/kó-a/ → [kwáa]). The stem has the M1 pattern. As noted in X, vowel initial verbs take obligatory epenthetic [y] after the tense prefix [aa], so there is no syllabic fusion between the prefix and the following root or OP.⁷

⁷ In H verbs or any verb with an OP, there is also a H in the Mstem, resulting in adjacent syllables containing H. There is no contrast between fall and (mostly) level H in this context, i.e. *c'vc'v...* and *c'v'c'v...* in principle are in free variation and the variation is probably non-categorical, not reflecting an optional phonological rule. Some tokens more closely resemble *c'vc'v...* so are transcribed that way; others

L verb

ndáagwii	‘I have fallen’
ndáagori	‘I have bought’
ndáafoori	‘I have beat’
ndáayeyi	‘I have swept’
yáagorizi	‘he has bought’
kwáaroondani	‘we have followed e.o.’
ndáahaandaari	‘I have argued’
ndáariingollii	‘I have unfolded’
yáarakoori	‘he has released’
kwáaroungikizirani	‘we have straightened e.o.’

H verb

cháashíi	‘it has burnt up’
ndáanwíi	‘I finished the drinking’
ndáá!íti	‘I have killed’
ndáá!véji	‘I have shaved’
ndáá!yáti	‘I have done surgery’
ndáadéechi	‘I cooked’
kwáakáaraanji	‘we have fried’
kwáakóópáni	‘we have helped e.o.’
ndáá!íshaaji	‘I have split wood’
ndáá!kóómbelee	‘I have hugged’
ndáakáaraanji	‘I have finished the frying’

2.5.2. HESTERNAL COMPLETIVE WITH OP

When an OP is present, the OP’s syllable bears the H. This is illustrated with CV prefixes below.

L verb

ndáakíshii	‘I have ground it’
ndáavárori	‘I have seen it’
ndáakígorizi	‘I have sold it’
ndáaváhaandiikirii	‘I have written for them’
ndáaváseembellee	‘I weeded for them’

H verb

ndáakínwii	‘I have drunk it’
ndáá!váveji	‘I have shaved them’
ndáá!kívogori	‘I have received it’
ndáá!kíkaraanji	‘I have fried it’
ndáakítoungamiji	‘I have inverted it’

more closely resemble cví!cví..., but the resemblance is based on the author’s experience with other languages.

ndáakívoroganyi

‘I have stirred it’

The OP syllable also bears H in case the OP is 1s /N/ or the reflexive /ɪ/, since epenthetic -y(i) regularly precedes those prefixes.

váángoonyi

‘they have helped me’

yáá!ísinikizi

‘he has annoyed me’

yááindákooli

‘he has released me’

yáánguutiri

‘he has scraped for me’

váayékoonyi

‘they have helped selves’

yáá!yísinikizi

‘he has annoyed self’

yááirákooli

‘he has released self’

2.6. Hodiernal Completive

In the completive hodiernal perfective, the SP comes directly before the OP or the root, so depending on what that root or OP is, the modification of the SP which marks the completive is lengthening of that vowel (when followed by C), or else addition of H (when followed by V). The stem tone pattern is nevertheless just the M1 pattern, with the complication that before a vowel-initial root or OP (the reflexive) may have a H which then appears at the left edge of the stem because of syllabic fusion. The second complication is that the 1s SP is /N/, which is not a vowel, and thus is not subject to these complications. Within the two subsections, examples are first given with C-initial roots, then V-initial roots, and with 1s SP appearing last.

2.6.1. HODIERNAL COMPLETIVE WITHOUT OP

As seen in the following examples, the subject prefix vowel is lengthened before a C-initial root: L roots have no H tone, H roots have H on the first root syllable.

L verb

aashee

‘he has ground’

ooroji

‘2s have bewitched’

vaarimi

‘they have plowed’

vaahaandi

‘they have gotten stuck’

riibabiri

‘it’s stained’

arakoori

‘he has released’

mmbarizi

‘2p have counted’

koobomooye

‘we have destroyed’

kooveenzegee

‘we have belched’

vaahaangaari

‘they have argued’

H verb

aanwíi

‘he has drunk’

koovéji

‘we have shaved’

aalínji

‘he folded’

aabómori	‘he has demolished’
mmkáraanji	‘2p have fried’
kousógumi	‘we have driven’
kootóónganinyi	‘we have inverted’

When a vowel-final SP precedes a root vowel, the prefix vowel receives a H tone, the consequence of this being that H and L verb roots have the same surface tone pattern.

L verb

yéeyi	‘he has swept’
kwéenyi	‘we have wanted’
yáámbuchi	‘he has crossed’
váámbakani	‘they have refused’
kwíízorizani	‘we have remembered each other’

H verb

yáati	‘he has done surgery’
chóumi	‘it’s dry’
víiti	‘they have killed’
yóógishi	‘he has gotten sharp’
víivilli	‘they have forgotten’
kwíínami	‘we have stooped’
víimillani	‘they have led e.o’
vóónoonyi	‘they damaged’
kwáágaani	‘we have met’

In case the SP is 1s, there is no SP lengthening , because the SP has no vowel. The verb uniformly follows the M1 pattern.

L verb

ngwii	‘I have fallen’
nimi	‘I have dug’
njaaji	‘I have begun’
mbarizi	‘I have counted’
ngorori	‘I have dragged’
ndakoori	‘I have released’
mbaandiichi	‘I have written’
mbeezegeri	‘I have belched’

H verb

nwíi	‘I have drunk’
mbéji	‘I have shaved’
ndúchi	‘I have vomited’
ndáanji	‘I have begun’
ndéechi	‘I have cooked’
ngáaraanji	‘I have fried’

mbóguri	‘I have taken’
mbáámbizi	‘I have started a fire’

This uniformity holds even before vowel-initial roots (y is inserted between the SP and a vowel initial root).

L verb

nzeyi	‘I have swept’
jenyi	‘I have wanted’
nzushi	‘I have scattered’
nziruuri	‘I have winnowed’
nzambuchi	‘I have crossed’
nzagori	‘I have plucked’

H verb

nzáti	‘I have done surgery’
nzívi	‘I have stolen’
nzíngíriri	‘I have entered’
njómbari	‘I have built’
nzámbari	‘I have swung’
nzáguruchi	‘I have fallen down’
nzávoranyi	‘I have cut up’
nzízurizi	‘I have remembered’

2.6.2. HODIERNAL COMPLETIVE WITH OP

With a C-initial OP, we observe the M1 pattern and lengthening of the vowel of the SP.

L verb

vaagáshiri	‘they have ground it. ₆ ’
koogágori	‘we have bought them. ₆ ’
koovároondi	‘we have followed them’
vaakórimiri	‘they have plowed for us’
aakíhaandiichi	‘he has written it’
koováhaandiikiri	‘we have written to them’
aakwéenyi	‘he has wanted us’
koovéeyeree	‘we have swept for them’
koovíigollu	‘we have opened for them’

H verb

aagínwiri	‘he has drunk it. ₉ ’
aagíduyi	‘he has hit it. ₉ ’
aakédeechi	‘he has cooked it. ₇ ’
koogíkaraanji	‘we have fried it. ₉ ’
aakósaalizi	‘he has injured us’
koovóvodong’ani	‘we have gone around it. ₁₄ ’

kuuvákaraangiri	‘we have fried for them’
kuuvíiti	‘we have killed them’
kuuvígizi	‘we have taught them’

When the SP is 1s, there is no vowel to lengthen. The stem tone pattern is M1, with H on the OP (including the reflexive /i/, preceded by epenthetic [y~z]).

L verb

mbóshii	‘I have ground it’
nzíshii	‘I have ground myself’
ngódoi	‘I have hit you’
móyaanzi	‘I have loved him’
mbívarizi	‘I have counted them-8’
ngígavori	‘I have divided it’
mbáhaanzookii	‘I have shouted at them’
nzíganagani	‘I have thought of myself’
njéeyi	‘I have swept it’

H verb

mbátee	‘I have buried them’
nzéveji	‘I have shaved myself’
ngókoonyi	‘I have helped you’
nzédeekeree	‘I have cooked for myself’
mbádeekeree	‘I have cooked for them’
mbóvodong’ani	‘I have gone around it-14’
mwáati	‘I have done surgery on him’
mbígizi	‘I have taught them’
nzíyigizi	‘I have taught self’

In completive forms with the 1s OP /N/, the subject prefix similarly has a long vowel. This is both because of the following NC cluster, which causes lengthening, and because of completive prefix marking. The H would be on the OP, but since the 1s OP contains no vowel the H is realized on the vowel before the OP, that of the SP.

L verb

vááshii	‘they have ground me’
óóndoji	‘you have bewitched me’
váánjoori	‘they have drawn me’
áámbarizi	‘he has counted me’
óómbeezegeree	‘you have belched on me’
óópenyi	‘you have wanted me’

H verb

váándyii	‘they have feared me’
áámbohi	‘he has tied me’
áámboheree	‘he has tied for me’

m̄msaalizi	‘2p have injured me’
áámbomollee	‘he has demolished for me’
óóngaraangiri	‘you have fried for me’

In the case of the reflexive OP, which is V-initial but also H-toned, there is a H on that prefix and no H on the root, which is the general pattern in all manifestations of the M1 pattern.

L verb

chíígwiri	‘it has fallen on itself’
kwííriri	‘we have plowed for ourselves’
kwííyominyi	‘we have dried selves’

H verb

vííkobi	‘they have hit selves’
yíisaalizi	‘he has injured self’
kwííkaraangiri	‘we have fried for self’
vííyigali	‘they have obstructed selves’
vííyiti	‘they have killed selves’

2.7. Before-tense

This tense exists in a limited set of clause-types. It has the appearance of a negative relative, given the prefix *ta*, and may better translate as “SUBJ not having V’d”. There is no affirmative / negative distinction, no temporal clause form, nor object-relative. Clauses translating ‘before ... V’s/V’d’, with the morphological pattern (*ni*)-SP-*taa*-STEM-*a*, also manifest the M1 tone pattern, with the added factor that when *-taa-* fuses syllabically with a vowel-initial L root, a H is optionally assigned to that syllable. In this case, we can tell that the H tone is because of syllable-fusion, and not just the fact of the root being underlyingly vowel initial, since y-insertion is optional in this tense and H-insertion does not take place when y-insertion applies.

2.7.1. “BEFORE” WITHOUT OP

We first consider contexts where *-taa-* does not fuse with the following vowel. Here, the SP has H, and there is H on the root initial syllable of H roots (vowel-initial roots are considered later).

L roots

kótaasha	‘before we grind’
gótaagwa	‘before it falls’
kítaagwa	‘before it falls’
igótaagwa	‘before it falls’
n-átaagona	‘before he sleeps’
ní ndaayeya	‘before I sweep’
ní ndaayoya	‘before I scatter’

kótaaríma	‘before we plow’
n-átaaseka	‘before he laughs’
ní ndaaraanga	‘before I call’
ní ndaamoroma	‘before I speak’
ní ndaayaangoha	‘before I speed up’
vátaaveezegera	‘before they belch’

H roots

kótaanwá	‘before we drink’
ní! ndááryá	‘before I eat’
vótaasha ^o	‘before it is cooked’
vátaavéga	‘before they shave’
vátaadééka	‘before they cook’
n-ótakáraanga	‘before you fry’
n-ítaapágora	‘before it-9 runs’
vátaavóhoolla	‘before they untie’
vátaasáamuora	‘before they slap’

When the prefix precedes a V-initial L root and the syllables merge into one, that syllable optionally has a H tone, separated by downstep from the H of the SP.

kó!tééya	kóteeya	‘before we sweep’
vá!tééna	váteena	‘before they want’
kó!táámboka	kótaamboka	‘before we cross’
ní !ndáámboka	ní ndaamboka	‘before I cross’
kó!tíivilla	kótiivilla	‘before we forget’
ní !ndáángoha	ní ndaangoha	‘before I speed up’
kó!téépana	kóteepana	‘before we want e.o’
kó!táánigira	kótaanigira	‘before we go ahead’

The H-adding property found in completive tense variants in 2.5 is obligatory, unlike this pattern where H-insertion before a vowel is optional.

With lexically H vowel initial roots, there is always a H on the second syllable of the word, which can be attributed to the the lexical tone of the root.

ivá!tííta ⁸	‘before they kill’
ní !ndííta	‘before I kill’
ní !ndííga	‘before I learn’
ní !ndíimba	‘before I sing’
ikí!tíiroka	‘before it runs’
ní !ndííga	‘before I learn’
vá!tíítana	‘before they kill e.o’
ní !ndáángoha	‘before I speed up’
kó!táágaana	‘before we meet’

⁸ The proclitic *ni* can also reduce to *l*.

vá!túúghiza

‘before they sharpen’

2.7.2. “BEFORE” WITH OP

As expected, the OP has the H tone, and root-initial lexical H is missing when an OP is present.

L roots

nátaakóroora	‘before he sees us’
nótaavároora	‘before you see them’
ná!táándora	‘before he sees me’
vá!táámiga	‘before they strangle me’
ná!tíímiga	‘before he strangles himself’
ní ndaakíguriza	‘before I sell it’
vátaagwáámbooka	‘before they cross it’
vátaakígavoranya	‘before they divide it up’
nótaakwéépa	‘before you want us’

H roots

nó!táánda	‘before you bury me’
ná!tíírya	‘before he eats self’
vátaajiíta	‘before they kill it-9’
zítaavároma	‘before they bite them’
vá!táángoona	‘before they help me’
vátaakócheeriza	‘before they greet us’
vátaakótuungamija	‘before they invert us’

2.8. Nominalizations

The two productive nominalization patterns -STEM+i (agent nominalization in cl. 1-2 or product in cl. 14) and cl. 5 -STEM-a (method, art) also take the M1 tone pattern.

L verbs

omoshi	‘grinder’
omoloji	‘witch’
omorimi	‘crier’
om’barizi	‘one who counts’
om’moromi	‘talker’
avaazi	‘ones who come’
avazi	‘ones who go’

H verbs

omorí	‘eater’
ombéji	‘one who shaves’
ombóshi	‘one who ties’
ombéeri	‘one who forgives’

omoréeti	‘bringer’
omkáraanji	‘one who fries’
omwímbi	‘singer’
omwíiti	‘killer’

L verbs

ovoyeenji	‘product of brewing’
ovong’oodi	‘product of writing’
ovogavuranyi	‘things doled out’
ovuyinziri	‘product of working’

H verbs

ovódéechi	‘product of cooking’
ovovéeshi	‘lies’
ovokáraanji	‘things fried’
ovosíisori	‘product of trimming’
ovohóómoori	‘product of massaging’

L Verbs

irisha	‘act of grinding’
iryeyya	‘act of sweeping’
iriiza	‘act of coming’
iriyoga	‘art of talking’
iriigala	‘art of obstructing’

H Verbs

irínwá	‘act of drinking’
irívéga	‘act of shaving’
iríita	‘act of killing’
iryéenga	‘act of ripening’
iridéeka	‘act of cooking’
irívóóka	‘act of waking’

L verbs

ikiyavirũ	‘thing for burying with’
ikikorollo	‘thing for dragging with’
ikirakũollo	‘thing for releasing with’
ikisheehizũ	‘thing for grinding with’
ikikweesero	‘thing for pulling with’
ikiyavogullo	‘thing for unburying with’
ekesereezello	‘thing for winnowing with’
ikihaandiikirũ	‘thing for writing with’
ekehoopoozero	‘thing for calming with’
ikigírong’anyirũ	‘thing for inverting with’
ekigorokizirũ	‘thing for straightening with (a straightener)’
ikirũongkizirũ	‘thing for straightening with’
icheeyero	‘thing for sweeping with’

ichiigullo ‘thing for opening with’

H verbs

ikikínillo ‘thing for playing with’
ikikálliro ‘thing for cutting with’
ekétémero ‘thing for chopping with’
ekéréétero ‘thing for bringing with’
ikikáraangillo ‘thing for frying with’
ekeséreezero ‘thing for winnowing with’
ikijóókanyiro ‘thing for mixing up with’
kihááandiikiro ‘thing for writing with’
ekeng’érenɡ’anyiro ‘thing for shining with’
ekevódong’aniro ‘thing for going around with’
ikimínyiriziro ‘thing for forcing into a small place with’
ikihááambriiziro ‘thing for starting a fire with’
ikisímogukiziro ‘thing for reviving with’
ikisááamburugaanyiro⁹ ‘thing for dismantling with’

Nominalizations can include an object prefix.¹⁰

L verbs

omvóshi ‘person who grinds it’
omkójibi ‘the person who answers us’
avákorooni ‘people who follow us’
omwííshi ‘person who grinds self’
omwíísheeri ‘person who grinds for self’
avéépoori ‘people who find selves’
omwííbimiri ‘self-for-weigher’
omwíírímiri ‘person who plows for self’
avááshi ‘ones who grind me’
aváásemi ‘ones who insult me’
omímsechi ‘the person who laughs at me’
omóónoondi ‘one who follows me’
omímbarizi ‘one who counts me’
aváásoomeri ‘people who read for me’
ombaandiikiri ‘the person who writes for me’

⁹ This datum, and many similar ones, illustrates a fundamental complication in Logoori tone, that lexical tone membership is somewhat fluid. The root /saamburugany/ is fundamentally L toned, however it often behaves like a H verb. The language appears to be in the process of changing from a classical ‘conservative tone’ system with H and L roots modified by grammatical tones, to a ‘predictable tone’ system where tone pattern is determined purely by grammatical categories.

¹⁰ Resistance to using an OP with product and art nominalizations seems to be based on problems of finding a practical context where the form could be used. Since agent nominalizations often serve for a habitual tense – there is no distinct habitual in Logoori – there seems to be more practical use for an OP in such nominalizations.

H verbs

omogánwɪ	‘one who drinks it’
avákoveji	‘people who shave us’
omgédeechi	‘person who cooks it’
omgíkaraanji	‘one who fries it’
omwééveji	‘self-for-shaver’
omwéédeekeri	‘self-for-cooker’
avááandi	‘ones who fear me’
omímbeji	‘the person who shaves me’
aváángoonyi	‘ones who help me’

2.9. Future -ra~ri-ka- -e

The future selecting the subjunctive FV and the prefix *-raka-* (or *-rika-*, see discussion of tense-form semantics in X) also follows the M1 tone pattern. However, like the future following the pattern *-ri-...e* discussed in the next sub-section, this form vacillates between the M1 pattern and the M2 pattern, therefore many examples especially from relative clauses are found in section X. Of the two segmental forms of this future, the variant *-raka-* occurs more frequently than *-rika-*.

2.9.1. MAIN CLAUSE WITHOUT OP

L verbs

varikagwɪ	‘they will fall’
varakagorɪ	‘they will buy’
arakaroonde	‘he will follow’
omsáájeni arikavarizɪ	‘the sergeant will count’
varakayɪnzɪrɪ	‘they will work’
arikarakoorɪ	‘he will release’
varakahɪrɪrɪtɪ	‘they will snore’
korikahaandiike	‘we will write’
varakaganaganɪ	‘they will think’
varikaveezegere	‘they will belch’
varakeeye	‘they will sweep’
varakiiivilɪ	‘they will forget’
arikiigizɪ	‘he will teach’
varakɪrɪoorɪ	‘they will winnow’

H verbs

arákáyí	‘he will eat’
aríká!nwí	‘he will drink’
kórikávége	‘we will shave’
arákávóhe	‘he will tie’
várakádóore	‘they will pick up’
várikátáage	‘they will plant’
ndákánágorɪ	‘I will run’

várikásígame	‘they will kneel’
varákákáraanyi	‘they will slice up’
varikakáraange	‘they will fry’
varákásáámooɾɪ	‘they will slap’
avasooreerɪ varikavódong’ane	‘the boys will go around’
orákáate	‘you will do surgery’
varákáásaye	‘they will slap’

2.9.2. MAIN CLAUSE WITH OP

H is on the syllable of the OP, when the OP constitutes a separate syllable. When the OP merges syllabically with the following root initial vowel, that syllable bears the H (falling in the penult, otherwise level H).

L verbs

kórákákísyɪ	‘we will grind it’
arákákórore	‘he will see us’
korakakígɔrɪzɪ	‘we will sell it’
korakakírakooɾɪ	‘we will release it’
koríkávárɪndɪɪllɪ	‘we will wait for them’
korakákómoromere	‘we will speak to you’
árákákwéeɲe	‘he will want you’
arákákwíɪmbɪrɪ	‘he will sing for you’
korakachóómɪɲɪ	‘we will dry it’
korakavááyollɪ	‘we will shout at them’
korakachíízollɪ	‘we will remember it’

H verbs

kórákákínwɪ	‘we will drink it’
varakóvége	‘they will shave us’
korakakédeeke	‘we will cook it’
korakavásaallɪzɪ	‘we will injure them’
korakaváhooɳdooɳllɪ	‘we will stare at them’
varákámɓunaanyɪrɪ	‘he will snap for him’
korikagíkaraangɪzɪ	‘we will fry it’
korakakísɪɲɪkɪzɪ	‘we will annoy it’
korakakítóoŋg’amɪɲɪ	‘we will turn it’
arikakóvodong’ane	‘he will go around us’
arákákwiɪtɪ	‘he will kill us’
korakachíígɔrɪ	‘we will open it’
korakachííruurɪ	‘we will winnow it’

When the OP is 1s -N- or reflexive -ɪ-, the H appears on the derived lengthened syllable *kaa~kɪɪ~kee*, and is level H even in the penult.

L verbs

arákáásyɪ	‘he will grind me’
arákáánaange	‘he will call me’
varákáándore	‘they will see me’
arákáámbarizɪ	‘he will count me’
arákáándakooɪ	‘he will release me’
arákááɲeɲe	‘he will look for me’
arákííchoore	‘he will draw himself’
arákíírakooɪ	‘he will release himself’
arákíívarizɪ	‘he will count himself’
arákééyeɲe	‘he will look for himself’

H verbs

arákáánde	‘he will bury me’
arákáándoyɪ	‘he will hit me’
arákáángoonye	‘he will help me’
arákáándeekere	‘he will cook for me’
varikáásugumɪɪ	‘they will push for me’
arákáámbohoolle	‘he will untie me’
arákáánguumbelle	‘he will hug me’
arákííromɪ	‘he will bite himself’
arákííkaraangɪɪ	‘he will fry for himself’
arákííkuumbelle	‘he will hug himself’
arákééte	‘he will bury himself’
arákííyambakane	‘he will refuse himself’
arákííyigizɪ	‘he will teach himself’

2.9.3. RELATIVE CLAUSE WITHOUT OP

This tense form is freely used in relative clauses. As noted in the introduction to this section, there are tonal complications associated with relative clauses. First, sometimes the stem selects an alternative double-H tone melody, discussed in more detail in X. Second, in certain contexts the subject prefix may have a H tone.

We start with forms which are maximally similar to the main clause form. L stems have no H, and H stems have initial H, as expected.

L verbs

aváándo varikashɪ	‘the people who will grind’
rwá ndikarɪɪ	‘when I will plow’
aváándo varikachoore	‘the people who will draw’
omóónd-arakaroonde	‘the man who will follow’
móóndo waarakarɪɪndɪ	‘the person who he will watch’
vá ndikakooɲe	‘the people that I will help’
avárikavarizɪ	‘the ones who will count’
rwá varikavarizɪ	‘when they will count’
vá ndikagorizɪ	‘the ones that I will sell’
aváándo varikarakooɪ	‘the people who will release’

rwá varikarakuori	‘when they will release’
aváándo varikaveezegere	‘the people who will belch’
omóóndo w-ómsáájeni arikaveezegelle	‘the person who the sergeant will belch on’
aváándo varikuongi	‘the people who will join’

H verbs

avá!rikánwí	‘the ones who will drink’
aváá!ndó váríkávége	‘the people who will shave’
aváá!ndó váríkádééke	‘the people who will cook’
omóónd-arákánágori	‘the man who will run’
avárikakáraange	‘the ones who will fry’
ɪnáma ya navizar-arikakáraange	‘the meat which daughter in law will fry’
rwá varikavóhoolle	‘when they will untie’
vá varikavóhoolle	‘the ones they will untie’
aváándo varakírvi	‘the people who will steal’
váándo varíhá !váríkávége	‘which people will shave?’

A less-frequent alternative pattern has a form of the M2 melodic pattern where L verbs have tone on the second vowel; or H and L verbs may both have an initial and final H, as discussed in the next section. Both forms may be volunteered as equivalent options, for example *omóónd-arikahaandiiki* or *omóónd-arikaháá!ndíiki* ‘the person who will write’.

L verbs

irivóyo llá!kágwí	‘the egg which will fall’
ni rí !rwá ndirikarí!mí	‘when will I plow?’
vwahá wa varikarore°	‘who will they see’
omsáájeni arikavárízi	‘the sergeant who will count’
omsáájeni arikavá!rízi	‘the sergeant who will count’
omsáájeni arikavéé!zégéré	‘the sergeant who will belch’
aváándo varikarakóóri	‘the people who will release’

H verbs

omorí!n-árá!kánwí	‘the friend who will drink’
aváá!ná vá kórikávé!gé	‘the children who we will shave’
aváá!ndó váríkávé!gé	‘the people who will shave’
rwá !váríkádéé!ké	‘when they will cook’
avíísokuro varikaká!ráángé	‘the grandchildren who will fry’
omró!góóri árikátóó!ngámínyí	‘the Logoori who will invert’
avasooreéri váríkávó!dóng’áné	‘the boys who will go around’

2.9.4. RELATIVE CLAUSE WITH OP

Relative clause forms with an OP have H on the OP, and no H thereafter. The realization of the OP H in the case of the prefixes /-n-, -i-/ is, as predicted, that the preceding syllable merges with that prefix, giving a long level-H syllable.

L verbs

aváá!ndó váríkákíshí	‘the people who will grind it’
rw-á!rákáashí	‘when he will grind me’
omwáána wa ndakakíhanyí	‘the child who I will make close it’
omũondo arakáánduyí	‘the person who will hit me’
avárógoori v-arakakísheere	‘the Logooris whom he will grind it for’
omũond-arakáánaange	‘the person who will call me’
rw-árakíichoore	‘when he will draw himself’
íkivóni ch-orakakígavóllí	‘the reason which you will divide it for’
ofisá wa korakakírakũllí	‘the officer whom we will release for it’
vwahá arikavárĩndũllí	‘who will wait for them?’
izing’óombe zy-orakáándakũorizí	‘the cows which you will make me release’
vwah-árakakísĩjĩkizí	‘who will annoy it?’
rvíĩndũ vya ndakééyenyí	‘the things that I will make myself want’
vwah-á!rákákwéenje	‘who will want you?’
navizara wa korakavááyollí	‘the daughter in law who we will shout at for them’
vwahá arakachíĩzorizí	‘who will remember it?’

H verbs

vwahá arakéete	‘who will bury himself?’
vwahá! várákákĩnwí	‘who will drink it’
vwah-árakakovéje	‘who will shave us?’
vwahá arakíĩromí	‘who will bite himself?’
vwah-árakáángooje	‘who will help me?’
ĩnáma y-arakakódeekere	‘the meat which he will cook for you’
aváána va korakakékoopere	‘the children whom we will help for ourselves’
avá!yááyí va korakakévegizí	‘the boys whom we will make shave it’
vwahá arakáámbohoolle	‘who will untie me?’
aví!dákó varakáánguumbeelle	‘the Idakos who will hug me’
omgáámbi arakakítuungamijĩ	‘the minister who will invert it’
aváá!ndó váríkákóvoroganyĩ	‘the people who will stir for us’
aváá!ndó váríkáchĩiví	‘the people who will steal it’
vwah-á!rákákwĩtĩ	‘who will kill us?’
navizara arakíĩyigizí	‘the daughter in law who will teach herself’
rwá varakavíĩroollí	‘when they will winnow for them’

The variant two-H melody is also attested, though not frequently.

L verbs

avarĩmĩ varakavá!róré	‘the farmers who will see them’
navizar-arakáá!sémé	‘the daughter in law who will insult me’
ovóró !v-órakákú!shééré	‘the millet which you will grind for us’
omsí!g-árakáké!ng’óódé	‘the enemy who will write it’
íkivóni ch-orakákí!gávóllí	‘the reason which you will divide it for’
omsíg-arikakiháá!ndíikí	‘when he will write it’
avátáá!chóni várakáchéé!yé	‘the Tachonis who will sweep it’

avíísokuro varákée!yéyé ‘the grandchildren who will sweep for themselves’

H verbs

aváándo varikavó!gííllí ‘the people who will agree’
avasooréri !várakáá!mbóhóóllé ‘the youths who will untie me’
aváándo varikaká!ráángé ‘the people who will fry’
aváándo varikatúú!ngámíjí ‘the people who will invert’

2.9.5. NEGATIVE RELATIVE CLAUSE WITHOUT OP

Negative relative verb forms of this tense have the prefix -ta- between {ri,ra} and *ka*. As with affirmative forms, the main pattern may be M1.

L verbs

omóónd-aritakagwí ‘the person who will not fall’
rwá !márov-áritakagwí ‘when Marova will not fall’
omdogá gwa varatakagorí ‘the car which they will not buy’
rwá varitakarimí ‘when they will not plow’
rwá varitakagiingí ‘when they will not carry’
ivííndo vya ndatakachoore ‘the things that I will not draw’
rwá varitakadiiri ‘when they will not hold’
rwá varitakagavorí ‘when they will not divide’
omóónd-aratakakaroorí ‘the person who will not release’
rwá varitakahirirí ‘when they will not snore’
rwá varitakahooroorí ‘when they will not extract’
aváándo varatakayíinzirí ‘the people who will not work’
rwá varitakaganagane ‘when they will not think’
omwáán-aratakaveezegere ‘the child who will not belch’

H verbs

omóónd-aritá!kánwí ‘the person who will not drink’
r-ó!rátáká!ryí ‘when you will not eat’¹¹
rwá !várítákávége ‘when they will not shave’
aváá!ndó várítákádéeke ‘the people who will not cook’
omwáá!n-árátákátáage ‘the child who will not plant’
rwá !várítákátúuzí ‘when they will not spit’
rwá !várítákáchánorí ‘when they will not comb’
rwá !ndátákánágorí ‘when I will not run’
rwá varitakakáraange ‘when they will not fry’
rwá varitakafóónorí ‘when they will not open’
rwá varitakaháambaanye ‘when they will not join’
rwá !várítákátómikírí ‘when they will not snore’
rwá varitakavódong’ane ‘when they will not go around’
rwá varitakahónonoke ‘when they will not calm a cow’

¹¹ Recall that final lexical H in CV roots is often realized by splitting the final H in two, appearing as H!H.

rwá varitakatúúngamijri	‘when they will not invert’
rwá !várítákíítí	‘when they will not kill’
omóó!nd-árátákáate	‘the person who will not do surgery’
rwá varitakakíígizí	‘when they will not teach’
rwá varitakakííroki	‘when they will not flee’

Examples with the ‘double-H M2’ pattern are not common

L verbs

omóónd-aritá!kágwí	‘the person who will not fall’
omóónd-aritá!káróré	‘the person who will not see’

H verbs

r-ó!rátáká!ryí	‘when you will not eat’
rwá! kórátáká!nwí	‘when we will not drink’
omóónd-aritá!kávégé	‘the person who will not shave’
omóó!nd-árátákányá!góri	‘the man who will not run’
omwáána wa koritakasáá!móóri	‘the child who we will not slap’

2.9.6. NEGATIVE RELATIVE CLAUSE WITH OP

In negative relative forms with an OP, we find the greatest tendency for there to be a double-H pattern, which is still the less-likely pattern. Examples of the M1 pattern are as follows.

L verbs

rwá !kórátákákíshí	‘when we will not grind it’
avaró!góóri vá árátákákísheere	‘the Logooris whom he will not grind it for’
navizar-aratakááseme	‘the daughter in law who will not insult me’
aváá!ndó várátákákweéne	‘the people who will not want you’
vwahá !várátákákóraange	‘who will not call us’
íkivú!ní ch-órátákákígavollí	‘the reason which you will not divide it for’
eng’óómbe ya kuratakakórakoolí	‘the cow which we will not release for you’
navizara (w)órátá!kávááyollí	‘the daughter in law who you will not shout at for them’
rwá varitakakórakoolí	‘when they will not release us’
avíígizí va kuratakakóvariziri	‘the teachers whom we will not count for you’
vwahá aratakaachíízorizi	‘who will not remember it?’
r-ó!rátákáámbeezegelle	‘when you will not belch on me’

H verbs

vwah-á!rátákákínwí	‘who will not drink it’
omwáá!n-árátákákwiítí	‘the child who will not kill us’
aváá!ndó várátákákóvege	‘the people who will not shave us’
rw-ó!rátákákíríingí	‘when you will not fold it’

rwá !kórítákáangoone
aváá!ná vá kórátákéékoopere

‘when we will not help me’
‘the children whom we will not help for ourselves’

aváá!ná várátákíkaraange
vwahá !várátákávásaallizi
ɪná!má yá várátákákókaraangiri
umgáambi aratakakítungamiji

‘the children who will not fry it’
‘who will not injure them’
‘the meat that they will not fry for us’
‘the minister who will not invert it’

One may also find the double-H pattern.

L verbs

rwá korátákákí!shí
omóó!nd-árátákáá!ndóyí
vwahá aratakákó!róré
omóó!nd-árátákáá!náángé
rwá !kórátákákí!rákúórí
rwá !kórátákává!hóóndóóllí
vwah-á!rátákává!rííndííllí
kíndí kí !chá !kórátákává!górízírí
vwah-á!rátákákí!síníkízí
vwahá !rátákákwé!ényé
navizara wa koratakaváá!yóllí

‘when we will not grind it’
‘the person who will not hit me’
‘who will not see us?’
‘the person who will not call me’
‘when we will not release it’
‘when we will not stare at them’
‘who will not wait for them?’
‘what will we not sell for them’
‘who will not annoy it?’
‘who will not want you?’
‘the daughter in law who we will not shout at for them’

H verbs

avíidakó varatakáá!ngóómbééllé
rwá koratakaakéé!déékéré
rwá! kórátákákí!káraángé
vwah-á!rátákáá!mbóhóóllé
rw-ó!rátákákí!káraángírí
vwahá aratakaakwí!tí
rwá !kórátákáchóó!míjí
rwá !kórátákáchíí!róórí

‘the Idakos who will not hug me’
‘when we will not cook for self’
‘when he will not fry it’
‘who will not untie me?’
‘when you will not fry for it’
‘who will not kill us?’
‘when we will not dry it’
‘when we will not winnow it’

2.9.7. HEADLESS SUBJECT RELATIVES

The expectation for headless subject-relatives is that the merger of the augment plus the cl. 1 subject prefix causes assignment of H to the following prefix *ra*. With L verbs, the only H should be on *ra~ri*, as in the following examples.

L verbs

orákagwi ‘the one who will fall’
orákarore ‘the one who will see’
oríkagone ‘the one who will sleep’
orákachoore ‘the one who will draw’
oríkaboroki ‘the one who will fly’

oríkavarizi	‘the one who will count’
orákagarókizi	‘the one who will return’
orákaveezegere	‘the one who will belch’
orákeeye	‘the one who will sweep’
orákiikare	‘the one who will sit’
orákaambuki	‘the one who will cross’

With H verbs, the root-initial H usually spreads to the left resulting in H!H between *ra* and the stem.

orá!kávége	‘the one who will shave’
orá!kásúuri	‘the one who will refuse’
orákakórore	‘the one who will cough’
orá!kávódong’ane	‘the one who will go around’
orá!kíiti	‘the one who will kill’
orá!kíikare	‘the one who will sit’

The double-H pattern is more frequent in this verb form, compared to the relative clause forms of this tense seen in the previous subsection. A small sample of such examples is given here, and the majority of the examples are in section Q.

L verbs

oráká!róré	‘the one who will see’
orákáté!évé	‘the one who will ask’
oríkásó!ng’úsi	‘the one who will shake’
orá!kéé!yé	‘the one who will sweep’
orí!kíi!ví!líi	‘the one who will forget’

H verbs

orí!kámé!né	‘the one who would live’
orí!kádée!ké	‘the one who would cook’
oríkaká!ráángé	‘the one who would fry’
oríkagí!róng’á!nyé	‘the one who will invert’

The M1-variant pattern with OP manifests H on the OP.

L verbs

orí!kávósyi	‘the one who will grind it’
oríkakígori	‘the one who will buy it’
oríkagórimi	‘the one who will plow it’
oríkam’kingi	‘the one who will protect him’
oríkakóchoore	‘the one who will draw you’
orí!kíivarizi	‘the one who will count himself’
oríkavábadori	‘the one who will whip them’
oríkavádignyi	‘the one who will tickle them’
orí!káándakoori	‘the one who will release me’

oríkakíkoroori	‘the one who will drag it’
orí!káásooviri	‘the one who will believe me’
oríkagóseembelle	‘the one who will weed it’
oríkakózeengeelle	‘the one who will stare at us’
oríkakósaamoori	‘the one who will slap us’
oríkamórindiri	‘the one who will watch over him’
oríkakíhaandiiki	‘the one who will write it’
orí!kíísíníkizi	‘the one who will annoy himself’
oríkakígárokizi	‘the one who will return it’
oríkakívoroganyi	‘the one who will stir it up’
oríkaváveezegelle	‘the one who will belch on them’
oríkakógavoranyiri	‘the one who will divide up for you’
orí!káchéeye	‘the one who will sweep it’
orí!káápepe	‘the one who will want me’
oríkagwááboki	‘the one who will cross it’
oríkamwááyolli	‘the one who will shout at him’
orí!káánzivilli	‘the one who will forget me’
oríkacháámbakane	‘the one who will refuse it’
orí!káánzizorizi	‘the one who will remember me’

H verbs

orí!kágánwi	‘the one who will drink it’
orí!káámbege	‘the one who will shave me’
oríkakíkare	‘the one who will slice it’
orí!káángoope	‘the one who will help me’
oríkakéreete	‘the one who will bring it’
orí!káángamati	‘the one who will touch me’
oríkakínavori	‘the one who will unsew it’
oríkavóvorugi	‘the one who will stir it up’
orí!kéévohoolle	‘the one who will untie himself’
oríkavíkaraange	‘the one who will fry them’
orí!káángoombeelle	‘the one who will hug me’
oríkakócheerizi	‘the one who will greet you’
orí!káámbodong’ane	‘the one who will go around me’
oríkakéng’ereng’anyi	‘the one who will shine it’
oríkakítuungamiri	‘the one who will invert it’
orí!kávíiti	‘the one who will kill them’
orí!kámwáate	‘the one who will do surgery on him’
oríkarwíngiri	‘the one who will enter it’
oríkavígizi	‘the one who will teach them’
oríkagíírori	‘the one who will winnow it’
orí!káánpambaayizi	‘the one who will make me swing’

Negative forms add the prefix *-ta-* which usually appears after future *-ra-* though may precede it. Irrespective of the order of these prefixes, the first H is on the prefix immediately after the SP.

L verbs

otárakashi	‘the one who will not grind’
otárakaguri	‘the one who will not buy’
otátakanoge	‘the one who will not pick’
otarakaboroki	‘the one who will not fly’
otatakakaduki	‘the one who will not snap’
otatakavezegere	‘the one who will not belch’
otarakagarangatane	‘the one who will not fall and roll over’
otarakeelleke	‘the one who will not go down’

H verbs

otátáká!tyí	‘the one who will not fear’
otá!rákádééke	‘the one who will not cook’
otá!táakáóoje	‘the one who will not help’
otá!rákákádori	‘the one who will not break rope’
otá!rákáchéerizi	‘the one who will not greet’
otá!táakáfúúmbeelle	‘the one who will not make a fire burn’
urá!táakátúúngaminyi	‘the one who has not inverted’

The double-H pattern is also found, a few examples seen here – otherwise, see section Q for the M2 variant forms.

L verbs

otá!táaká!shí	‘the one who will not grind’
otá!táaká!nógé	‘the one who will not pick’
otá!táaká!dóki	‘the one who will not snap’
otá!táakávée!zégéré	‘the one who will not belch’

H verbs

orítakaté!gé	‘the one who won’t trap’
otá!táaká!dééké	‘the one who will not cook’
orítakaráá!gí!rí	‘the one who won’t eat ugali’

The same options arise when an OP is present. The M1 pattern may be followed, with H from the post-SP prefix to the OP. It should be noted that the M1 pattern is less common in this particular combination (negative relative with OP).

L verbs

otá!táakáásinikizi	‘the one who will not annoy me’
otá!táakákóhaanzuukiri	‘the one who will not shout for us’
otá!rákákórakoori	‘the one who will not release us’
otá!táakágwéeye	‘the one who will not sweep it’

H verbs

otá!táakákócheerizi	‘the one who will not greet us’
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orátakakébo more
orátakíígrong'anyiri

'the one who will not demolish it'
'the one who will not reverse for himself'

2.10. ri-V-I future

A future tense with the prefix *-ri-* and with final *-ri* also exists, and may have the M1 tone pattern. The majority pattern for main clauses is M1, as presented here. Relative forms have a strong tendency to follow the M2 pattern, but the data for relative forms is overall unclear.

2.10.1. MAIN CLAUSE WITHOUT OP

Under the M1 pattern, L verbs have no H.

L verbs

varigwi	'they will fall'
ndirore	'I will see'
varinave	'they will sew'
varirwaane	'they will fight'
varigurizi	'they will sell'
arirakoori	'he will release'
varivorogi	'they will stir'
variveezegere	'they will belch'
varyeeye	'they will sweep'
varyaamboki	'they will cross'

H verbs have root-initial H.

H verbs

arínwí	'he will drink'
várivége	'they will shave'
váridéeke	'they will cook'
varirwáare	'they will fight'
várínáape	'they will eat'
varínágori	'they will run'
varikárage	'they will judge'
varikáraange	'they will fry'
arivóhoolle	'he will untie'
varivóroganyi	'they will stir up'
koritúúngamiji	'we will invert'
varyóone	'they will sin'
variiti	'they will kill'
varyáate	'they will surgery'
varyáágori	'they will pluck'

2.10.2. MAIN CLAUSE WITH OP

The object prefix bears H, when one is present.

L With OP: CV

varíkíshɪ	‘they will grind it’
ariváseke	‘he will laugh at them’
ndim̄choore	‘I will draw him’
korigígɔrizi	‘we will sell it’
arikídovɔri	‘he will squish it’
varikórakɔuri	‘they will release us’
varikóyɪnzɪli	‘they will work for us’
varikóveezegelle	‘they will belch on us’
varichéeye	‘they will sweep it’
korimwíivilli	‘we will forget him’

H With OP: CV

varikínwɪ	‘they will drink it’
varikóvege	‘they will shave us’
varikédeeke	‘they will cook it’
ndikíkarage	‘I will slice it’
ndivávogɪlli	‘I will allow them’
varikíkaraange	‘they will fry it’
varigévohoolle	‘they will untie it’
arivátuungamɪɲɪ	‘he will invert them’
varikwíiti	‘they will kill us’

The OP H is distributed over the lengthened syllable when the OP is either 1s -N- or reflexive -I-.

L With OP: 1s, Refl

varíishɪ	‘they will grind me’
ndyííromɪ	‘I will bite myself’
varíínɪndi	‘they will bite me’
koryííngorizɪ	‘we will sell for ourselves’
varíínzɪmɪli	‘they will lead me’

H With OP: 1s, Refl

aryéete	‘he will bury himself’
varíímbe	‘they will give me’
koryéereete	‘we will bring ourselves’
varíindeekere	‘they will cook for me’

2.10.3. RELATIVE CLAUSE WITHOUT OP

Relative clause forms of this tense may have the M1 tone pattern.

L verbs

rwá ndigwɪ	‘when I will fall’
rwá ndiriri	‘when I will cry’
rwá varirimi	‘when they will plow’
rwá varichoore	‘when they will draw’
rwá varimorome	‘when they will speak’
rwá variveezegere	‘when they will belch’
vwah-áriveezegere	‘who will belch’
vwah-áriverizi	‘who will count’
rwá varyeeye	‘when they will sweep’
rwá varyaangohɪ	‘when they will speed up’
rwá varyaambokɪ	‘when they will cross’
rwá variivilli	‘when they will forget’

H verbs

rwá ndihólli	‘when I will hear’
rwá !ndívége	‘when I will shave’
rwá variváke	‘when they will smear’
rwá nditáange	‘when I will start’
rwá varikárage	‘when they will judge’
rwá varitúúngamijne	‘when they will turn’
vwah-árichéerizi	‘who will greet’
vwah-árigírong’anyɪ	‘who will turn around’
vwah-árivúgorɪ	‘who will receive’
rwá !váríftɪ	‘when they will kill’
rwá varyáágorɪ	‘when they will pluck’

2.10.4. RELATIVE CLAUSE WITH OP

H can be on the OP in this tense in a relative clause verb form, consistent with the M1 pattern.

L verbs

vwah-árikíshɪ	‘who will grind it’
rwá varikíshɪ ^o	‘when they will grind it’
vwah-árikááshɪ	‘who will grind me’
vwah-árikóroge	‘who will bewitch us’
vwah-árimóromɪ	‘who will bite him’
vwah-árikígurizi	‘who will sell it’
vwah-áriváarakoorɪ	‘who will release them’
vwah-áriváveezegere	‘who will belch on them’
vwah-á!ríchéeye	‘who will sweep it’

L with OP

vwah-árikáámbe	‘who will give me’
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vwah-árikípaape	‘who will eat it’
vwah-árikódeekere	‘who will cook for us’
rwá varikónagólli	‘when they will run for us’
rwá varimwíiti	‘when they will kill him’

The degree of variation in relative forms is more significant compared to main clause forms. There are examples like *aváána va korivége* ‘the children who we will shave’ and *aváándo va korichéérizi* ‘the people who we will greet’ with the M1 pattern but also *imigoye ja korivárizi* ‘the ropes which we will count’ and *rwá !várírími* ‘when they will plow’ with the M2 pattern. Because the set of M1-pattern relative examples is limited, most such examples are presented in section X in connection with M2. It is not clear if there is a real grammatical difference in the option for M2 pattern between this tense and the -rika-...-e tense of the previous section. The -ri-...-e tense is rather similar to the indefinite future whose morphological pattern is -ri-...-a which absolutely follows the M2 pattern, thus there is a closer surface analogy between the two tenses, and this could explain the paucity of M1 relative forms of the present tense.

2.10.5. NEGATIVE RELATIVE CLAUSE

There are tokens of negative relatives in this tense which manifest the M1 pattern.

L verbs

rwá kotarigone	‘when we won’t sleep ’
omógóye gw-atarikakweese	‘the rope that he won’t pull ’
rw-átarimorome	‘when he won’t speak ’
ovoséra vwa vatarivurugi	‘the porridge which they won’t mix ’
aváándo vatarirakóori	‘the people who will not release’
rwá ndariveezegere	‘when I won’t belch ’
r-ótarihiiriti	‘when you won’t snore ’
omóónd-atarikórore	‘the person who will not see us’
ikivóni ch-otarikígavólli	‘the reason which you will not divide it for ’
avíígizí va kotarikóvariziri	‘the teachers whom we will not count for you’
aváándo vatariizi	‘the people who won’t go ’
rwá kotariivilli	‘when we won’t forget ’
rw-átaryaanigiri	‘when he won’t go up ’
r-ó!táííndoyi	‘when you won’t hit me’
rwá !ndáíívákíingí	‘when I won’t protect them’
aváándo vatarivábadori	‘the people who won’t whip them’
omosóóréri ataríínzilli	‘the boy who won’t work for me’
rw-á!táííháahe	‘when he won’t pick it’
otárigwáámboki	‘the one who won’t cross it’

H verbs

otá!rídáhe	‘the one who won’t draw ’
rwá !vátáíídóoki	‘when they won’t reach ’
omóóndo wa ndaríkóoje	‘the person who I won’t help ’

otáritúrizi	‘the one who won’t remove’
omóónd-atarinjágori	‘the man who will not run’
aváána vatarikáraange	‘the children who will not fry’
otárisáállizi	‘the one who won’t injure’
myóómba y-atarivódong’ane	‘the house which he won’t go around’
omóó!nd-átaryáate	‘the person who will not do surgery’
rwá !ndaryáátanyi	‘when I won’t break’
omwáána wa kotaryáámbaayiri	‘the child who we won’t swing for’
ikimóga cha ndaríízorizi	‘the gourd which I won’t fill’
otárigánwi	‘the one who won’t drink it’
otáriváhonyi	‘the one who won’t heal them’
aváándo vatarikóvege	‘the people who will not shave us’
otáriváúoti	‘the one who won’t defeat them’
rwá vatarikóhulli	‘when they won’t hear us’
avakáána vatarikochéerizi	‘the girls who won’t greet us’
ɪnáma y-atarikódeekere	‘the meat that he will not cook for us’
rwá !kótaryéévohoolle	‘when we won’t untie ourselves’
ɪnáma ya vatarikókaraangiri	‘the meat that they will not fry for us’
omgáámbi atarikítóongamiji	‘the minister who will not invert it’
ikivóni ch-ataríindaangaaziri	‘the reason that he won’t announce for me’
otá!ríchíivi	‘the one who won’t steal it’
otárichííroori	‘the one who won’t winnow it’

The double-H M2 pattern is the more common one for this verb form.

3. M2: V2 ~ Final

The most widely-attested tone pattern in Logoori is the M2 pattern, where L roots have H on the second stem mora, and H roots have final H and do not have root-initial H. A subcondition for H verbs is that stems of 1 or 2 moras do not have any H. This pattern is attested in the greatest number of apparent tenses of the language.¹² In this section, we also encounter a variant form of this melody with two H tones, thus both *omkóóngo akevó!dóng’á!ná* and *omkóóngo akevódóng’ána* ‘the boss who is still going around’ are possible. The exact conditions for these variants remains an unresolved puzzle, though it is clear that ‘longer stems’ and ‘subordinate forms’ are major contributors to selecting the two-H pattern. As observed in the previous section, certain (subordinate clause) M1 verb forms also manifest the two-H pattern.

Proceeding through this pattern, we will encounter many complications, mainly:

¹² On morphological and semantic grounds, the set of tenses with the M2 pattern might reduce to a smaller set with certain optional aspectual affixes, *-aa* for continuative and *-ki-* for persistive, so that the identity of the tone patterns of the perstitive and progressive forms are due to these actually being a single tense form. Support for such a reductive approach is the fact that there are two variants of the perstitive, one employed by stative predicates with the perfective stem, and one with the final vowel *-a*. Only perstitives of the former type have the M2 tone pattern, and perfective persistives use the (hodiernal) tone pattern discussed in sect. 11.

Lexically L toned roots may adopt the tone pattern of H verbs, especially if the stem is trisyllabic or longer, or has an underlying or derived long vowel in the first syllable.

The L→H lexical shift is encouraged by the presence of an OP.

In forms expected to have two stem H tones (initial and final), the penult and final syllables are optionally separated with a downstep.

H on the SP may shift to the right (in headless relative clause forms), thus landing within the stem, which causes a substantial change in the stem tone pattern.

Because initial-syllable vowel length influences the pattern, there is generally a difference of tone pattern between forms with the 1s SP or OP /N/ which does not cause lengthening of the root-initial vowel, versus those with a pre-stem CV- prefix.

The pattern is initially exemplified here with the indefinite future (prefixed with *-ri-*), which has the fewest complicating factors.

We follow the pattern of looking at forms without OP before the forms which have an OP, main clause forms before subordinate clause forms, affirmative before negative, and headless subject relative after all other forms. After covering a certain pattern a few times, the level of detail is cut back somewhat – partly because later tenses with this pattern are not as well covered in the data, or contain structural gaps.

One final complication is that speakers may differ in what tone pattern characterizes a particular tense. The first tense that we consider, the indefinite future, follows the M2 pattern in the data from RL, PM, EM and RK (as well as data from Leung 1991), but apparently in data from ML, LI and BM a different pattern prevails, at least part of the time. This variant is considered at the end of the section on the indefinite future, since it can be connected to a possible variation on M2.

3.1. Indefinite future

Because the indefinite tense has a CV prefix *-ri-* between the SP and the root, with no obligatory proclitic, the shape of the SP has negligible influence on the surface tone of the verb.

3.1.1. INDEFINITE MAIN CLAUSE WITHOUT OP

As stated at the beginning of §3, L verbs have H on the second stem vowel, which spreads to the left.¹³ Therefore, L verbs with C-initial roots and CV subject prefixes

¹³ As observed in X, the rules governing leftward spread of H are unclear across and within speakers, but there is a strong tendency in this tense for spreading to stop at the boundary between the root and prefixes. When the root is vowel-initial and the prefix is vowel-final ([ariigóra] ‘he may open’), this means that the resulting long vowel is L toned, not H toned, and in addition, H does not spread into the prefix domain. However, there are some tokens with spreading throughout the prefix domain ([kórirórá] ‘we will see’), which predominantly occurs when the final vowel of the word bears the melodic H (see X for discussion of /L*H/, for instance /korirorá/ ‘we will see’ being realized as [kórirórá] or [korirora^o] with a lowered H and a rather flat pitch pattern – if this is spreading, H must spread to all preceding vowels). A further limit on spreading is that there is no spreading to the root initial syllable in a lexically H verbs, though in tokens like

exhibit minimal complications from general tonal rules, and most clearly bring out the melodic pattern. If the first root syllable has a long vowel, that syllable is H and the second syllable has no H (*varigéénda*), realized as level H and not falling tone on the penult. If the first syllable is short, the second syllable has H (which spreads to the left: *arigósána*). When the first syllable is short and the second is long, the second syllable has level H (*varisékáánga*), not a falling tone.

L roots

kórishá	‘we will grind’
varigwá	‘they will fall’
allímá	‘he will plow’
kóriróra	‘we will see’
varigóra	‘they will buy’
addóyá	‘he will hit’
varigéénda	‘they will walk’
koriyáára	‘we may sue’
arítúuma	‘he will jump’
aring’óoda	‘he will write’
arigósána	‘he may disagree’
kóribóroka	‘we will fly’
varing’ósána	‘they will pull e.o’
varimóroma	‘they will speak’
varirakóóra	‘they will release’
varisékáánga	‘they will laugh continuously’
variíinzira	‘they will work’
variháándirika	‘they will write’
kórihíruta	‘we will snore’
koriyóomboora	‘we may overpour’
kórigánágana	‘we will think’
varirúungikiza	‘they will straighten’

If the root is vowel-initial, /ri/ merges with that vowel (causing lengthening) and H does not spread back to the fused syllable.

varyeyá	‘they will sweep’
aryoongá	‘he will join’
aryeená	‘he will want’
ariigóra	‘he may open’
aryaambóka	‘he will cross’
variinóka	‘they will leave work’

Considering pre-surface representations /va-ri-eyá, a-ri-ambóka/, Leftward Spread would result in *va-ri-éyá, a-ri-ámboka*, which would become *varyeéyá, aryaámboka* given the rules of segmental phonology. Rising tone does not exist in the language, and the general

[váríkaráángá] ‘they will fry’, which can be interpreted as [varikaraanga^o], there can be “spreading” throughout the word.

strategy for resolving would-be rising tones coming from Leftward Spread is to minimally undo the effect of that rule, thus [varyeeyá, aryaambóka], at least when would-be rising tone comes about at the boundary between prefix and stem under the M2 pattern.

The above represents the strong majority pattern, however a second pattern is optionally (but infrequently) possible for L verbs, seen below, where the H is on the root-initial long vowel

koryáága	‘we will scratch’
koryaagá	‘we will scratch’
kiryáána	‘it will moo’
kiryaaná	‘it will moo’
varyééna	‘they will want’
varyeepá	‘they will want’
oryééya	‘you will sweep’
varyeeyá	‘they will sweep’
kiryóoya	‘it will cry in pain’
kiryooyá	‘it will cry in pain’
ndyáábuka	‘I will cross’
koryaambóka	‘we will cross’
aryéélleka	‘he will go downhill’
varyeelléka	‘they will go downhill’
aryíimílla	‘he will lead’
koryimílla	‘we will lead’

We may assume that this reflects differential treatment of the derived length of the stem-initial vowel – [koryáága] reflects the length analysis /kory[aaga/ and [koryaagá] reflects the analysis /korya[aga/ ~ /kori[aga/. As noted below, vowel-initial H verbs uniformly act like stems with long first vowels.

In the case of H verbs, the final vowel has H, except in the case of CV and CVCV roots which are surface toneless.

H verbs

kōrinwa	‘we will drink’
varita	‘they will bury’
acchaba	‘he will hit’
kōllasa	‘we will throw’
ariroka	‘he may vomit’
addiirá	‘he will catch’
varikooṅá	‘they will help’
kórivógórá	‘we will receive’
varihakízá	‘they will burn’
alivonáányá	‘he will snap’
várikaráángá	‘they will fry’
kórichéerízá	‘we will greet’
variheeváná	‘they will give e.o’

arifoŋgóra	‘he may open’
várikúómbééllá	‘they will hug’
kuritʊŋámíná	‘we will invert’
varivodóng'ányá	‘they will turn around’
varizaazámíráná	‘they will taste for e.o’

H toned V-initial roots manifest the M2 tone pattern differently from C-initial roots, in that VCV roots have final H but CVCV roots do not. Longer V-initial H roots are not tonally different from C-initial H verbs: that is, VCV H roots are not subject to the special H-deletion which CVCV stems are subject to.

variitá	‘they will kill’
varyaata	‘they will perform surgery’
aryimbá	‘he may sing’
varyaagááná	‘they may meet’
ariigótá	‘he may be satisfied’
variigizá	‘they will teach’
ariimbíhá	‘he may be short’
varyaagááná	‘they may meet’

In terms of behavioral analogies, it is as though the stem has a long vowel, so *varyaata* (=/*va-ri-ata*+H/) behaves like *varideeká* (=/*va-ri-deeka*+H/). See in contrast the primary pattern *varyeeyá* ‘they will sweep’, where the two moras of the syllable *ryee* do not define the domain of tone assignment (as opposed to the minority pattern which is analogous to that of H verbs).

Anticipating the complications of object prefixes and relative clause forms, Main Clause indefinites without an OP manifest this pattern almost exclusively, save for 9 out of 680 tokens which have two H tones – a low enough number that those examples can reasonably be deemed to be errors.

3.1.2. INDEFINITE MAIN CLAUSE WITH OP

The M2 pattern with OP is quite complex, in comparison to the case without an OP. The main complication is variability, especially the fact that there may be asymmetrical attestations of the two extant behavioral sub-patterns in a given phonological context: one sub-pattern may be most common in one context, but a different sub-pattern may be most common in a different context. There are multiple realizations of the M2 pattern, involving speaker-internal optionality and cross-speaker differences.¹⁴ The present data is most robust for speaker EM, next-most robust for ML, RK and LI, and generally not very strong for other speakers.

Other complications relate to how the prosodic shape of the stem gives rise to variant tone pattern in otherwise-unexpected ways. L stems with more than two syllables act differently from shorter stems: optionally, they adopt the pattern of lexically H stems. Vowel-initial stems also behave differently (a fact already observed with VCV H roots in

¹⁴ A desideratum for future research is checking the M2+OP pattern with more speakers.

the preceding section). When vowel-initial stems lengthen their initial vowel after an OP, the stem behaves like a H toned stem, regardless of lexical tone. This form of H-tone behavior differs from that of longer L verbs with an OP, because it is obligatory.¹⁵ Optional H-like treatment for longer L stems are treated alongside lexically H stems, but vowel-initial roots will be treated as a unit, after the treatment of C-initial roots.

As for the overall realization of the sub-patterns, in one of the sub-patterns there is a single H in the stem, either on the second stem vowel for L verbs or the first for H verbs. The second sub-pattern has two stem Hs and no distinction between H and L roots. Below, the single-H sub-pattern is referred to as the main pattern.

The main pattern

One pattern for L verbs having an OP is largely the same as it is for L verbs without an OP: there is a H on the second stem vowel.

L verb

arikisyá	‘he will grind it-7’
varigigórá	‘they will buy it.9’
varikoséká	‘they will laugh at you’
korivachóóra	‘we will draw them’
varikováríza	‘they will count us’
varikigóríza	‘they will sell it’
varikogoyáánya	‘they will disorient us’
varikorakóóra	‘they will release us’
varikogééndera	‘they will walk for us’
varikiháandiika	‘they will write it.7’
korivabórokíra	‘we will fly for them’
varikigávóronya	‘they will dole it out’
varikogánágana	‘they will think of us’
ndimómóromera	‘I will speak to him’
varivirékániza	‘they will separate them’
varikogoyáánira	‘they will be disoriented on us’

Selection of the OPs -N- or -I- does not generally present any tonal complications, apart from syllabic fusion between that prefix and the preceding prefix.

valiisyá	‘they may grind me’
varyiishá	‘they will grind self’
ariindórá	‘he will see me’

¹⁵ Although speakers (especially EM) can provide negative judgments of the possibility of certain forms – including judging that my production *[varatʋŋgamɪna] is incorrect and [varatóŋgamɪna] is correct, rejection judgements on the (im)possibility of certain tonal alternatives are not sufficiently strong that I can assert ungrammaticality based on speaker rejection. Thus the distinction between optional vs. obligatory is based on non-attestation, or sufficiently infrequent attestation that apparent examples can reasonably be rejected as error.

koryeeróra	‘we will see self’
ndyɪchóóra	‘I will draw self’
valiinínda	‘they may watch me’
ariindógéra	‘he will bewitch for me’
varyɪvária	‘they will count self’
valiindákóóra	‘they may release me’
ariimóromera	‘he will speak for me’
aryɪváriazira	‘he will count for self’
ariingánágana	‘he will think about me’

Compared to the pattern with no OP, H verbs have a substantially different tone pattern after an OP, having H on the root-initial syllable. This is the only attested pattern for RL and FA. Examples of H roots with an OP from RL and FA are as follows.

H verbs

arikɪyá	‘he will eat it. ₇ ’
ndivavéga	‘I will shave them’
aryeevéga	‘he will shave himself’
korimóroma	‘we will bite him’
arikerééta	‘he will bring it. ₇ ’
korivakóója	‘we will help them’
arikorásira	‘he will throw for us’
aryeedéékera	‘he will cook for himself’
varikekodéékera	‘they will cook it. ₇ for us’
aryɪsáálliza	‘he will injure himself’
arikokáraangira	‘he will fry for us’
aryɪyásyamolla	‘he will sneez on himself’
aryɪkáraangira	‘he will fry for himself’
aryɪtóóngamiɲa	‘he will turn himself upside down’
korivafóómbeella	‘we will make a fire burn for them’

Similar examples of CV and CV(V)CV stems from EM are as follows: H is on the first root syllable.

korivokwá	‘we will pay it’
kuriganwá	‘we will drink it’
arikiróma	‘he will bite it’
arimkóba	‘he will beat him’
korivavéga	‘we will shave them’
varikedééka	‘they will cook it’
ndiritúúma	‘I will cross it’
korikitáága	‘we will plant it’
ndikedóóra	‘I will pick it up’
korivatúunga	‘we will pay them’

The same generalization holds when the OP is 1s -N- or reflexive -ɪ-.

korɪhá	‘we will give selves’
ariimbólla	‘he will hear me’
ariinzíta	‘he will kill me’
variinzíva	‘they will steal me’
koryeetéga	‘we will trap self’
korynyíta	‘we will kill self’
oriimbéga	‘you will shave me’
varyeevéga	‘they will shave selves’

The double-H pattern

PM and EM¹⁶ have a second pattern where there are two Hs separated by downstep, the first on the initial stem syllable and the second spanning the remaining syllables, for example *varikoká!rágá* ‘they will judge us’. At a descriptive level, the primary factors influencing selection of the two-H pattern are

- (1) object prefix – an object prefix encourage the double-H pattern
- (2) lexical tone – H roots encourage that pattern
- (3) stem-length – stems of 3+ syllables do too
- (4) mora-count – CVVCV stems encourage the pattern more than CVCV
- (5) subordinate clause – subordinate forms encourage the double H pattern

These factors are listed according to apparent strength of factor. A main clause CVCV verb with no OP is least likely to have the double-H pattern (no examples exist), and polysyllabic H stems with an OP in a subordinate verb form are most likely to have that pattern (a single contrary token is attested, *vwah-árivachéeriza* ‘who will greet them’). Given the potential size – tens of thousands of examples – needed for a well-controlled statistical analysis of the variation, this study will be no more nuanced than to say “sometimes” or “usually”. Since subordinate clause forms were mostly investigated with EM, the scope of data coverage for this variation is mostly limited to that speaker.

This alternative to the single-H pattern only arises in the data with verbs having an OP and three or more stem morae. In that context, there is H on the first stem syllable followed by a downstep, then a span of H tones to the end of the word. This is illustrated below with H verbs.

ndigiká!rágá	‘I will slice it’
origosú!gúmá	‘you will drive it’
varivavó!hóóllá	‘they will untie them’
korigiká!ráángá	‘we will fry it’
valiingá!ráángá	‘they may fry for me’
arikikúú!níká	‘he will cover it’
valiisáá!llízá	‘they may injure me’
arivahóú!ndóóllá	‘he will stare them’

¹⁶ Recall that both PM and EM are from Chanzeywe.

kurizivó!dóng'ána	'we will go around them'
arikryá!vógóllá	'he will unbury it'
orikigí!róng'ányá	'you will turn it around'
varikoká!ráángirá	'they will fry for us'
orikitúú!ngámíná	'you will invert it'
varikutáá!ngáázirá	'they will announce for us'
valiindáá!ngáázirá	'they may announce for me'
valiinzá!rámínyirá	'they may open for me'
varikutúú!ngámínirá	'they will invert for us'

Examples with the 1s OP or reflexive op -r- have this same pattern.

valiingá!ráángá	'they may fry for me'
valiisáá!llízá	'they may injure me'
valiingóó!níká	'they may cover me'
ariimbó!dóng'óná	'he will go around me'
valiindáá!ngáázirá	'they may announce for me'
valiindóó!ng'ámínyá	'they may turn me'
aryisú!gúmízá	'he will make self drive'
korisáá!llízá	'we will injure self'
varyikóó!níká	'they may cover self'

This two-H pattern is also found in the data reported in Leung (1985), with the exception that the two-H pattern is also found in disyllabic stems. Data from EM has not attested the double-H pattern in CVCV stems, but it does arise (less frequently) in CVVCV stems.

L verbs

arivayáá!rá	'he will sue them'
korivaróó!ndá	'we will follow them'
varikínáá!ná	'they will eat it'
arichéé!yá	'he will sweep it'

H verbs

varikedéé!ká	'they will cook it'
korikeréé!tá	'we will bring it'
variíngó!ónyá	'they will help me'
arikonywéé!ká	'he will beat you'

The most-common pattern for CVVCV stems is the single-H pattern.

L verbs

varikorónda	'they will follow you'
varirobíma	'they will measure it'
korikichóóra	'we will draw it'
korivaráanga	'we will call them'
korikoyáara	'we will sue you'

varikokwéésa ‘they will pull you’

H verbs

korikedééka ‘we will steal it’
korikedóóra ‘we will pick it up’
korikerééta ‘we will bring it’
varikohéénza ‘they will look for us’
varikugúúta ‘they will defeat us’

Double H in L verbs

The double-H pattern also exists for longer L verbs, where in stems of three or more syllables accompanied by an OP we can find the same two-H pattern as encountered in lexically H verbs. One interpretation of this is that such L verbs switch their tone to H, since this is a tonal process in the language anyway. EM attests free variants such as the following minimal or highly parallel pairs, where the root-initial syllable is short.

orikorá!kóóra ‘you will release us’
varikorakóóra ‘they will release us’
varikigá!vóranyá ‘they will dole it out’
varikigávóranya ‘they will dole it out’
aryigá!nágána ‘he will think about self’
ariingánágana ‘he will think about me’
ariimbó!rógányirá ‘he will stir up for me’
varivovó!rógányá ‘they will stir up it’

Other examples of the two patterns are as follows. On the one hand we may have just H on the first two vowels.

korirugóríza ‘we will sell it-11’
korivayávíra ‘we will bury them’
varikogoyáánya ‘they will disorient us’
ariimbáríza ‘he will count me’
ariindógéra ‘he will bewitch for me’
ariimórómera ‘he will speak for me’
variimbáríza ‘they will count me’

Alternatively, there may be one H on the first vowel and a separate downstepped H on following vowels. But in that case, there are two realization of the double-H pattern. One version is exactly the same as the H long-stem pattern: H root-initially, downstep and a string of H’s to the end.

orikorá!kóóra ‘you will release us’
aryigá!nágána ‘he will think about self’
ariisé!kérá ‘he will laugh at me’
arivasé!kérá ‘he will laugh at them’

kiriisará!mírá 'it will boil on me'

When the first vowel of a L stem is long, the two-H pattern is nearly the only pattern attested.

arikovéé!zégérá	'he will belch us'
arivahóó!ndóóllá	'he will stare them'
arynyí!nzíllá	'he will work for self'
kurigoséé!mbéllá	'we will weed it'
korizirúú!ngíkízá	'we will straighten them'
orikovéé!zégérá	'you will belch us'
varikizáá!záámá	'they will taste it'
varikovéé!zégéllá	'they will belch on us'
varikovéé!zégéllá	'they will belch on us'
varikoríí!ndííllá	'they will wait for us'
varikoríí!ndííllá	'they will wait on us'
varirusáá!mbórányá	'they will dismantle it'

There are enough tokens of the single-H pattern from EM that we know that such forms are not in error (CV-initial long stems with the single-H pattern are very common).

arivayíinzílla	'he will work for them'
kurigisáámbura	'we will unroof it'
orimsáánora	'he will comb him'
varikiháandiika	'they will write it'
varikogéendera	'they will walk for us'

The V2 pattern and the “acts like H” pattern converge here on the same tone output – we can tell that this is not the double-H pattern, but we cannot distinguish between the L-behaving and the H-behaving single-H sub-patterns when the stem-initial syllable has a long vowel.

V-initial stems

When added to a vowel-initial stem, the vowel of a CV OP merges with the stem vowel to give a long vowel. Along with this lengthening, there may be neutralization of tone patterns, such that H and L verbs both manifest the tone pattern typical of H roots. VCV stems provide the clearest indication that this is a separate pattern-neutralization from the preceding one, since CVCV L stems do not ever undergo pattern-neutralization (*varikoséká* ‘they will laugh at you’, never **varikoséka*). In the case of VCV stems, L and H stems always have the same pattern, a single H on the penult. It should be noted that this penultimate H is level and not falling (whereas a penult long H under the M1 pattern would be falling).

L verbs

kurizyééya 'we will sweep them'

varivééna	‘they will want them’
oricháára	‘you will spread it’

H verbs

arichííva	‘he will steal it’
arichííga	‘he will learn it’
arimwííta	‘he will kill him’

The behavior of H vowel-initial VCV stems is parallel to that of CVCV stems such as *korivavéga*. By analogy to CVCV L stems, we would have expected **korizyeéyá*, cf. *varikoséká*. There being no rising tones, we would predict that **korizyeéyá* would be realized as **korizyeeyá* or **korizyéyá*. The surface form is always analogous to the tone pattern of CVVCV stems, either H or L, cf. *korivachóóra*, *varikedééka*.

When a vowel-initial L stem is longer than VCV, neutralization to the H pattern is very frequent, but not universal. The most usual outcome for L verbs is H! on the first syllable and H* on following vowels.

L verbs

arikwéé!yérá	‘he will sweep for us’
arikwéé!nyízá	‘he will make you want’
arigwáá!mbóká	‘he will cross it’
arivóó!ngízá	‘he will make them join’
varikwí!míllá	‘they will lead us’
arikwí!víllá	‘he will forget us’
varimwí!víllízá	‘they will make him forget’
varimwí!gállízá	‘they will make him obstruct’
arikwí!zórízá	‘he will remember you’
varicháá!mbágíllá	‘they will reach it’

In some instances, only a single initial H appears.

koriváángohiza	‘we will speed them up’
varikwíívilla	‘they will forget us’
varicháágóra	‘they will pluck it’
korizyáávora	‘we will split them up’

Lexically-H vowel-initial stems have a single pattern: initial H, followed by !H* if the stem has 3 or more syllables.

H verbs

arichééva	‘he will fence it’
arichííga	‘he will learn it’
arimwááta	‘he will do surgery on him’
arivííta	‘he will kill them’
korikwííta	‘we will kill you’
korichííva	‘we will steal it’

arichííta	‘he will kill it. ₇ ’
aricháátanya	‘he will smash it. ₇ ’
arikwíí!mbízà	‘he will make us sing’
arivíí!gízà	‘he will teach them’
arizyóó!mínà	‘he will dry them’
varikwíí!míllà	‘they will lead us’

When the OP is 1s, there is no lengthening of the stem vowel. Therefore, VCV L stems manifest the CVCV pattern distinguishing L vs H verbs. When the stem is longer, L verbs freely vary between the V2 pattern and the H!H pattern.

ariinzéyá	‘they will sweep me’
variinzéjǎ	‘they will want me’
ariijnéjǎ	‘he will want me’
ariinzá!mbóká	‘he will cross me’
ariinzámóká	‘he will cross me’
ariinzi!villá	‘he will forget me’
ariinzéyéra	‘he will sweep for me’
ariinzámóká	‘he will cross me’
ariinzi!vírà	‘he will steal for me’
ariinzéyéra	‘he will sweep for me’
ariinzé!yérá	‘he will sweep for me’
valiinzámókíra	‘they may cross for me’
variinzá!mbókírà	‘they will cross for me’

H verbs always have the HL or H!H* patterns.

valiinzáta	‘they may do surgery on me’
ariinzé!vérá	‘he will fence for me’
ariinzi!vírà	‘he will steal from me’
oriinyí!míllà	‘you will lead me’
variinzi!gízírà	‘they will teach for me’
valiinzá!ráminyírà	‘they may open for me’
ariinzá!nígírízà	‘he will make me go up’

Final downstep

A last complication of the double-H pattern is that the final H tone may be downstepped: there can be three H’s, one on the initial, one on the penult, and one on the final. This can only be detected in a stem with three or more syllables. As noted in X, it is possible to treat this variant as occupying the lower end of the lower end of the continuum of phonetic final-lowering, that is, *korivachá!gó!rá* is phonologically *korivachá!górá* with a higher degree of pitch-lowering on the prepausal syllable. However, it is also possible that this reflects the same rule of H-splitting which is applicable to word-final lexical Hs see in *konwá ~ kó!nwá* ‘to drink’. Examples of H verbs are as follow.

H verbs

korivachá!gó!rá	‘we will choose them’
arimná!gí!rá	‘I will catch him’
korikesé!rée!zá	‘we will winnow it’
orikeevó!hóó!llá	‘you would untie yourself’
korikiká!ráá!ngá	‘we will fry it’
varivavó!hóó!llá	‘they will untie them’
arivavó!gí!llá	‘he will agree with them’
ndikitáá!ndó!rá	‘I will tear it to pieces’
varikekodéé!ké!rá	‘they will cook it-7 for us’
variisóó!ví!rá	‘they will believe me’
ariisó!gómí!zá	‘he will make self drive’
varikitó!míkí!rá	‘they will use it’
aruká!rááng!rá	‘he will fry for himself’
ndikitóó!ngámí!nyá	‘I will invert it’
varikutáá!ngáází!rá	‘they will announce for us’
varikovó!dóng’ání!rá	‘they will go around for us’
korivasí!mógókí!zá	‘we will revive them’
ariimbó!rógányí!rá	‘he will stir up for me’
arikusáá!mbórógányí!rá	‘he will dismantle for us’
varimwí!gállí!zá	‘they will make him obstruct’
korimwáá!mbááyí!rá	‘we will swing for him’
arimwí!gí!zá	‘he will teach him’
orichóó!nóó!nyá	‘you will mess it up’

L verbs may have the same sub-pattern as H verbs, which can be explained under the assumption that they first change to H verbs.

L verbs

ndikigá!vó!rá	‘I will divide it’
ariindó!gé!rá	‘he will bewitch for me’
ariindá!kóó!rá	‘he will release me’
varigoséé!mbé!llá	‘they will weed it’
varikiháá!ndí!ká	‘they will write it’
arikavarí!ndí!llá	‘he would wait for them’
orikusáá!móó!rá	‘you will slap us’
ndim’mó!rómé!rá	‘I will speak to him’
arigá!nágá!ná	‘he will think about self’
ariinzá!vógó!llá	‘he will unbury me’
varikogá!vórányí!rá	‘they will dole out for us’
ariinzá!mbó!ká	‘he will cross me’
arikwí!ví!llá	‘he will forget us’
arivóó!ngí!zá	‘he will make them join’
ndigwáá!mbó!ká	‘I will cross it’

varichíí!gó!rá	‘they will open it’
variinzá!yó!rá	‘they will shout at me’
arikwáá!mbágí!llá	‘he will stretch towards us’
koriváá!mbáká!ná	‘we will refuse them’
orikaanzí!zóri!zá	‘you will remember me’
ariinzá!nigírí!zá	‘he will make me go up’

There may be H on the first two stem vowels, then downstep on the third (final) vowel. This option is infrequent enough that it might be a recurring error.

korimbári!zá	‘we will count him’
ndikidóvó!rá	‘I will crush it’
varikuyáví!rá	‘they will bury us’

This section and the preceding have laid out the essentials of the M2 pattern as attested in main clauses, what remains is reinforcing the various correlations and adding subtle nuances. One such nuance relates to the relevance of clause type in selecting melody subtype.

3.1.3. INDEFINITE RELATIVE WITHOUT OP

In relative clauses, the indefinite future has the same tone pattern as is found in main clauses, except that the double-H pattern is attested, though it is still uncommon. As expected, L verbs have H on V2.

L verbs

ovó!shí vw-árishá	‘the flour which he will grind’
vwah-á!rishá	‘who will grind’
rwá varigwa ^o	‘when they will fall’
kitábu chorirora ^o	‘the book which you will see’
vwah-á!rírógá	‘who will bewitch’
rwá variroga ^o	‘when they will bewitch’
omóó!nd-árigórá	‘the person who will buy’
aváándo vandiróonda	‘the people who I will follow’
omóónd-aring’óóda	‘the person who will write’
rwá kirisárama	‘when it will boil’
rwá varivááyira	‘when they will be a guest’
vwah-árirakóóra	‘who will release’
omóónd-arihááandiika	‘the person who will write’
omóónd-arigánágana	‘the person who will think’
vwah-árigavóranya	‘who will divide up’
omóónd-arivóróganya	‘the person who will stir’
vwahá arivéézegeza	‘who will belch’
rwá variróóngikiza	‘when they will straighten’
rwá varisíngiriza	‘when they will stand up tr.’
vwah-áryeeyá	‘who will sweep’

umórím-iaryuungá	‘the teacher who will join’
rwá koryeeyá	‘when we will sweep’
ibárás-iryaangóha	‘the horse that will speed up’
umgéra gwa varyaambóka	‘the river which they will cross’
rwá varyaambágilla	‘when they will stretch’
omwáán-aryaambágilla	‘the child who will stretch’

H verbs have final H, except CV(CV) stems which have no H.

H verbs

vwah-árinwa	‘who will drink’
ibía ya ndinwa	‘the beer that I will drink’
umóónd-arinwa	‘the person who will drink’
vwah-árita	‘who will bury’
rwá varinwa	‘when they will drink’
msáára gwaritema	‘the tree which he will chop’
umóónd-arivega	‘the person who will shave’
rw-órideeká	‘when you will cook’
umóó!nd-áridééká	‘the person who will cook’
umóó!ndó wándíkóóná	‘the person who I will help’
vwah-átarideeká	‘who won’t cook’
vwah-árikorora°	‘who will cough’
msáára gwáríbómórá	‘the tree that he will deconstruct’
umóó!nd-árivógórá	‘the person who will receive’
ɪná!má y-ándikaráángá	‘the meat which I will fry’
umóó!nd-árivóhóóllá	‘the person who will untie’
vwah-áricheeriza°	‘who will greet’
rwá varikuumbeella°	‘when they will hug’
vwah-árivodong’ana°	‘who will go around’

Vowel-initial H stems of the shape VCV have final H, as do longer H stems in general, thus H verbs (but not L verbs) behave like CVVCV stems.

uvɔɔpáási vw-iryaayá	‘the grass that it will graze’
zí!ngókó zya variitá	‘the chickens that they will kill’
rwá varyuumbá	‘when they will sing’
rwá varyaagura°	‘when they will pluck’
rwá varyuugihiza°	‘when they will sharpen’
myúúmba ya variingira°	‘the house that they will enter’
amátóónda ga varyaagura°	‘the fruits which they will pluck’
myúúmba ya variingira°	‘the house that they will enter’

The double-H pattern is not widely attested in relative forms lacking an OP, but examples do exist and are replicable. Most examples involve L stems.

L verbs

ikítábo ch-oriró!rá	‘the book which you will see’
rwá !várímí!gá	‘when they will strangle’
omóónd-arigó!rá	‘the person who will buy’
aváándo varichóó!rá	‘the people that will draw’
rwá varirí!ndá	‘when they will watch’
rw-órikwéé!sá	‘when you will pull’
vwah-áring’óó!dá	‘who will write’
vwah-árigorí!zíráná	‘who will sell for e.o.’
rwá varyaambó!ká	‘when they will cross’

3.1.4. INDEFINITE RELATIVE WITH OP

With the addition of an OP in relative clauses, the probability of the double-H pattern increases, though it is still the minority pattern. For L verbs, we find the general M2 pattern of H on V2, the same pattern as exists when there is no OP.

omóónd-arikishá	‘the person who will grind it’
rwá varikisha ^o	‘when they will grind it’
rwá varimrora ^o	‘when they will see him’
omóónd-arikoséká	‘the person who will laugh at us’
ovóshí voriishéera	‘the flour which you will grind for me’
rwá varikoyáánza	‘when they will love us’
omóónd-arikeng’óóda	‘the person who will write it’
omwí!ízí arigayéénga	‘the teacher who will brew it’
aví!gízí varikirínda	‘the teachers who will watch it’
rwá varikoyávira	‘when they will bury us’
vwah-árikováríza	‘who will count you’
rwá varikorakóóra	‘when they will release us’
vwah-árivagánágana	‘who will think about them’

The double-H pattern is also used (though note the data gap for CVCV stems which do not have this pattern).

rwá varikovarí!zá	‘when they will count us’
rwá varimkóró!rá	‘when they will drag him’
vwah-árikigá!vórányá	‘who will divide it’
vwah-árivagá!vórányírá	‘who will divide for them’

When the first stem syllable is long, L stems usually have the H!H* pattern, though with CVVCV stems the distribution of double-H versus single-H is more even.

rw-árikakirí!ndá	‘when he would guard it’
aváándo varikochóó!rá	‘the people that will draw us’
rwá varikejńóó!rá	‘when they will get it’
rwá varikoyáá!nzá	‘when they will love us’
rwá varimróó!ndá	‘when they will follow him’

omwáán-arikesóó!má	‘the child who will read it’
rwá varikoséé!mbéllá	‘when they will weed for us’
vwah-árikováá!zirá	‘who will carve for us’
rwá varikoríí!ndíllá	‘when they will wait for us’
vwah-áriveríí!ndíllá	‘who will wait for them’
vwah-árikoháá!ndííká	‘who will write it’
vwah-árikovéé!zégérá	‘who will belch on us’
rwá varikisíí!ngírízá	‘when they will stand it up’

Vowel initial verbs behave like long-vowel initial stems, when preceded by a CV OP (which causes syllable merger and lengthening of the initial syllable).

omóónd-arichééya	‘the person who will sweep it’
omóónd-arikwééna	‘the person who will want us’
rwá varichééya	‘when they will sweep it’
aváándo varikwéé!ná	‘the people who will want us’
rwá varichéé!yá	‘when they will sweep it’
aváándo varikwéé!yérá	‘the people who will sweep for us’
omwáán-arikwáá!mbágíllá	‘the child who will stretch to us’
vwah-áriveríí!víllá	‘who will forget them’
vwah-áricháá!mbóká	‘who will cross it’
rwá varimwíí!víllá	when they will forget him
omóónd-aricháámbagílla	‘the person who will reach for it’
omwáán-arikwáá!mbágíllá	‘the child who will stretch toward us’

While vowel initial verbs strongly tend to follow the H pattern (H!H*), it is only optional though it is only infrequently not followed.

rwá varikwáámbagílla	‘when they will stretch for us’
rwá varikwíívílla	‘when they will forget us’

When the OP is 1s, there is no lengthening of the stem-initial vowel, so VCV stems always manifest the plain V2 pattern, therefore always have HH in disyllabic stems. Longer stems have the patterns HHL* ~ H!H*, since longer L verbs preceded by an OP behave like H verbs in the M2 tone pattern, irrespective of the length of the first syllable.

vwah-áriinzeja ^o	‘who will want me’
rwá variinjeja ^o	‘when they will want me’
omóónd-ariijnéna	‘the person who will want me’
omóónd-ariinzéyá	‘the person who will sweep me’
rwá variinzi!víllá	‘when they will forget me’

Turning now to H verbs, they have only a single initial H in CVCV stems, and H!H* in stems of three or more syllables.

rwá varikota ^o	‘when they will bury us’
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rwá varikorása	‘when they will shoot us’
vwah-árivavéga	‘who will shave them’
omóónd-ariimbéga	‘the person who will shave me’
rwá varikorá!sírá	‘when they will throw at us’
vwah-árikoká!rágá	‘who will judge you’
rwá varikiká!rángá	‘when they will fry it’
vwah-árikovó!hóólá	‘who will untie us’
vwah-árivachéé!rízá	‘who will greet them’
vwah-árikovó!dóng’áná	‘who will go around us’
vwah-árikovó!rógányírá	‘who will stir up for us’
vwah-árikotúú!ngámíjírá	‘who will invert for us’

H stems of the shape CVVCV appear in both patterns.

omóónd-arikedééka	‘the person who will cook it’
rw-árikidúúka	‘when he will reach it’
rw-árikorééta	‘when he will bring us’
rwá ndimonywééka	‘when I will beat him’
aváána varigadóóra	‘the children who will pick them up’
rw-áriingóó!já	‘when he will help me’
omwáán-arikeréé!tá	‘the child who will bring it’
rwá korikitáá!gá	‘when we will plant it’
rwá ndikedéé!ká	‘when I will cook it’
rw-órivakwéé!sá	‘when you will pull them’

Vowel-initial H verbs have both the single-H and double-H pattern in disyllabic stems, and H!H* (rarely, a single H) in longer stems.

rwá varikwááta	‘when they will surgery us’
rwá varikwííta	‘when they will kill us’
aváándo varikwíí!tá	‘the people who will kill us’
rwá varichíí!gá	‘when they will learn it’
rwá varikwáá!nóllá	‘when they will stretch for us’
rwá varikwíígiza	‘when they will teach us’
vwah-árikwíí!gízá	‘who will teach us’
rwá varikwóóghiriza	‘when they will sharpen for us’
vwah-árikwáá!mbááyízá	‘who will make us swing’

The initial vowel is not lengthened after the 1s OP /N/: the tone pattern here is only HL for VCV stems, and H!H* for longer vowel initial stems.

rwá variinzíta	‘when they will kill me’
vwah-áriinzíta	‘who will kill me’
rwá variinzí!gízá	‘when they will teach me’
omóónd-ariinzíta	‘the person who will kill me’

In summary, the most frequent stem type attested with a single H (in relative forms with OP) is CVCV stems (*no* cases of double H), suggesting a categorial limit on the double-H option. In the realm of longer stems, single-H tokens are nearly always L verbs. CVVCV stems are intermediate in this distribution, attesting both patterns relatively freely.

3.1.5. INDEFINITE NEGATIVE RELATIVE WITHOUT OP

Negative relative verbs add one inflectional factor, the presence of the negative prefix /ta/ before the Mstem. As noted in Q, there is variation in the position in the verb where /ta/ appears. There are no special tonal concomitants of negative relative inflection. In other tenses, differences in tone realization between affirmative and negative may result from the added syllable -ta- after the SP, but -ri- already stands between the SP and the stem, insulating the stem from such effects.

L verbs have H on the second stem vowel, and H verbs longer than CVCV have final H.

L verbs

vwah-átarigwa°	‘who will not fall’
rwá varitárirá	‘when they will not cry’
vwah-átarirááma	‘who will not curse’
vwah-átariróónda	‘who will not follow’
vwah-átariváríza	‘who will not count’
aváá!ná vá vátárírákóóra	‘the children which they will not release’
rwá varitavéézegeza	‘when they will not belch’
vwá vwarigávóranya	‘that ₁₄ which they will not divide out’
vwah-átaryeeyá	‘who will not sweep’
vwah-átaryaambááya	‘who will not swing’

H verbs

vwah-átarirya	‘who will not eat’
vwah-átarikina	‘who will not play’
rwá kotarideeká	‘when we will not cook’
vwah-átarikařaga°	‘who will not judge’
rwá varitakaráángá	‘when they will not fry’
vwah-átaricheeriza°	‘who will not greet’
vwah-átarisáámooza	‘who will not slap’
vwah-átarivódóng’áná	‘who will not go around’
rwá vatarikaraangiriza°	‘when they will not stir fry’
vwah-átariita	‘who will not kill’
rwá kotaryimbá	‘when they will not sing’
vwah-átaryaasáyá	‘who will not slap’

There are very few examples of relative negatives without OP which have the double-H pattern, all occurring in long stems with H tone.

rwá varitakaráá!ngá	‘when they will not fry’
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rwá vatarikaráángírí!zá	‘when they will not stir fry’
rw-ótarikoonóó!nyá	‘when you will not mess up’
vwah-átaryaasá!yá	‘who will not slap’

3.1.6. INDEFINITE NEGATIVE RELATIVE WITH OP

When an OP is present, the double-H pattern is a frequent option, depending on stem shape. L verbs longer than CVCV may have the double-H pattern, and stems with an initial long vowel usually have that pattern.

L roots

omóónd-atarikísha°	‘the person who will not grind it’
rw-á!tárivárórá	‘when he will not see us’
rw-á!tárivásémá	‘when he will not insult them’
rw-átarikígóríza	‘when he will not sell it’
rw-á!táríkórímí!rá	‘when he will not plow for us’
rwá vatarikorákóóra	
~ rwá vatarikorá!kóóra	‘when they will not release us’
rwá vatarikoséé!mbéllá	‘when they will not weed for us’
rwá vatarikuhóó!ndóóllá	‘when they will not stare at us’
rwá vatarikoríí!ndííllá	‘when they will not wait for us’
rwá vatarikogánágana	‘when they will not think of us’
rwá vatarikígávóranya	
~ rwá vatarikígávó!rányá	‘when they will not divide it up’
rwá vatarikovéé!zégéllá	‘when they will not belch on us’
rwá vatarikoróó!ngíkízá	‘when they will not straighten us out’
rwá vatarimsíí!ngírízá	‘when they will not stop him’

H roots

omóónd-atarikutya°	‘the person who will not fear us’
omóónd-atariinwá	‘the person who will not drink me’
omóónd-atarivatéga	‘the person who will not trap them’
rwá vatarikedéé!ká	‘when they will not cook it’
rw-átarikoná!góllá	‘when he will not run for us’
omóónd-atarikové!gérá	‘the person who will not shave for us’
omóónd-atariimbé!gérá	‘the person who will not shave for me’
rwá vatarikuchéé!rízá	‘when they will not greet us’
rwá vatarikosáá!mííhá	‘when they will not forgive us’
rwá vatarikitúú!ngámíjǎ	‘when they will not invert it’
rwá vatarikíká!ráángírízá	‘when they will not stir fry it’
omóónd-atarichíí!gá	‘the person who will not learn it’
vwah-átaryiivísa	‘who will not hide self’
rwá varikwáá!mbááyírǎ	‘when they will swing for us’

Additional examples with final downstep are:

L verbs

rwá vatarivasé!má	‘when they will not insult them’
omóónd-atariinímí!rá	‘the person who will not plow for me’
rw-á!tárikórimí!rá	‘when he will not plow for us’

H verbs

omóónd-atarivaté!gá	‘the person who will not trap them’
rwá vatarikoné!gá	‘when they will not insult us’
omóónd-atariinzí!tá	‘the person who will not kill me’

3.1.7. INDEFINITE HEADLESS SUBJECT RELATIVE WITHOUT OP

Headless subject relative clauses add two complications. The augment has a H which shifts to the right, but the combination of the augment plus a vowel-initial SP causes shift of the H even further right, to the syllable after the combination. Thus the surface pattern is that /V_{aug}-CVX/ becomes [V_{aug}-C^ˈVX], and /V_{aug}-V_{sp}-X/ becomes [V-^ˈX], cf. /á-va-ri-tuungamijná/ → *avá!ritúúngámijná* ‘the ones who will turn around’, versus /ó-a-ri-tuungamijná/¹⁷ → *orí!túúngámijná* ‘the one who will turn around’. The difference between Cl. 1 and other class SPs is relatively minimal in this tense, but can be more consequential in other tenses.

The following examples exemplify the cl. 2 SP /va/ which has surface H, and the only difference between these relative forms and the preceding set is the tendency for leftward spreading to yield H!H via the combination of the SP tone and the H of the stem.

L verbs

avárigwa°	‘the ones who will fall’
aváririma°	‘the ones who will plow’
avá!rísáára	‘the ones who will pray’
avárigóríza	‘the ones who will sell’
aváriráándiza	‘the ones who will announce’
avárirakóóra	‘the ones who will release’
aváriháánzouka	‘the ones who will shout’
avárigavóranya	‘the ones who will dole out’
avárivéézegeza	‘the ones who will belch’
avá!ryéépná	‘the ones who will want’
aváriimílla	‘the ones who will lead’
aváryaangóha	‘the ones who will speed up’

H verbs

avárinwa	‘the ones who will drink’
aváriroma	‘the ones who will bite’
avárikooṅa°	‘the ones who will help’

¹⁷ There is a line of reasoning that the cl. 1 SP in headless relatives itself changes to /u/, since one encounters [owáákadé!ká] ‘the one who cooked’. Therefore we cannot say whether the resulting vowel represents the augment or the SP. See X.

aváritoriza°	‘the ones who will remove’
avárivohoolla°	‘the ones who will untie’
aváritaangáázá	‘the ones who will announce’
avárivodong’ana°	‘the ones who will go around’
avá!ryóúngá	‘the ones who will join’
avá!ríiráná	‘the ones who will come back’
avá!ryáá!góróká	‘the ones who will fall down’

With the Cl. 1 SP /o/ the pattern is very similar, except that the H shifts to the tense prefix /ri/, which stands before the stem.

L verbs

orí!gwá	‘the one who will fall’
orí!séká	‘the one who will laugh’
orí!ráánga	‘the one who will call’
orí!góríza	‘the one who will sell’
orí!gávóranya	‘the one who will divide up’
orí!yíinzira	‘the one who will work’
orí!véézegeza	‘the one who will belch’
orí!sáámburuganya	‘the one who will demolish’

H verbs

oríta	‘the one who will bury’
oríkoba	‘the one who will beat’
orí!ripáájá	‘the one who will eat’
orí!kárágá	‘the one who will judge’
orí!chéérízá	‘the one who will greet’
orí!vódóng’áná	‘the one who will go around’

Vowel-initial verb roots with a merged augment+SP present a significantly different pattern, and there may be two downsteps within the stem (provided that the stem has at least three syllables) with an added downstepped H on the final syllable. The tendency towards double downstepping in the stem, in this context (headless class 1 relatives with no OP and a vowel-initial trisyllabic or longer verb), is only slightly less than the alternative of a single downstep. Here there is no tonal distinction between H verbs versus L verbs. The distinction between H!H fall within the syllable (*oryé!éyá*) and H!H with downstep between the syllables (*oryéé!já*) is non-contrastive, so *orí!ítá* and *oryéé!yá* are also possible, see discussion in X.

L verbs

oryé!éyá	‘the one who will sweep’
oryéé!já	‘the one who will want’
orí!vállá	‘the one who will forget’
oryáá!ngóhá	‘the one who will speed up’
oryáá!mbágíllá	‘the one who will stretch’

oryéé!ré!má	‘the one who will float’
oríí!víll!á	‘the one who will forget’
oryáá!nígí!rá	‘the one who will go up’
oryáá!mbáká!ná	‘the one who will refuse’

H verbs

oríí!tá	‘the one who will kill’
oryáá!há	‘the one who will pick’
oryóó!mbáká	‘the one who will build’
oryíí!róká	‘the one who will flee’
oryáá!górá	‘the one who will pluck’
oryóó!nóónyá	‘the one who will mess up’
oryíí!ró!ká	‘the one who will flee’
oríí!gí!zá	‘the one who will teach’
oryáá!rámí!ná	‘the one who will open’
oryóó!mbá!ká	‘the one who will build’

Compare these examples with ones where H does not shift from the SP to /ri/, including other relative clause forms: L roots have H only on the first two stem moras, and H roots have H throughout the stem.¹⁸

varyeeyá	‘they will sweep’
aryaambóka	‘he will cross’
vwah-áryeeyá	‘who will sweep’
umgéra gwa varyaambóka	‘the river which they will cross’
avá!ryéé!ná	‘the ones who will want’
aváryaangóha	‘the ones who will speed up’
varyaata	‘they will perform surgery’
varyaagááná	‘they may meet’
ovonáási vw-iryaayá	‘the grass that it will graze’
omorím-iaryoungá	‘the teacher who will join’
rwá varyaagora ^o	‘when they will pluck’
avá!ryáárá	‘the ones who will spread’
aváryoumbaka ^o	‘the ones who will build’

The cause of this complication is, in part, that when syllables fuse in an intermediate form such as /u-rí-onoonya/, a H is then assigned to the stem.¹⁹

¹⁸ This is due to the fact that ri+V yields a root-initial long vowel. The overall strategies of H versus L roots differ in this respect, in that the first root syllable “counts” as short in L roots e.g. *aryaambóka*, but as long in H roots e.g. *varyaata*, which is parallel to *varideeká* and distinct from *varivega* which lacks H entirely.

¹⁹ At the moment, all we see is a correlation between tone shifting into the stem and an added H in the pattern. Once we have covered the factual ground, we will discuss the analysis of how this comes about.

3.1.8. INDEFINITE HEADLESS SUBJECT RELATIVE WITH OP

When an OP is present, the previously-described pattern of two Hs with H roots and second-V alternating with two Hs with L roots is encountered. When the SP has the shape CV, the first H is on the SP and does not shift to /ri/, and such forms maintain at least one L syllable ([ri]) between the prefixal H and the stem H.

L verbs

avárivoshá	‘the ones who will grind it’
avárikigórá	‘the ones who will buy it’
avárikoyáára	‘the ones who will sue us’
aváriníínda	‘the ones who will watch me’
avárikigórá	‘the ones who will sell it’
avárikorákóóra	‘the ones who will release us’
avárigoséembella	‘the ones who will weed it’
avárichuuhá	‘the ones who will scatter it’
aváriinzívilla	‘the ones who will forget me’
avárikwáá!mbágíllá	‘the ones who will stretch towards us’

H verbs

aváriginwa°	‘the ones who will drink it’
avárikedóóra	‘the ones who will pick it up’
avárivitéga	‘the ones who will trap them’
aváriisú!gúamá	‘the ones who will push me’
avárikevó!hóóllá	‘the ones who will untie it’
avárikítáá!ngáázá	‘the ones who will announce it’
avárikisúú!ndórányá	‘the ones who will pour it’
avárinzáta	‘the ones who will do surgery on me’
avárikwáá!górókíza	‘the ones who will make us fall down’
avárikwáá!góllá	‘the ones who will pluck for us’

In the following examples, the SP is /ó/ so the H shifts to /ri/, therefore a dowstep separated the prefixal H from the stem H(s).

L verbs

orí!vóshá	‘the one who will grind it’
oryéé!rórá	‘the one who will see self’
oryíí!ráánga	‘the one who will call self’
orí!górímá	‘the one who will plow it’
oríkochóó!rá	‘the one who will draw us’
oryíí!gávólla	‘the one who will dole out to self’
oryíí!rákóóra	‘the one who will call self’
orí!kórakóóra	‘the one who will release us’
oryíí!gávóranyira	‘the one who will dole out to self’
orí!kwééǵá	‘the one who will want us’

orí!né!ná	‘the one who will want me’
orí!gwáámbo!ká	‘the one who will cross it’
orí!nzíví!llá	‘the one who will forget me’

H verbs

orí!kínwá	‘the one who will drink it’
oryé!lévéga	‘the one who will shave self’
oryéé!kóóna	‘the one who will help self’
oríkovéga	‘the one who will shave us’
orivavó!há	‘the one who will tie them’
oríkédéé!ká	‘the one who will cook it’
orívavééha	‘the one who will lie to them’
oryí!ká!rágá	‘the one who will judge self’
oryé!lévó!dóng’áná	‘the one who will go around self’

3.1.9. NEGATIVE INDEFINITE HEADLESS SUBJECT RELATIVE WITHOUT OP

In the negative form of the verb, H may shift to the prefix /ta/ in the case of cl. 1 SP *o* or cl. 9 *i*, otherwise it is on the SP. In general, the tone pattern within the stem is the same as that found in other main clause and relative affirmative and negative instantiations of this tense.

L verbs

avátarishá	‘the ones who will not grind’
avátariváríza	‘the ones who will not count’
otárivéézegeza	‘the one who will not belch’
avátaryaambááya	‘the ones who will not swing’
otárihááandiika	‘the one who will not write’

L verbs

otárirya	‘the one who will not eat’
otárikooóná	‘the one who will not help’
avátaricherévá	‘the ones who will not be late’
otárivodong’ana ^o	‘the one who will not go around’
avátarikaangira ^o	‘the ones who will not fry for’
avátariitá	‘the ones who will not kill’

3.1.10. NEGATIVE INDEFINITE HEADLESS SUBJECT RELATIVE WITH OP

When there is an OP, the stem tone pattern is essentially the same as that of the verb in headed relative clauses, this tense: H from the augment may shift to the SP or the negative prefix /ta/, but there remains the syllable /ri/ between the negative prefix and the OP. In no context can H from the augment reach the stem.

L verbs

otárikorórá	‘the one who will not see us’
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avátarigoséé!mbéllá	‘the ones who will not weed it’
avátaríjéná	‘the ones who will not want me’
otá!rííjéná	‘the one who will not want me’
otáriinzívílla	‘the one who will not forget me’

H verbs

avátarigotéma	‘the ones who will not chop it’
orítakedééka	‘the one who will not cook it’
orítavakóóna	‘the one who will not help them’
otáriingóó!ná	‘the one who will not help me’
otáriiká!ráángírá	‘the one who will not fry for self’
avátarivarúú!mbá	‘the ones who will not push them’
otárikizáá!záámá	‘the one who will not taste it’
avátarivííta	‘the ones who will not kill them’

3.1.11. VARIANT-PATTERN INDEFINITE FUTURE

Data on this variant pattern is sparse, and only examples from LI and ML²⁰ are included here as being reasonably robust. The main feature of this pattern is that *all* verbs have final H.

L Verbs

korisha°	‘we will grind’
ndigayá	‘I will prohibit’
arimóromá	‘he will speak’
varihorooká	‘they will relax’
varirakoorá°	‘they will release’
aring’ooda°	‘he will write’
arituuma°	‘he will jump’
korichoorá	‘we will draw’
oriheenzá	‘you will look’
ndiveenzegera°‘I will belch’	
varizaazamirana°	‘they will taste for each other’
aryeenyá	‘he will want’

H verbs

korinwa°	‘we will drink’
kuritegá	‘we will trap’
arikorogá	‘he will stir’
varivodong’anya°	‘they will turn around’
arikaráángá	‘he will fry’
varikaraanga°	‘they will fry’
addeeká	‘he will cook’

²⁰ It is to be noted that their respective villages of origin are about 1 mile separated, being midway between Mudete and Mago.

ndiyaara°	‘I will sue’
koricheeriza°	‘we will greet’
kóritúóngámíná	‘we will invert’
aryaata	‘he will do surgery’
variigiza°	‘they will teach’
varinoka°	‘they will leave work’
varyaagaana°	‘they will meet’

A certain number of tokens are uncertain, in that they have no transcribed tone, however the phonetic difference between all-L and words with final (flattened) H is very subtle, so it is reasonable to suspect that these tokens have final H.

arisyá	‘he will grind’
korígura	‘we will buy’
ndimoroma	‘I will speak’
arigeenda	‘he will walk’
varinywa	‘they will drink’
arivega	‘he will shave’
varivugura	‘they will take’
varikoojra	‘they will help’

Another, more reliable and better-attested sub-pattern is that the verb may have root-initial H. This includes both H and L verbs.

L verbs

oridóya	‘you will hit’
árigéenda	‘he will walk’
aribóroka	‘he will fly’
korigóriza	‘we will sell’
oridíginya	‘you will tickle’
varirákooora	‘they will release’
arirííndilla	‘he will wait’
oriséémbera	‘you will weed’
ndiriyíinzira	‘I will work’
korihóórooka	‘we will relax’
ndihááandiika	‘I will write’
varigárokiza	‘they will return’
varyééjra	‘they will want’
aríigura	‘he will open’
ndyáámbuka	‘I will cross’
ndyéélleeka	‘I will go down’

H verbs

varikóba	‘they will beat’
aridéeka	‘he will cook’

arichánora	‘he will comb’
varikáraga	‘they will slice’
varisígama	‘they will kneel’
orikáraanga	‘you will fry’
orichéeriza	‘you will greet’
korikóónika	‘we will cover’
korisímugoka	‘we will be revived’
orivódong’ana	‘you will go around’
variíta	‘they will kill’
aríígota	‘he will be satisfied’
aryáágura	‘he will pluck’
koríígiza	‘we will teach’

3.2. Contingent future

The contingent future, with the prefix sequence *-ri-ka-* and the final vowel *-a*, also manifests the M2 tone pattern, and because it has everything found in the indefinite future in addition to /ka/, the variation in stem tone is virtually the same as that found in the indefinite future. We observed that H from the SP in cl. 1 headless relatives can shift to /ri/ which results in a “disruption” of the pattern with a vowel-initial root since this contributes an additional H to the stem (*ó-ri-ambagilla/* → *oryáá!mbágíllá* ‘the one who will stretch’), but this does not happen in the contingent future because /ri/ is always followed by /ka/, preventing any further shift of H.

3.2.1. CONTINGENT FUTURE MAIN WITHOUT OP

The melodic H is assigned to V2 in L verbs, and to the final vowel in H verbs, with the generally-attested complication of the M2 pattern that CV(CV) H stems have no final H.

L verbs

ndikagwá	‘I would fall’
ndikarímá	‘I would plow’
ndikagéénda	‘I would walk’
orikadóvóra	‘you would smash’
arikaséembella	‘he would weed’
varikagoyáánya	‘they would be disarranged’
korikaháándiika	‘we would write’
arikavéézegera	‘he would belch’
korikágánagana	‘we would think’

H verbs

ndikakwa	‘I would pay dowry’
ndikavega	‘I would shave’
ndikaheenzá	‘I would look for’
arikacherevá	‘he would be late’
korikakaráángá	‘we would fry’

varikaraagírǎ	‘they would eat ugali’
varikasuundorányǎ	‘they would pour ’
ndikakúúmbéérǎ	‘I would hug’

In vowel initial verbs, the stem behaves partially analogous to those with an initial long vowel and the same number of syllables, but also partially analogous to stems with an initial short vowel. With respect to the initial location of tone in the stem, H is generally positioned on the second underlying root vowel

orikaahǎ	‘you would pick leaves’
kírikaakǎ	‘it would give off light’
arikaazǎ	‘he would come’
varikuuhǎ	‘they would scatter’
arikaambákana	‘he would refuse’
ndikaambóbka	‘I would cross’
orikeelléka	‘you would go downhill’
nrikiirúúra	‘I would winnow’
orikiizóriza	‘you would remember’

Optionally, H may rest entirely on the first root syllable as also observed in the indefinite future.

orikíiha	‘you would uproot’
arikiihá	‘he would uproot’
orikéeya	‘you would sweep’
korikeeyǎ	‘we would sweep’
arikáaga	‘he would scratch’
korikáara	‘we would spread’
varikééna	‘they would want’
arikaambáaya	‘he would swing’
orikáambaaya	‘you would swing’
ndikaambágilla	‘I would stretch’
korikááyura	‘we would shout’
orikáambakana	‘you would refuse’

H verbs have the melodic H on the final vowel, even with /VCV/ roots.

<u>H verbs</u>	
ndikugǎ	‘I would learn’
irikaaná	‘it would moo’
varikaatǎ	‘they would do surgery’
arikaagórá	‘he would pluck’
kírikiizórá	‘it would be full’
arikonóónyǎ	‘he would mess up’
varikaagóróká	‘they would fall down’

3.2.2. CONTINGENT FUTURE MAIN WITH OP

When an OP is present, the pattern changes as it does in the indefinite future. CV(V)(CV) L stems have only one H, on V2 (which is word-final, but spreads to the left).

ndikavoshá	‘I would grind it’
ndikamdóyá	‘I would hit him’
arikaandórá	‘he would see me’
ndikakirá!gá	‘I would agree to it’
varikakeng’óóda	‘they would write it’
varikaandééva	‘they would ask me’

L toned longer stems either have that same single H on V2, or they have two Hs, one on σ_1 and the second on the final vowel (which is the pattern of H verbs). The final H may then split into H!H.

ndikakígávóra	‘I would divide it’
arikavakóró!rá	‘he would drag them’
ndikakemó!ró!má	‘I would speak of it’
arikavagó!mí!rá	‘he would catch them’
varikakorákóóra	‘they would release you’
orikír!kóóra	‘you would release yourself’
arikagoséémbella	‘he would weed it’
arikakiráándiza	‘he would spread it’
ndikú!sóóvira	‘I would believe myself’
arikavarí!ndííllá	‘he would wait for them’
varikakovéézegera	‘they would belch us’
korikeevéézegera	‘we would belch on ourselves’
orikaangánágana	‘he would think of me’
ndikakívóróganya	‘I would stir it up’
varikíyá!vógóllá	‘they would unbury themselves’
ndikakoróóngíkiza	‘I will straighten you out’
ndikakovéé!zégéllá	‘I would belch on you’
varikakísí!ngírí!zá	‘they would stop it’
korikagagóó!námí!ná	‘we would ripen them’

orikavóónga	‘you would join them’
orikachééya	‘you would sweep it’
ndikachéé!yá	‘I would sweep it’
varikakwiizórizá	‘they would remember you’
ndikavaambágílla	‘I would stretch towards them’
ndikakwáá!mbágíllá	‘I would reach out to you’
ndikagwáá!mbó!ká	‘I would cross it’
ndikaví!ví!llá	‘I would forget them’
varikacháá!mbáká!ná	‘they would refuse it’

While the combination of an OP plus the root vowel usually results in lengthening of the root vowel, such lengthening does not take place after the 1s OP -N-.

arikaanzéyá	‘he would sweep me’
orikaanéná	‘you would want me’
arikáá!nyé!nyá	‘he would want me’
varikaanóngá	‘they would join me’
arikaanzí!gállá	‘he would obstruct me’
arikáá!nzígá!llá	‘he would prohibit me’
orikaanzízórizá	‘you would remember me’
orikáá!nzízórí!zá	‘you would remember me’
varikáá!námágí!llá	‘they would stretch towards me’
orikaanzámbagílla	‘you would stretch towards me’

H verbs with one or two syllables have a single root-initial H.

ndikakotyá	‘I would fear you’
varikíí!ryá	‘they would eat themselves’
ndikaketéma	‘I would chop it’
varikeevéga	‘they would shave themselves’
orikáámbónya	‘you would heal me’
orikaandóóra	‘you would pick me up’
varikáándúúka	‘they would reach me’

Trisyllabic and longer H stems have initial and final H.

korivaká!rágá	‘we would judge them’
arikíká!rágá	‘he would judge himself’
orikeevó!hóóllá	‘you would untie yourself’
varikakesé!réé!zá	‘they would winnow it’
korikavoráá!gírá	‘we would eat it’
ndikakítáá!ngáázá	‘I would announce it’
varikaangúú!mbéérá	‘they would hug me’
orikaandúú!ngámíjána	‘you would turn me upside down’
ndikakovó!dóng’á!ná	‘I would go around you’

Vowel-initial stems have the same pattern with initial H and final H on longer stems, plus lengthening of the stem-initial vowel when it merges with the syllable of a preceding CV OP.

ndikamwííta	‘I would kill him’
arikamwááta	‘he would do surgery on him’
orikamwíí!vó!rá	‘you would give birth to him’
korikacháá!górá	‘we would pluck it’
ndikavíí!gízá	‘I would teach them’

arikachíí!zórízá 'he would fill it'

There is no lengthening after the 1s OP -N-. We do notice an increase in the frequency of the double-H pattern for disyllabic stems

varikaanzáta 'they would do surgery on me'
arikáá!nzá!tá 'he would do surgery on me'
orikááanzíta 'you would kill me'
varikáá!nzí!tá 'they would kill me'
arikaanzá!yórá 'he would shout at me'
orikáá!nzígízá 'you would teach me'

3.2.3. RELATIVE CONTINGENT FUTURE WITHOUT OP

Relative forms of this tense again show the same tone pattern as main clause forms, with an increased frequency of the double-H pattern.

L verbs

aváándo varikagwa° 'the people who would fall'
rwá korikagóná 'when we would sleep'
avárikakó!yá 'they who would beat'
omondo wa arikachóóra 'the person who he would draw'
omóónd-arikachóó!rá 'the person who would draw'
aváándo varikatúúma 'the people who would jump'
aváándo varikatúú!má 'the people who would jump'
aváándo varikayávíra 'the people who would bury'
aváándo varikarakóóra 'the people who would release'
avaana varikagoyáá!ná 'the children who would be disarranged'
aváándo varikayíinzíra 'the people who would work'
aváándo varikahááandiika 'the people who would write'
omóónd-arikavéézegera 'the person who would belch'

aváándo varikeeya° 'the people who would sweep'
avárikéé!ná 'they who would want'
rwa korikiiríza 'when we would bury'
omóóndo w-orikiivílla 'the person who you would forget'
rwá korikáámbagílla 'when we would stretch'

H verbs

rwá ndikakwa 'when I would pay dowry'
rwá korikavega 'when we would shave'
omóónd-arikaroma 'the person who will bite'
vwah-árikasá!rá 'who would vomit'
omóónd-arikadeeká 'the person who would cook'
rwá korikareeta° 'when we would bring'
vwah-á!ríkáróó!tá 'who would visit'

vwah-á!ríkáríí!ngá	‘who would fold’
omóónd-arikajagura°	‘the person who will run’
ɪnáma ya korikakaráángá	‘the meat which we would fry’
ovuchíma vwa varikaraagira°	‘the ugali which they would eat’
aváána va ndikakoumbeella°	‘the children who I would hug’
omóónd-arikavodong’áná	‘the person who would go around’
aváándo varikatuungamíná	‘the people who would invert’

aváána va ndikaatá	‘the children who I would do surgery on’
aváándo varikiita°	‘the people who would kill’
avá!ríkáá!tá	‘they who would do surgery’
vwah-á!ríkíí!mbá	‘who would sing’
vwah-á!ríkíí!tá	‘who would kill’
rw-órikoonoonya°	‘when you would mess up’
rwá korikaagóróká	‘when we would fall down’

3.2.4. RELATIVE CONTINGENT FUTURE WITH OP

In the presence of an OP, relative verb forms manifest the double-H pattern more often.

L verbs

vwah-árikaandórá	‘who would see me?’
rwá ndikakuchóóra ~	
rwá ndikakochóó!rá	‘when I will draw you’
rwa varikakeng’óó!dá	‘when they would write it’
omóónd-arikakigóríza	‘the person who would sell it’
avakóóngo varikakorá!kóórá	‘the bosses who would release you’
omóónd-arikagoséémbella	‘the person who would weed it’
vwah-árikaangánágana	‘who would think of me?’
rwá varikuyávógolla	‘when they would unbury themselves’

rw-órikachéé!yá	‘when you would sweep it’
vwah-árikagwáá!mbóká	‘who would cross it?’
vwahá !árikágwáamboka	who would cross it?
rwá varikakwíí!zórízá	when they would remember you

H verbs

rwá varikakinwá	‘when they would drink it’
omóónd-arikakoró!má	‘the person who will bite you’
avárikaketé!gá	the ones who will trap it
avarógoori varikazité!má ~	
avarógoori varikazitéma	‘the Logooris who will chop them’
avárikakijnáá!ná	‘the ones who will eat it’
orikavagúúta	‘the one who will defeat them’
rw-órikakedéé!ká	‘when you will cook it’

avárógoori varikakebó!móra
vwahá varikakovó!dóng'ána

'the Logooris who would demolish it'
who would go around us?

vwaha varikakwáá!tá
rw-árikachóó!mbáká
rwá varikakwáá!mbááyirá
vwah-árikachiizóriza

'who would do surgery on you?'
'when he would build it'
when they will swing for us
'who would fill it?'

3.2.5. NEGATIVE RELATIVE CONTINGENT FUTURE

Negative relative forms of the contingent future, which include the negative prefix *-ta-*, L verbs usually have the simple M2 pattern, but can also attest the double-H pattern,

L verbs

rwa kotarikazyá
amáázi ga kotarikazó!ká
avíígizi vatarikaríma°
omwíígizi atarikayó!gá
rwa kotarikaré!má
vwahá vatarikaréé!vá
vwahá vatarikatééva
vwah-átarikagéénda
rwa ndarikasáá!rá
navizara atarikayávira
rw-ótarikatázóka
rw-ótarikagoyáána
avanákivara vatarikayíinzira
vwah-átarikaséembella
avíígízí vatarikasimógoka
rw-ótarikavéézegera
vwahá vatarikeeya
rw-ótarikáá!mbóká
rwa ndarিকেeré!má
rwa kotarikaagóró!ká

'when we would not go'
'the water which we would not pour'
'the teachers who would not plow'
'the teacher who would not talk'
'when we would not be crippled'
'who would not be drunk'
'who would not ask'
'who would not walk'
'when I would not pray'
'daughter in law who would not bury'
'when you would not escape'
'when you would not disarranged'
'the non-Logooris who would not work'
'who would not weed'
'the teachers who would not be revived'
'when you would not belch'
'who would not sweep'
'when you would not cross'
'when I would not float'
'when we would not fall down'

H verbs

omwíívi atarikarya
ikísáára cha ndarikadoja
aváándo va kotarikaroma
omwáán-atarikatema
rvííndo vya kotarikadoora
aváándo vatarikadééká
avarógoori vatarikavúoká
omódógá gwa ndarikasugúmá
omósááz-atarikacherévá
navizara w-utarikavohóllá

'the thief who would not eat'
'the stick which I would not make into pieces'
'the people who we would not bite'
'the child who would not chop'
'the things which we would not pick up'
'the people who would not cook'
'the Logori who would not wake up'
'the car which I would not push'
'the man who would not be late'
'the daughter in law who you would not untie'

rw-otarikavogí!llá	‘when you would not agree’
rwa ndarikasiisora°	‘when I would not chopp weeds’
aváána vatarikaraagira°	‘the children who would not eat ugali’
rwá ndarikakuumbéé!rá	‘when I would not hug’
vagáámbi vatarikatúú!ngámí!ná	‘the preachers who would not invert’
rw-otarikatuungámí!ná	‘when you would not invert’
vwahá vatarikaayá	‘who would not graze’
vwah-átarikiirá!ná	‘who would not return’

When an object prefix is present, there is a greater tendency for the double-H pattern to be followed, but this is mainly manifested on L verbs.

L verbs

omwíivi atarikakishá	‘the thief who would not grind it’
nzi ndárikakorórá	‘I who would not see you’
rwa ndarikakenó!gá	‘when I would not pick it’
rwa ndarikakigó!rá	‘when I would not buy it’
rwa kotarikavagá!yá	‘when we would not forbidd them’
omóónd-atarikavasé!má	‘the person who would not insult them’
omwígizi atarikaandó!gá	‘the teacher who would not bewitch me’
rwá varikatakírúúnga	‘when they wouldn’t season it’
rw-otarikakibííma	‘when you would not measure it’
rwa kotarikamorí!ndá	‘when we would not watch him’
rw-otarikakoráá!ngá	‘when you would not call us’
rw-otarikakeng’óó!dá	‘when you would not write it’
avasááza vatarikakidóvóra	‘the men who would not smash it’
rwa kotarikavarakóóra	‘when we would not releas them’
rwa kotarikavasóovira	‘when we would not believ them’
rwa kotarikavasíníkiza	‘when we would not annoy them’
omugáámbi atarikaváága	‘the preacher who would not scratch them’
rwa kotarikavóúnga	‘when we would not join them’
rw-otarikaapé!ná	‘when you would not want me’
rwa kotarikarí!górá	‘when we would not open it’

H verbs

omóónd-atarikakutya°	‘the person who would not fear us’
omwígizi atarikaganwa°	‘the teacher who would not drink it’
avagáámbi vatarikaambéga	‘the preachers who would not shav me’
omugáámbi atarikakiváka	‘the preacher who would not smear it’
yiv-ótárikaandóma	‘you who would not send me’
rw-otarikaambóha	‘when you would not ty me’
rwa kotarikavaróó!tá	‘when we would not visit them’
yiv-ótárikavahéénza	‘you who would not look for them’
vwah-átarikakokóóna	‘who would not help us’
aváána vatarikachííva	‘the children who would not steal it’

omwígizi atarikáánzita ‘the teacher who would not kill me’

3.2.6. HEADLESS RELATIVE CONTINGENT FUTURE

The headless relative contingent, with SP *o-*, generally follows the M2 pattern as attested in relative clause forms, with an increased chance of manifesting the double-H pattern. H shifts from the SP to *-ri-*, and the first stem H – if there is one – usually spreads to the left. In L verbs, V2 always has H, but there may be a downstepped H after the first H.

L verbs

orí!kágwá	‘the one who would fall’
orí!kázyá	‘the one who would go’
orí!kájíba	‘the one that would answer’
oríkagéná	‘the one who would wonder’
orí!káró!rá	‘the one that would see’
orí!kásé!má	‘the one who would insult’
orí!káchóóra	‘the one that would draw’
orí!kákúúta	‘the one who would scrape’
oríkakwéésa	‘the one who would pull’
oríkaríínda	‘the one who would guard’
oríkagéé!ndá	‘the one who would walk’
oríkagóyáá!ná	‘the one who would be disarranged’
oríkazíírilla ~	
oríkazí!rillá	‘the one who would continue’
oríkahíirita	‘the one who would snore’
oríkasímógoka	‘the one who would be revived’
oríkazíízagilla	‘the one who would continue’
oríkaaká	‘the one who would give off light’
oríkeelléka	‘the one who would go downhill’
orí!kíígó!rá	‘the one who would open’
oríkaayó!rá	‘the one who would shout’
oríkaambákana	‘the one who would refuse’

CV and CVCV stems have no H, but longer stems may have either single final H or an initial and final H.

H verbs

oríkanwa	‘the one who would drink’
oríkaroma	‘the one that would bite’
oríkavega	‘the one that would shave’
oríkakína	‘the one who would play’
oríkaheenzá	‘the one that would look for’
oríkaduuká	‘the one who would arrive’
oríkataagá	‘the one who would plant’
orí!kágúú!tá	‘the one that would defeat’
oríkátázóka	‘the one who would escape’

orí!kávógíí!llá	‘the one who would agree’
oríkang’éréng’á!ná	‘the one who would be shiny’
oríkachírííng’á!ná	‘the one who would be quiet’
orí!kááyá	‘the one who would graze’
orí!kééré!má	‘the one who would float’
oríkaambáá!yá	‘the one who would swing’
orí!kóónóó!nyá	‘the one who would mess up’

When there is an OP, L verbs have the same (variable) tone profile as found with no OP.

L verbs

orí!kákí!shá	‘the one who would grind it’
oríkeeróra	‘the one who would see himself’
orí!káváróra	‘the one that would see them’
oríkaanjí!bá	‘the one who would answer me’
oríkaangíínga	‘the one who would protect me’
oríkavachóóra	‘the one that would draw them’
oríkakitáága	‘the one who would plant it’
oríkavaríínda	‘the one that would guard them’
oríkakíkúúta	‘the one who would scrape it’
oríkakocháá!yá	‘the one who would disparage us’
orí!kííváríza	‘the one who would count himself’
oríkaangóró!rá	‘the one who would drag me’
oríkákíyávira	‘the one who would bury it’
oríkavasóó!vira	‘the one who would believe them’
oríkaníí!ndííllá	‘the one who would wait for me’
oríkakígávóranya	‘the one who would dole it out’
oríkambéé!zégé!llá	‘the one who would belch on me’
oríkakosíní!kizá	‘the one who would annoy us’
oríkachóó!há	‘the one who would scatter it’
oríkaanzá!há	‘the one who would pluck me’
orí!káanzá!gá	‘the one who would scratch me’
oríkgwáá!mbó!ká	‘the one who would cross it’

H verbs have at least one initial H, often a second on the final (which may split into two between the final and penult)

H verbs

orí!káandyá	‘the one who would fear me’
oríkavavéga	‘the one that would shave them’
orí!káváróma	‘the one that would bite them’
oríkaanó!má	‘the one who would bite me’
oríkeevó!há	‘the one who would tie himself’
oríkavagúúta	‘the one that would defeat them’
oríkavahéénza	‘the one that would look for them’

oríkakedééka	‘the one who would cook it’
oríkavakóóna	‘the one who would help them’
oríkakiṣáána	‘the one who would eat it’
oríkakeréé!tá	‘the one who would bring it’
oríkaangwéé!sá	‘the one who would pull me’
oríkaanzí!gí!zá	‘the one who would teach me’
oríkaandíí!hí!zá	‘the one who would feed me’
oríkakoká!mátá	‘the one who would catch us’
oríkakovó!hóó!llá	‘the one who would untie us’
oríkakitáá!ngáá!zá	‘the one who would announce it’
oríkítúú!ngámí!já	‘the one who would invert himself’
oríkásáá!mbórógányí!rá	‘the one who would dismantle for me’

oríkachiiva°	‘the one who would steal it’
orí!káanzígízá	‘the one who would teach me’
oríkachíí!zóri!zá	‘the one who would fill it’
oríkavóó!mbákí!rá	‘the one who would build for them’

Negatives of headless relatives have the same pattern as affirmative verbs: generally M2, with occasional examples of downstepping of the final H.

L verbs

orítáká!zyá	‘the one who would not go’
orí!tákágwá	‘the one who would not fall’
orítakayá!vá	‘the one who would not dig (trench)’
orítakagósá	‘the one who would not err’
orítakamóóna	‘the one who would not gossip’
orítakagómíra	‘the one who would not catch’
orítakaserééza	‘the one who would not winnow’
orítakagúónama	‘the one who would not ripen’
orítakazáázaama	‘the one who would not taste’
orítakang’eréng’ana	‘the one who would not be shiny’
orítakasíngiriza	‘the one who would not stop an event’
orítakagarángatana	‘the one who would not fall and roll over’
orítakaagá	‘the one who would not scratch’
orítakíivilla	‘the one who would not forget’
orítakaambóka	‘the one who would not cross’
orítakiigóla	‘the one who would not open’
orítakaanígira	‘the one who would not go up’

H verbs also follow the M2 pattern, thus CV and CVCV stems are toneless and other stems have final H. It should be noted, though, that in most examples where final H spreads to at least one preceding syllable, there is a downstep between the final and penult.

H verbs

orítakanwa	‘the one who would not drink’
orítakatya	‘the one who would not fear’
orítakakuza	‘the one who would not die’
orítakatema	‘the one who would not chop’
orítakahona	‘the one who would not get better’
orítakasovvá	‘the one who would not throw away’
orítakakóó!ngá	‘the one who would not chase away’
orítakasaallá	‘the one who would not get hurt’
orítakataagá	‘the one who would not plant’
orítakariingá	‘the one who would not fold’
orítakakámá!tá	‘the one who would not catch’
orítakakoró!rá	‘the one who would not cough’
orítakavohóó!llá	‘the one who would not untie’
orítakakaráá!ngá	‘the one who would not fry’
orítakasyaalló!ká	‘the one who would not melt’
orítakafounó!rá	‘the one who would not cover’
orítakacheelí!zá	‘the one who would not greet’
orítakajoukányá	‘the one who would not mix up’
orítakahaambáá!ná	‘the one who would not join up’
orítakataangáázá	‘the one who would not announce’
orítakavodóng’á!ná	‘the one who would not go around’
orítakaatá	‘the one who would not surgery’
orítakiivá	‘the one who would not steal’
orítakiivó!rá	‘the one who would not give birth’
orítakoumbá!ká	‘the one who would not build’
orítakiingí!rá	‘the one who would not enter’
orítakaagóló!ká	‘the one who would not fall down’

When an OP is present, the double-H pattern is most common.

With OP: L verbs

orítakazíná!vá	‘the one who would not sew them’
orítakáá!njóó!rá	‘the one who would not draw me’
orítakagadóvóra	‘the one who would not smash them’
orítakakimáríza	‘the one who would not terminate it’
orítakaandá!kóó!rá	‘the one who would not release me’
orítakakodíí!gí!llá	‘the one who would not limp for us’
orítakam’sáámóó!rá	‘the one who would not slap him’
orítakakugánágana	‘the one who would not think of you’
orítakakizíí!zá!gí!llá	‘the one who would not continue it’
orítakáá!ndáángóóyá!nyá	‘the one who would not make me stagger’
orítakáá!ndáángóóyányá	‘the one who would not make me stagger’
orítakachééya	‘the one who would not sweep it’
orítakagwííha	‘the one who would not uproot it’

orítakavóónga	‘the one who would not join them’
orítakakwáá!yórá	‘the one who would not shout at you’
orítakachaambákana	‘the one who would not refuse it’
orítakakwíí!zólí!zá	‘the one who would not remember us’

With OP: H verbs

orítakavalása	‘the one who would not throw at them’
orítakeevé!gá	‘the one who would not shave himself’
oríkatakédééka	‘the one who would not cook it’
orítakakíká!rá!gá	‘the one who would not decide it’
orítakazíká!móórá	‘the one who would not wring them out’
orítakavoláá!gírá	‘the one who would not eat it’
orítakagehóó!jóójána	‘the one who would not calm it’
orítakakihó!nónó!ká	‘the one who would not escape it’
orítakakochí!rín!g’ányá	‘the one who would not silence us’
orítakaanzáta	‘the one who would not do surgery on me’
orítakachíí!zórí!zá	‘the one who would not fill it’

3.3. Perstitive

The perstitive tense also manifests the M2 tense with additional variation in tone pattern coming from the choice of the final suffix *-aa* rather than *-a*. Semantic perstitives based on the perfective stem (*akecherevi* ‘he is still late’) select the M11 pattern characterizing the noncompletive hodiernal perfective, rather than having the M2 pattern: that is, the perfective morphological category of the stem predominates, and not the tense-prefix category. The main diagnostic of the M11 pattern is that H verbs are toneless, regardless of stem shape.

3.3.1. PERSISTIVE MAIN WITHOUT OP

L verbs present H on the second stem vowel, which can spread to the left but generally stops at the first stem syllable.²¹

L verbs

ákíshá	‘he is still grinding’
vakígwá	‘they are still falling’
ákíng’úsá	‘he is still pulling’
akíróhá	‘he is still getting tired’
kokítúúma	‘we are still jumping’
vakryáára	‘they are still suing’
akivákóra	‘he is still getting blind’
okiminága	‘you are still stirring’
okryíinzira	‘you are still working’

²¹ Except as noted in Q that when the final H is utterance-final, there is a strong tendency for the entire L*H sequence to have the same mid tone level.

vakírákóórwa	‘they are still being released’
akízáázaama	‘he is still tasting’
akihááandiika	‘he's still writing’
vakegómágoma	‘they are still rolling’
vakevéézegelwa	‘they are still being belched on’
akitááandoranya	‘he is still shredding’
vakiháángalizana	‘they are still arguing’

The same abstract pattern arises in the case of vowel-initial roots, where the prefix /kɪ/ and the root-initial vowel merge into one long vowel, where the stem H is limited to the second stem mora.

achimmbá	‘he is still singing’
vacheeyá	‘they are still sweeping’
acheelléka	‘he is still going downhill’
achimílla	‘he is still leading’

H verbs have no H in CV and CVCV stems, and otherwise have final H.

H verbs

akinwa	‘he is still drinking’
akipara	‘he is still able’
akevegwa	‘he is still being shaved’
ikedeekwá	‘it is still being cooked’
vakebomórá	‘they are still demolishing’
ákévóhóóllá	‘he is still untying’
akikarángá	‘he is still frying’
kokizaazámá	‘we are still tasting’
kikifóúngórwá	‘it is still being opened’
vakigíróng’ányá	‘they are still inverting’
vachiisyáámórá	‘they are still sneezing’
vakitúungámíná	‘they are still inverting’

Vowel initial H verbs are similar, except that VCV roots retain final H, that is, they behave parallel to CVVCV stems (the vowel length contributed by fusion with the prefix vowel *is* included in the mora count which determines whether the melodic H is realized).

achiitá	‘he is still killing’	
vachaatá	‘they are still surgerying’	(opt. vakryata)
acheerémá	‘he is still floating’	

There is a variant form of this tense selecting the final suffix *-aa*. CV stems are always augmented with *-iiz-*, so there are no CV stems in this variant. L verbs have H on V2, just as they do in the presence of the suffix *-a*.

L verbs

vakigwíízaa	‘they are still falling’
akiroháa	‘he is still tired’
akizilláa	‘he is still getting wet’
vakigóráa	‘they are still buying’
akeyééngaa	‘he is still brewing’
akidóónaa	‘he is still looking sad’
ákégósánaa	‘he is still disagreeing’
vakehómóóraa	‘they are still smearing oil’
vakegóóngomaa	‘they are still rolling’
kukihóórúkaa	‘we are still taking a break’
akihíirtaa	‘he is still snoring’
vakiháángalizanaa	‘they are still arguing’
acheepnáa	‘he still wants’
achiimbáa	‘he is still singing’
achaambókaa	‘he is still crossing a river’
acheepnékanaa	‘he is still necessary’
achiisyáámúraa	‘he is still sneezing’

H verbs with the suffix *-aa* present one tonal complication, that when attached to a CVC root, the H characterizing the M2 pattern is not deleted, it is realized on the final vowel *-áa*.

akinweezáa	‘he’s still drinking’
vakitizáa	‘they are still fearing’
avegáa	‘he’s shaving’
akedeekáa	‘he is still cooking’
ngihizáa	‘I am still hunting’
mkebomóráa	‘you are still demolishing’
vakikaráángáa	‘they are still frying’
akihaambíkáa	‘he is still drinking’
ngishaagáráa	‘I am still sharpening’
akigróng’ányáa	‘they are still inverting’
vakitúungámínáa	‘they are still inverting’
vachiitáa	‘they are still killing’

The *-aa* variant is not frequently attested in the perstitive, but it is the general case in the habitual which shows the same effect of insulating final H from deletion.

3.3.2. PERSISTIVE MAIN WITH OP

When the verb has an OP, the pattern becomes more complex in the same way as is observed in the indefinite future and the contingent future. With L stems, H is on V2.

vákíkíshá	‘they are still grinding it’
vakikoroga°	‘they are still bewitching us’
vakikigúrá	‘they are still buying it’

vakikoríinda	‘they are still guarding us’
ngikochóóra	‘I am still drawing you’
akeeséká	‘he is still laughing at me’
vakikigóríza	‘they are still selling it’
kokikimínága	‘we are still stirring it’
akivavárisa	‘he is still counting them’
vakikorákóóra	‘they are still releasing us’
vakikeséembella	‘they are still weeding it’
okikohóomora	‘you are still massaging us’

When the stem has 3+ syllables, the stem optionally has the double-H pattern H!H* which typically is available for H verbs.

ngikikiyáví!rá	‘I am still burying it’
vakimbá!rízá	‘they are still counting him’
vakikotí!vórá	‘they are still answering us’
vakikeséé!mbéllá	‘they are still weeding it’
vakikorí!ndíllá	‘they are still waiting on us’
akikoyí!nzíllá	‘he is still working for us’
okikohóó!móórá	‘you are still massaging us’
vakikigá!vórányá	‘they are still dividing it up’
akekovéé!zégéllá	‘he is still belching on us’
vakikiková!rízírá	‘they are still counting for us’
akíngá!nágáná	‘he is still thinking of me’

V-initial L toned stems behave like H stems with initial long vowels. That means that if the stem is VCV, the resulting tone pattern is HL, and if the stem is longer, the pattern is (optionally) H!H*, which may have downstep between the final and penultimate syllables.

ngicháága	‘I am still scratching it’
ngicháára	‘I am still spreading it’
kokichééya	‘we are still sweeping it’
vakikwéépa	‘they are still wanting us’
akikwí!víllá	‘he is still forgetting us’
akijáá!mbóká	‘he is still crossing it. ₉ ’
akígwáá!mbóká	‘he is still crossing it. ₃ ’
vakikwáá!ngóhízá	‘they are still speeding us up’

This pattern, where the first H rests only on the root-initial syllable, only arises when the root-initial vowel lengthens by fusion with CV. If the initial vowel remains short (after the 1s OP /N/ or after epenthetic *y*), the melodic H is on the second stem syllable – then spreads left.

acheeyéjá	‘he is still wanting self’
akeepéjá	‘he is still wanting me’

akíinzéyá	‘he is still sweeping me’
akınzihá	‘he is still extracting me’
akeenzéyá	‘he is still sweeping me’
akııńóńgá	‘he is still joining me’
vakééńéńá	‘they are still wanting me’
vakíıńóńgá	‘they are still joining me’

Also recall that with trisyllabic stems, L verbs optionally and generally behave like lexically H verbs, therefore polysyllabic L stems with these OPs usually have the double-H pattern.

akınzé!yérá	‘he is still sweeping for me’
vakınzı!ví!llá	‘they are still forgetting me’
akınzá!ńgóhızá	‘he is still speeding me up’
vakıńá!mbókı!rá	‘they are still crossing for me’

All data on perstitive VCV L roots with OP indicate systematic divergence as typified by *vakıkwééńa* vs. *akeeńéńá*.

In H verbs, the first syllable has the only H in CV and CV(V)CV stems, and longer stems have the H!H pattern.

ngıkwá	‘I am still drinking it.’
ngıvakóba	‘I am still beating them’
okıktéma	‘you are still chopping it’
vakıkerééta	‘they are still bringing it’
vakıkedééka	‘they are still cooking it’
vakéémbéga	‘he is still shaving me’
vakıkíhı!ńórá	‘they are still lifting it’
vakıkové!gérá	‘they are still shaving for us’
akıkwó!góra	‘he is still taking it’
ngıkıká!ráangá	‘I am still frying it’
ngıkevó!hóóllá	‘I am still untying them’
ngıkıtáá!ńdórá	‘I am still shredding it’
akıvachéé!rızá	‘he is still greeting them’
vakeendéé!kérá	‘they are still cooking for me’

The pattern with vowel-initial H verbs after CV OP is the same as it is with L verbs: HL in the case of VCV stems, H!H with longer stems.

okıchı́ga	‘you are still learning it’
ngıcháága	‘I am still scratching it’
akırwı́mba	‘he is still singing it’
ngıkwı́ı!ńóllá	‘I am still serving you’
kokıcháá!vókányá	‘we are still cutting it up’
kokızyáá!rı!ká	‘we are still putting them on the fire’
akıvyáá!vó!rá	‘he is still splitting them up’

If there is no lengthening of the root-initial vowel (after the 1s and reflexive OPs), the same tone pattern is encountered, simply having a root-initial short vowel.

vakiinzíta	‘they are still killing me’
akiinzáta	‘he is still surgery me’
ikiinzága	‘it is still scratching me’
achiinyáta	‘he is still surgery self’
akiinzí!gízà	‘he is still teaching me’
achiíyí!gí!zá	‘he is still teaching himself’
vachiíyíta	‘they are still killing themselves’

3.3.3. RELATIVE PERSTITIVE WITHOUT OP

The pattern of perstitives relatives is like that of indefinite future relatives and main-clause perstitives. Without an OP, L verbs have H on V2 and H verbs have a final H except that CV and CVCV stems lack the final H. Trisyllabic and longer L stems optionally follow the pattern of lexically H roots.

L verbs

ovoró vwa kókíshá°	‘millet which we are still grinding’
rwá !kókíshá	‘when we are still grinding’
omóónd-akígwá	‘the person who is still falling’
omwáá!n-ákídóyá	‘the child who he is still hitting’
rwá kokerora°	‘when we are still seeing’
omóónd-akíchóóra	‘the person who is still drawing’
rwá kókígóríza	‘when we are still selling’
amápnónyí gakíbóróka	‘the birds which are still flying’
omwáá!n-ákírákóóra	‘the child who is still releasing’
avíígizi vakíyíinzira	‘the teachers are still working’
aváándo vakízíírilla	‘the people who are still continuing’
vwah-ákígánágana	‘who is still thinking’
vwah-ákígá!vórányá	‘who is still dividing’
aváándo vakezééngella	‘the people who are still staring’
rwá kókígávóranyirana	‘when we are still dividing for e.o’
avíígizí vakíróóngíkiza	‘the teachers who are still straightening out’
vwah-ákíróó!ngíkízà	‘who is still straightening out’
vwah-ákevée!zégérá	‘who is still belching’
rowááya rwa kókíróó!ngíkízà	‘the wire which we are still straightening out’
omóónd-akíróó!ngíkízà	‘the person who is still straightening out’
aváándo vakucheepá	‘the people who we still want’
rwá kókicheeyá	‘when we are still sweeping’
omoryáángo gwa vachígóra	‘the door which I am still opening’
rwá vachaayóra	‘when we are still shouting’

H verbs

amáázi gíkinwa	‘the water that it is still drinking’
vwah-ákinwa	‘who is still drinking’
aváándo vakevega	‘the people who are still shaving’
aváándo vakedééká	‘the people who are still cooking’
ikííndo chokekoroga°	‘the thing that you are still stirring’
rvítuungúrú vy-okekoró!gá	‘onions that you are still stirring’
vwah-ákibó!mórá	‘who is still destroying’
ɪnáma yangikaráángá	‘the meat that I am still frying’
omwíí!sóok-ákikaráá!ngá	‘the Isukha who is still frying’
omóó!ndó wáákíchээрízá	‘the person who he is still greeting’
omóónd-akevodong’áná	‘the person who is still going around’
omkóóngo akevó!dóng’á!ná	‘the boss who is still going around’
omóónd-akisáá!mbórógányá	‘the person who is still destroying’
izisééndi zya kuchiivá	‘the money which we are still stealing’
aváána va njugízá	‘the children who I am still teaching’
aváána vachiinora°	‘the children who are still releasing’

3.3.4. RELATIVE PERSTITIVE WITH OP

There is an increased likelihood of finding the double-H pattern in relative clause forms with an object prefix.

L verbs

aváándo vakim’rora°	‘the people who are still seeing him’
rwá vakikoró!rá	‘when they are still seeing us’
rwa vakikojibá	‘when they are still answering us’
aváándo vakikitúúma	‘the people who are still crossing it’
rwá vakikoriínda	‘when they are still guarding us’
rwá vakikuchóóra	‘when they are still drawing us’
vwah-ákekeng’óóda	‘who is still writing it?’
rwá !vákíkwéésa	‘when they are still pulling it’
omwíígízi akikí!kwéé!sá	‘the teacher who is still pulling it’
rw-ákikirí!ndá	‘when he is still guarding it’
aváándo vakikorakóóra	‘the people who are still releasing us’
aváándo vakikotáá!girá	‘the people who are still planting for us’
aváándo vakíchééya	‘the people who are still sweeping it’
rwá vakikichééya	‘when they are still sweeping it’
aváándo vakikwééna	‘the people who are still looking for us’
aváándo vakeeɲeɲa°	‘the people who are still looking for me’
aváándo vakikwíí!villá	‘the people who are still forgetting us’
aváándo vakijámboka	‘the people who are still crossing me’

H verbs

aváándo vakeembéga	‘the people who are still shaving me’
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vwah-ákínóma ~	
vwah-ákínó!má	‘who is still biting me’
rwá vakikugúúta	‘when they are still defeating us’
aváána vakikeréé!tá	‘the children who are still bringing it’
vwah-ákekedéé!ká	‘who is still cooking it’
rwá kókimnywéé!ká	‘when we are still caning them’
aváándo vakikovó!hóóllá	‘the people who are still untying us’
okimodéé!kérá	‘you are still cooking for him’

Perstitve participials are a subtype of relative verb form, which diverge from the preceding type of relative verb form in having the complementizer /ni/ (and variants such as [a, ɪ]), and a H on the subject prefix.

vavarorí avá!kírímá	‘they saw them still plowing’
varaándora ní!ngírímá	‘they will see me still plowing’
varakóror-íkó!kírímá	‘they will see us still plowing’
varakóror-íkó!kírímá	‘they will see us still plowing’
arikakó!róré kókiyíinzira	‘he will see us still working’
vamrorí !náákírya	‘they saw him still eating’
vaandorí !níngetemáa	‘they saw me still chopping’
arorí aváána ni vákítaaga°	‘they saw the children still planting’
vakororí kóchũumbaka°	‘they saw us still building’

3.3.5. NEGATIVE RELATIVE PERSTITIVE

L verbs

umwíivi atakíkisha°	‘the thief who is not still grinding it’
rwá ndakikenógá	‘when I am not still picking it’
rwá kotakivagáyá	‘when we are not still forbidding them’
umóónd-atakivasé!má	‘the person who is not still insulting them’
avíigizi vatakeendó!gá	‘the teachers who are not still bewitching me’
mz-ótákikóró!rá	‘I who am not still seeing you’
rwá ndakikígó!rá	‘when I am not still buying it’
rwá kotakimoríinda	‘when we are not still watching him’
rw-ótakikoráánga	‘when you are not still calling us’
rw-ótakikibíima	‘when you are not still measuring it’
avaando vatakíindwáá!nyá	‘the people who are not still making me fight’
avasááza vatakikídóvóra	‘the men who are not still smashing it’
rwá kotakivarakóóra	‘when we are not still releasing them’
rwá kotakivasíníkiza	‘when we are not still annoying them’
rw-ótakeepé!já	‘when you are not still wanting me’
umgáambi atakíváága	‘the preacher who is not still scratching them’
rwá kotakivóonga	‘when we are not still joining them’
rwá kotakichíí!góra	‘when we are not still opening it’

H verbs

omóó!nd-átákikótyá	‘the person who is not still fearing us’
omogáámbi atakikiváka	‘the preacher who is not still smearing it’
rw-ótakimbóha	‘when you are not still tying me’
avagáámbi vatakeembéga	‘the preachers who are not still shaving me’
yiv-ótákiindóma	‘you who are not still sending me’
yiv-ótakivahéénza	‘you who are not still looking for them’
rwa kotakivarúta	‘when we are not still visiting them’
rwa kotakivasóóvira	‘when we are not still believing them’
avagáámbi vatakiatúú!ngámíná	‘the preachers who are not still inverting them’

omwígizi atakiinzíta	‘the teacher who is not still killing me’
rw-ótakichóó!nónyá	‘when you are not still messing it up’
aváána vatakichííva	‘the children who are not still stealing it’

3.3.6. HEADLESS RELATIVE PERSTITIVE

The form of the headless relative perstitve, cl. 1 SP, is the predictable result of H tone shifting from the SP to the perstitve prefix. Otherwise, the stem tone pattern varies between plain M2 and the double-H pattern.

L verbs

okí!shá	‘the one who is still grinding’
okí!rírá	‘the one who is still crying’
oké!ró!gá	‘the one who is still bewitching’
okí!chóóra	‘the one that is still drawing’
oké!sóó!má	‘the one who is still reading’
okí!dóvóra	‘the one who is still crushing’
okí!váríza	‘the one who is still counting’
oké!góyáá!ná	‘the one who is still disarranged’
okí!súóví!rá	‘the one who is still believing’
okí!súóvira	‘the one who is still believing’
ucháága	‘the one who is still scratching’
uchúónga	‘the one who is still joining’
uchéé!ná	‘the one who is still wanting’
uchéé!yá	‘the one who is still sweeping’
ucháá!mbóká	‘the one who is still crossing’
ucháá!mbágíllá	‘the one who is still stretching’

H verbs

okínwa	‘the one who is still drinking’
okévega	‘the one who is still shaving’
okíroma	‘the one that is still biting’
okí!hínó!rá	‘the one who is still lifting up’
aké!vódóng’á!ná	‘the one who is still going around’
okívogí!llá	‘the one who is still agreeing’

okí!ráágí!rá	‘the one who is still eating ugali’
okí!súóndórá!nyá	‘the one who is still pouring’
okí!táángáá!zá	‘the one who is still announcing’
uchá!átá	‘the one who is still doing surgery’
uchíí!tá	‘the one who is still killing’
uchíí!gí!zá	‘the one who is still teaching’
ucháá!vókányá	‘the one who is still plucking’
uchíí!zóri!zá	‘the one who is still filling’

Likewise when an OP is present, we more often find the double-H pattern

L verbs

okí!kíshá	‘the one who is still grinding it’
okí!mró!rá	‘the one that is still seeing him’
okímjí!bá	‘the one that is still answering him’
oké!kénó!gá	‘the one who is still picking it’
okí!kíríínda	‘the one who is still guarding it’
okímchóóra	‘the one that is still drawing him’
okíkeng’óóda	‘the one who is still writing it’
okíkíkwéésa	‘the one who is still pulling it’
okí!chéépná	‘the one who is still wanting it’
okímzá!gá	‘the one who is still scratching me’

H verbs

okí!kí!tyá	‘the one who is still fearing it’
okéketéga	‘the one who is still trapping it’
okí!móróma	‘the one that is still biting him’
okímvéga	‘the one that is still shaving him’
okímhéénza	‘the one that is still looking for him’
okíkítáága	‘the one who is still planting it’
okí!gákóóra	‘the one who is still extracting them’
okí!mgúúta	‘the one that is still defeating him’
okékeréé!tá	‘the one who is still bringing it’
okí!víítá	‘the one who is still killing them’
okí!chíí!tá	‘the one who is still killing it’

In negative relative forms of the headless perstitive relative (without OP), L verbs usually have the ordinary M2 pattern with a single H (though when that H lands on the final syllabis, it may split into H!H).

L verbs

otá!kí!gwá	‘the one who is not still falling’
otákeró!gá	‘the one who is not still bewitching’
otákírí!má	‘the one who is not still plowing’
otá!késóóma	‘the one who is not still reading’
otá!kíváríza	‘the one who is not still counting’

otákídóvóra	‘the one who is not still crushing’
otá!kírákóóra	‘the one who is not still releasing’
otákisúóvira	‘the one who is not still believing’
otá!chééyá	‘the one who is not still sweeping’
otá!cháágá	‘the one who is not still scratching’
otáchaambóka	‘the one who is not still crossing’
otáchiivílla	‘the one who is not still forgetting’
otá!cháámbugílla	‘the one who is not still stretching’
otáchaanígra	‘the one who is not still going up’

H verbs with 1 or 2 syllables have no stem H.

otákírya	‘the one who is not still eating’
otákínwa	‘the one who is not still drinking’
otákevega	‘the one who is not still shaving’
otákíroma	‘the one who is not still biting’
otákídaha	‘the one who is not still drawing (water)’

Longer H verbs have final H which spreads to the left, as is typical of the M2 pattern.

otákedoorá	‘the one who is not still picking up’
otákekoopá	‘the one who is not still helping’
otákisúuvá	‘the one who is not still throwing out’
otákídouká	‘the one who is not still reaching’
otá!kíhógó!má	‘the one who is not still humming’
otákekóró!rá	‘the one who is not still coughing’
otákíbadó!rá	‘the one who is not still whipping’
otákíhugó!má	‘the one who is not still humming’
otákekoró!gá	‘the one who is not still stirring’
otá!kívógí!llá	‘the one who is not still agreeing’
otákíraagí!rá	‘the one who is not still eating ugali’
otákitáá!ngáá!zá	‘the one who is not still announcing’
otá!kévódóng’á!ná	‘the one who is not still going around’
otá!kísúóndórá!nyá	‘the one who is not still pouring’
otá!chíí!tá	‘the one who is not still killing’
otá!chíí!vá	‘the one who is not still stealing’
otá!chíígí!zá	‘the one who is not still teaching’
otá!chíízórí!zá	‘the one who is not still filling’
otá!cháávóká!nyá	‘the one who is not still plucking’

When an OP is present, L verbs usually have the simple M2 pattern.

otá!kívó!shá	‘the one who is not still grinding it’
otákím’!gwá	‘the one who is not still falling her’
otá!kím’rágá	‘the one who is not still promising him’

otákikidóyá	‘the one who is not still hitting it’
otákimjóra	‘the one who is not still drawing me’
otákimdíra	‘the one who is not still holding me’
otákikeng’óoda	‘the one who is not still writing it’
otákikirínda	‘the one who is not still watching it’
otákikikóota	‘the one who is not still scrubbing it’
otákikitáaga	‘the one who is not still planting it’
otákivarwáana	‘the one who is not still fighting them’
otákikubíma	‘the one who is not still measuring us’
otákimuchóora	‘the one who is not still drawing him’
otákivagáalla	‘the one who is not still staring at them’
otákikeng’óoda	‘the one who is not still writing it’
otákimdóvora	‘the one who is not still crushing me’
otákimgeríza	‘the one who is not still testing me’
otákikovaríza	‘the one who is not still counting us’
otákivumínaga	‘the one who is not still stirring it’
otákim’sinyáara	‘the one who is not still sneering at her’
otákikoháandiza	‘the one who is not still making you get stuck ’
otákimoyíinzilla	‘the one who is not still working for him’
otákikisáambora	‘the one who is not still dethatching it’
otákeemórómera	‘the one who is not still speaking to me’
otákichéeya	‘the one who is not still sweeping it’
otákikwééna	‘the one who is not still wanting us’

There are a number of examples of CVCV stems with the double-H pattern, also longer stems.

otákíing’ó!sá	‘the one who is not still pulling me’
otákimgó!llá	‘the one who is not still buying for me’
otá!kééngé!vá	‘the one who is not still circumcising me’
otákikigó!rá	‘the one who is not still buying it’
otákikenó!gá	‘the one who is not still picking it’
otákivaró!rá	‘the one who is not still seeing them’
otákim’rí!llá	‘the one who is not still crying for him’
otákikesó!ná	‘the one who is not still pointing at it’
otákim’gá!vóranyí!rá	‘the one who is not still doling out for her’
otá!kíinzá!gá	‘the one who is not still scratching me’
otákim’pó!ngá	‘the one who is not still joining me’
otákikwí!ví!llá	‘the one who is not still forgetting you’
otákigwáá!mbó!ká	‘the one who is not still crossing it’
otákicháá!nígí!rá	‘the one who is not still going up it’

H verbs have a single H on the root-initial syllable in the case of 1 and 2 syllable roots, and the double H pattern in longer verbs.

otákikiryá	‘the one who is not still eating it’
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otákikityá	‘the one who is not still fearing it’
otákivavóha	‘the one who is not still tying them’
otákikedóna	‘the one who is not still breaking it up’
otákekovóha	‘the one who is not still tying us’
otákiketéga	‘the one who is not still trapping it’
otákiumgálla	‘the one who is not still slicing for me’
otákiumóma	‘the one who is not still biting me’
otákivakóúnga	‘the one who is not still chasing them off’
otákikerééta	‘the one who is not still bringing it’
otákimkóúnga	‘the one who is not still chasing him’
otákigakúúra	‘the one who is not still extracting them’
otákim’héénza	‘the one who is not still looking for him’
otákim’kó!ró!llá	‘the one who is not still coughing on her’
otákim’té!mé!rá	‘the one who is not still chopping for him’
otákikekó!ró!gá	‘the one who is not still stirring it’
otákikiká!rágá	‘the one who is not still deciding it’
otákivavó!hóóllá	‘the one who is not still untying them’
otákiumjúó!ká!nyá	‘the one who is not still mixing up me’
otákivahó!nónókí!zá	‘the one who is not still making them escape’
otákivachí!rín!g’ání!rá	‘the one who is not still being quiet for them’
otákikisáá!mbórógá!nyá	‘the one who is not still dismantling it’

otákikwááta	‘the one who is not still doing surgery on you’
otá!kíchííga	‘the one who is not still learning it’
otákichááta	‘the one who is not still doing surgery on it’
otá!kírwiimba	‘the one who is not still singing it’
otákichíí!ngí!rá	‘the one who is not still entering it’
otákicháá!yórá	‘the one who is not still shouting at it’
otákivíí!gí!zá	‘the one who is not still teaching them’
otákivyáá!gó!rá	‘the one who is not still plucking them’
otákichóó!mbá!ká	‘the one who is not still building it’
otákikwíí!gí!zá	‘the one who is not still teaching you’
otákichóó!nóó!nyá	‘the one who is not still messing it up’
otákivóó!mbákí!rá	‘the one who is not still building for them’
otákivyáá!rámí!ná	‘the one who is not still opening it’
otákimwáá!vórányí!rá	‘the one who is not still cutting up for her’
otákikwíí!zórízirá	‘the one who is not still filling for us’
otákiumzá!górókí!zá	‘the one who is not still making me fall down’

3.4. Consecutive

Logoori has three verb forms which are highly similar in shape: the consecutive, the conditional, and the bare future. Each is built on the pattern SP-(OP)STEM-a, with the same tone pattern. They may well be the same thing, at the level of word-grammar, differing only in the complementizer present. The consecutive has a preverbal specifier *ma ni* and the conditional has the proclitic *ni*. In those two forms, the SP has H tone; the bare

future likewise has H on the SP in relative clauses. Documenting each of these patterns is somewhat redundant, but the data can be taken to show the generality of these phonological patterns, regardless of the semantics and syntax of the clauses that the verb forms appear in. These three tenses all position the SP before the Mstem, which increases the tonally relevant prosodic diversity of stems (more opportunities for H on the SP to move into the stem, different patterns of lengthening root-initial vowels).

The consecutive tense, which has the morphological pattern SP-MStem-a with the initial conjunction *ma* and a verb phrase preceded by the proclitic *ni*, uses the M2 tone pattern. There are no main clause / subordinate clause distinctions in this tense, and no negative relative form. The subject prefix can immediately precede the Mstem and has H tone, making the tone pattern of the word somewhat more complex, primarily at the left edge of the verb.

3.4.1. No OP

L verbs, (C)V SP

As shown by the following examples, the SP in this tense has H (which may spread to the left),²² and there is a H on the first two moras of the stem, the latter being the typical characteristic of M2 tenses. The H of the SP is separated from the H of the stem by a downstep, following the general tonal principle that phonologically distinct H tones are separated by downstep. As with the indefinite future, if the first root syllable has a long vowel, that syllable is H and the second syllable has no H (*ma ní vá'kóóta*). If the first syllable is short, then the second syllable (as well as the first syllable, optionally) has H. In case the first syllable is short and the second is long, both syllables have H throughout (*ma ní vá'rákóóra*).

<i>ma ní vá'gwá</i>	'then they fell'
<i>má ní kó!góra</i>	'then we bought'
<i>ma ní vá'kóóta</i>	'then they scraped'
<i>ma ní vá'móroma</i>	'then they spoke'
<i>ma ní vá'rákóóra</i>	'then they released'
<i>má ní kó!sóovira</i>	'then we believed'
<i>ma ní vá'téevaana</i>	'then they asked'
<i>má ní kó!háangaara</i>	'then we argued'
<i>má ní kó!górízira</i>	'then we sold for'
<i>má ní kó!goyáánizana</i>	'then we disarranged e.o.'
<i>má ní vá!véénzegera</i>	'then they belched'
<i>ma ní vá!háangalizana</i>	'then they argued'
<i>ma ní vá'vóróganyirana</i>	'then they stirred for e.o.'

²² The matter of H vs. L tone on the SP is taken up in X, but generally, main clause tenses have surface L on the SP and subordinate clause forms such as the consecutive have H on the SP.

If the root is vowel-initial, the CV subject prefix merges syllabically with the initial root syllable, usually realized tonally as *c'v!v* but sometimes as *c'v*.²³

<i>má ní vé!épná</i>	'then they wanted'
<i>ma nɪ ví!ímbá</i>	'then they sang'
<i>ma ní kwí!ívílla ~ ma ní kwí!vílla</i>	'then we forgot'
<i>ma ní kwá!ámbóka</i>	'then we crossed a river'
<i>ma ní vá!ágóroka</i>	'then they came down'
<i>má ní kwáambákana ~ ma ní kwáá!mbákana</i>	'then we refused'

This pattern is the result of the fact that the first vowel in such a fused syllable is from the SP (which has H), and the second vowel of that syllable has a separate H, that of the stem (via leftward spreading). That is, [*má ní vé!épná*] comes from /*ma nɪ vépná*/.

When the SP is vowel-initial, the proclitic *nɪ* merges with that syllable and the pre-stem syllable generally has a level H, separated from the stem H by a downstep, except before a CV stem where syllable-internal fall is also possible.

<i>ma n-áá!g'wá ~ ma n-á!ágwá</i>	'then he fell'
<i>ma n-óó!rórá</i>	'then he saw'
<i>má n-óó!géénda</i>	'then you walked'
<i>ma n-éé!yééka</i>	'then it sagged'
<i>ma n-áá!móróma</i>	'then he spoke'
<i>ma n-óó!rákóóra</i>	'then you released'
<i>ma n-óó!yíínzira</i>	'then you worked'
<i>ma n-áá!gávóronya</i>	'then he doled out'
<i>ma n-áá!sáámboranya</i>	'then he dismantled'
<i>ma n-áá!garángatana</i>	'then he fell and rolled over'

If the verb stem and the SP are both vowel-initial, the SP syllable merges with that of the root (becoming the onset of the resulting syllable), which generally results in a syllable-internal downstep. Because of that onset consonant, the clitic *nɪ* does not merge with the vowel of the SP.

<i>má ní wé!éyá</i>	'then you swept'
<i>ma ní yí!ígóra</i>	'then he opened'
<i>má ní yá!ángóha</i>	'then he sped up'
<i>ma nɪ wá!áyóóra</i>	'then you shouted'
<i>ma nɪ yáá!nígira</i>	'then he went up'
<i>ma nɪ wá!ámbákana</i>	'then you refused'

Taking the first of these forms as an example, we begin with underlying /*ma nɪ ó-eyá*/, becoming *ma nɪ ó-eyá* by assignment of the melodic H to V₂. Leftward Spreading assigns H to *e*, and as an autonomous H it is downstepped relative to the preceding H of the SP

²³ There is no contrast between *c'vc'v*, *c'v!vc'v* and *c'v!c'v*: these transcriptions indicate different pronunciations encountered in particular tokens.

/ó/, thus *ma ni ó'-éyá*. After Glide Formation applies, *o* becomes *w* causing lengthening of *e*, specifically by transferring the mora – and therefore tone – from /ó/ to *e*, in *má ní wé'éyá*. It is worth restating that even though the root vowel is long, it behaves as though it is short when preceded by the vowel of a subject prefix, and thus the tone pattern of [ma ni yáá!nígira] is parallel to [má ní kó!górízira] and not [má ní vá!véénzegera].

L verbs, N- SP

When the SP is 1s N-, the clitic vowel is lengthened before NC (all roots give rise to NC, because of post-nasal *y*-insertion), and the tone of the SP *ń-* transfers to that long syllable (though the H!H transition may be realized within the lengthened proclitic syllable in case the root is monosyllabic and L). Otherwise the tone pattern is analogous to that of preceding forms with vowel-initial SPs.

ma ní! ngwá	‘then I fell’
ma ní! nzógá	‘then I talked’
ma ní! nzáára	‘then I sued’
ma ní! ngóríza	‘then I sold’
ma ní! ndákúóra	‘then I released’
ma ní! ndígira	‘then I limped’
ma ní! nínduilla	‘then I waited on’
ma ní! mbéénzegera	‘then I belched’
ma ní! nóóngikiza	‘then I straightened’

When the root is V-initial, *y* is inserted, which hardens to *z*, as discussed in X, but the root vowel is not lengthened as it is after a CV SP. The melodic H is assigned to the second mora in the stem, which in the case of vowel-initial roots, is that of the second syllable. The tone profile of this verb form with 1s SP before V-initial root is the same as it is before C-initial root, because the consonant *y* is inserted (and is changed to *z* in most contexts).

ma ní! nzéyá	‘then I swept’
ma ní! nzímbá	‘then I sang’
ma ní! nzígóra	‘then I opened’
má ní! nzámbóka	‘then I crossed’
ma ní! nzánígila	‘then I went ahead’

H verbs, (C)V SP

Proceeding to H verbs, again starting with C-initial roots and CV SPs, the SP syllable has H, and the final syllable of the verb does as well except when the root has only two moras, in which case the SP has the only H.²⁴

²⁴ There is a high degree of variation in H stems w.r.t. application of Leftward Spreading. Although other H verbs generally do not spread the final H into root-initial position in the M2 pattern, there is such spreading frequently in the consecutive tense, owing to the pre-stem H on the subject prefix.

ma ní várya	‘then they ate’
ma ní vávega	‘then they shaved’
ma ní vádeeká	‘then they cooked’
ma ní vávitána	‘then they passed e.o’
má ní kú!vógórá	‘then we took’
ma ní vávohóóllá	‘then they tied’
ma ní vá!záázámá	‘then they tasted’
ma ní kúfuumbééllá	‘then we made a fire burn’
ma ní vágírúóngányá	‘then they turned’
ma ní vá!káraángízá	‘then they fried over and over’
ma ní kú!gírúng’áná	‘then we turned around’
ma ní kútuóngámíná	‘then we turned upside down’
má ní vá!táángáásá	‘then they announced’

When the SP is just a vowel and the verb root is C-initial, the proclitic merges with the SP syllable, yielding a long vowel which has H tone; then the same tone pattern is observed in the stem as was found with CV SPs, again with some variation in the extent of leftward spreading.

ma n-áánwa	‘then he drank’
ma n-óótema	‘then you chopped’
ma n-áávega	‘then he shaved’
ma n-áá!déeká	‘then he cooked’
ma n-óó!kóójá	‘then you helped’
ma n-óócherévá	‘then you were late’
ma n-áá!káraángá	‘then he fried’
ma n-óóvohóóllá	‘then they tied’
ma n-áá!sáámórá	‘then he slapped’
ma n-óóhaambááná	‘then you joined up’
ma n-áá!gírúng’áná	‘then we turned around’
ma n-áá!káraángízá	‘then he fried over and over’
ma n-óó!túóngámíná	‘then we turned upside down’
ma n-ó!óvódóng’áná	‘then you went around’

When the verb root is V-initial, there is a somewhat different tone pattern: VCV stems have final H, unlike CVCV stems.

má ní ví!ívá	‘then they stole’
má ní kwá!átá	‘then we performed surgery’
má ní vóó!ná	‘then they sinned’
má ní kwó!óná	‘then we sinned’

Since the stem begins on the surface with a long vowel (because of syllable merger), *má ní kwá!átá* is analogous to *má ní kó!déeká* in retaining the melodic tone, in contrast to *ma ní kóvega* ‘when we shaved’.

Longer stems V-initial stems have final H, as they do with C-initial roots.

má ní vá!ávórá	‘then they took off the line’
má ní ví!ígizá	‘then they taught’
má ní! vííróká	‘then they ran off’
ma ní vá!ávórá	‘then they took off the line’
ma ní ví!íráná	‘then they returned’
ma ní kwáá!rámínyá	‘then we opened’

As was the case with vowel-initial L verbs selecting a subject prefix composed of just a vowel, that vowel merges with the root initial syllable, rather than with the proclitic, so before a V-initial root in this context the proclitic always surfaces as [nɪ].

ma ní yóó!ná ~ ma ní yó!óná	‘then he sinned’
ma ní yí!íróká	‘then he ran away’
ma ní yá!ágáná	‘then he met up’
ma ní wí!írúúrá	‘then you winnowed’
ma ní yá!árámínyá	‘then he opened’

H verbs, N- SP

In case the SP is 1s, the vowel of /nɪ/ lengthens and bears the H tone normally associated with the SP. The stem has the expected pattern of final H in stems with more than three vowels, and that H spreads to the left.

ma níí nwa	‘then I drank’
ma níí mbega	‘then I shaved’
ma níí ndoma	‘then I sent’
ma níí! nááná	‘then I ate’
ma níí! ndééká	‘then I cooked’
ma níí mbohóóllá	‘then I tied’
ma níí ngríróngányá	‘then I turned’
ma níí mbunyíírǻzá	‘then I smelled’

In the combination of the 1s SP and a vowel initial verb, *y* is inserted and modified to *z* following previously discussed rules. The tone pattern of V-initial verbs is thus the same as that of C-initial verbs with 1s SP (the final H is lacking, unlike the case with a V-final SP).

má níí nzata	‘then I did surgery’
má níí !nzíróká	‘then I flew’
má níí !nyíráná	‘then I returned’
má níí !nzávórá	‘then I cut up’
má níí !nzámbááyá	‘then I swung’
má níí !nzánígirá	‘then I went around’
má níí !nzárámínyá	‘then I opened’

There may be a downstep between the penultimate and final syllables, which is an expected variant of the single-H version of M2.

L verbs

ma n-áá!sé!má ‘then he insulted’
 ma ní!nzá!ná ‘then I mooed’

H verbs

ma n-áá!chérí!zá ‘then she greeted’
 ma ní ví!ízórí!zá ‘then they filled’
 ma ní wí!mbíhí!zá ‘then you shortened’
 ma ní!nzárámí!ná ‘then I opened’

3.4.2. WITH OP

As with the indefinite future, when an object prefix is present, the pattern changes substantially. The difference is that H roots have a H on the root-initial syllable: in neither context does the OP have H, except by spreading of H from a following vowel.

L verbs

With L roots, H is found on the first two root vowels, which is the first syllable if that syllable is long, or the first two syllables otherwise. An OP of the shape CV may have surface H which spreads from the following root, or it may be L if there is no spreading. If there is spreading, the H of the SP and that of the root are separated by downstep. When the SP is 1s, the expected H of the SP is manifested on the proclitic [ní].

ma ní vákisyá ‘then they ground it₇’
 ma ní kó!kíshá ‘then we ground it₇’
 ma ní vákórá ‘then they saw us’
 ma ní!ngígórá ‘then I bought it’
 ma ní vákesóóma ‘then they read it₇’

When the stem has 3 or more syllables, L verbs may follow the double-H pattern of H verbs, especially when the first stem vowel is long, or it may have just a single H on the first two stem vowels.

ma ní vákóváríza ‘then they counted us’
 má ní kókígá!vórá ‘then we divided it’
 má ní kókígávóra ‘then we divided it’
 ma ní vákígó!rízá ‘then they sold it’
 ma ní vákígóríza ‘then they sold it’
 ma ní kóvarákóóra ‘we released them’
 ma ní vá!kórá!kóóra ‘then they released us’
 ma ní vákórí!ndíllá ‘then they waited on us’

ma ni vákoríindilla	‘then they waited on us’
ma ní vákoyíí!nzíllá	‘then they worked for us’
ma ni vákoyíínzílla	‘then they worked for us’
ma ní vákikugúlízira	‘then they sold it ₇ to us’
ma ni vákígá!vóranyá	‘then they divided it’
ma ní vákusímógokiza	‘then they revived us’
ma n-áákovéé!zégéllá	‘then he belched on us’
ma ní vá!jéeyá	‘then they swept it. ₉ ’
ma ní kó!chéenyá	‘and then we wanted it. ₇ ’
ma ní!ndwíí!mbá	‘then I sang it’
ma n-óó!vééna	‘then you wanted them’
ma ni kó!vóúnga	‘then we joined them’
ma n-óó!zyíimba	‘then you sang them’
ma ní vá!chíí!góra	‘then they opened it’
ma ní kó!mwáámbukira	‘and then we crossed a river for him’

When the OP is reflexive -i-, that vowel merges syllabically with the SP, and there is a dowstep separating the prefix syllable from the root, sometimes realized as downstep within the prefix syllable.

má ní ví!ísyá	‘then they ground themselves’
má ní víí!ng’úsá	‘then they pulled themselves’
ma ní vé!éyépá	‘then they wanted themselves’
ma ni yíí!gávólla	‘then he doled out to himself’
ma ni véé!mórómera	‘then they spoke to selves’
ma ní víí!yámbókira	‘then they crossed for themselves’
ma ní ví!írákóóra	‘then they released themselves’
ma ni yéé!tééva	‘then he asked himself’
ma ni véégééndera	‘then they walked for themselves’
ma ni véé!séémbella	‘then they weeded for themselves’
ma ni yíí!háá!ndííká	‘then he wrote himself down’
ma ni yéé!véé!zégéllá	‘then he belched on himself’

The same tone pattern is found with the 1s OP.

ma ní vá!ásyá	‘then they ground me’
ma ní vá!ándórá	‘then they saw me’
ma n-á!áníínda	‘then he waited for me’
ma n-áá!nímíra	‘then he plowed for me’
ma n-áá!ngávólla	‘then he doled out to me’
ma ni váá!mórómera	‘then they spoke to me’
ma ní váasíníkiza	‘then they annoyed me’
ma ní váandákóóra	‘then they released me’
ma n-á!áséémbella	‘then he weeded for me’
ma n-áá!népá	‘then he wanted me’

ma ní váanzámbókíra ‘then they crossed for me’

H verbs

When the root is C-initial H toned after a CV object prefix, a single H stands on the root-initial syllable, as seen with mono- and disyllabic C-initial stems.

ma ní! ngínwá	‘then I drank it’
ma ní kó!kítá	‘then we buried it’
má ní vákírýá	‘then they ate it ₇ ’
má ní vávavéga	‘then they shaved them ₂ ’
ma ní kó!gótéma	‘then we chopped it’
má ní vákedééka	‘then they cooked it ₇ ’
má ní vá!kóhéénza	‘then they sought us’
ma ní vákovééra	‘then they forgave us’

Otherwise, there is a tendency for H verbs to follow the double-H sub-pattern, though single H is also attested. The following examples combine a CV OP with a C-initial polysyllabic stem. In most example, the stem has initial and final H.

ma n-áákové!gérá	‘then he shaved for us’
ma n-áákífóó!ngórá	‘then he opened it’
má ní vákutí!vórá	‘then they answered us’
má ní vákítí!mórá	‘then they cut it’
má ní kókíká!ráángá	‘then we fried it’
má ní vákíkáraanga	‘then they fried it ₇ ’
má ní vákízázama	‘then they tasted it ₇ ’
má ní mbakedéékera	‘then I cooked it ₇ for them’
má ní vágívó!rógányá	‘then they stirred it’
má ní kókítóó!ng’ámínyá	‘then we turned it’
má ní vákovó!dóng’ánírá	‘then they went around us’
ma ní vákosáá!mbórogányírá	‘then they dismantled for us’

With a CV OP before a V-initial root, the two underlying syllables merge, therefore the first H is on a syllable composed of the OP and the root-initial vowel. Most often there is also a final H, but final L is also attested in VCV H stems.

ma ní !mbíítá	‘then I killed them’
ma ní kó!jígá	‘then we learned it’
ma ní !njíí!há	‘then I extracted them’
ma ní vá!zííta	‘then they killed them’
ma ní !njóó!mbá!ká	‘then I built it’
ma ní vá!kwíígíza	‘then they taught us’
ma ní vá!kwíí!gízá	‘then they taught us’
ma n-óó!kwéé!llékí!zá	‘then you made us go downhill’
ma ní vámwáá!mbáyí!zá	‘then they made him swing’

ma ni vá!chíí!zóri!zá	‘then they filled it’
ma ní kóvéé!rémé!rá	‘then we floated for them’

The tone pattern of C-initial stems precede by the reflexive prefix -i- is somewhat obscured. Compare the forms *ma ní víhóó!ndóllá* and *ma ní víí!túóng'ámínyá*, and similar examples below.

má ní ví!ítá	‘then they buried selves’
má ní lyí!íróma	‘then it ₅ bit itself’
má ní vé!édéé!kérá	‘then they cooked for selves’
ma ní víhóó!ndóllá	‘then they stared at themselves’
ma ní víí!káraángírá	‘then they fried for themselves’
ma ní víí!túóng'ámínyá	‘then they turned themselves’
ma ní víítaangáázírá	‘then they announced for themselves’

Undoing the effect of Leftward Spread, these derive from /ma ní víi-hóóndóllá/ and /ma ní víi-túóng'ámínyá/ respectively – the difference is that *ma ní víhóó!ndóllá* has the double-H pattern, therefore a downstep after the first root syllable, and *ma ní víí!túóng'ámínyá* has just the final H typical of the basic M2 pattern for H roots, therefore the only downstep is that between the fused SP+OP syllable and the root-initial syllable.

When the OP is 1s /N/, the SP vowel is lengthened, and there will be a downstep or L separating the SP’s H and the root H (the realization of that downstep is somewhat variable, in that the locus of pitch drop in pre-pausal H!H is phonetically fluid).

má ní vá!ánwá	‘then they drank me’
mání vá!ándá	‘then they buried me’
ma n-á!ámbéga	‘then he shaved me’
ma n-áá!mbóhóóllá	‘then he untied me’
ma n-áá!ndéé!kérá	‘then he cooked for me’
ma n-á!ásáá!lízá	‘then he injured me’
má ní váangá!ráangá	‘then they fried me’
ma n-áá!njérévázá	‘then he was late on me’
má ní váandóó!ng'ámínyá	‘then they turned me’

V-initial stems with the 1s and reflexive OP are seen below (their similarity is that the root-initial vowel does not lengthen in this context).

ma ní kwíyíta	‘then we killed ourselves’
ma n-óó!nzí!tá	‘then you killed me’
ma náá !nzáta	‘then he did surgery on me’
ma ni vá!ánzíta	‘then they killed me’
ma ni yíí!yígízá	‘then he taught himself’
ma ni yíí!yivírá	‘then he stole from himself’
ma náá !nzígízá	‘then he taught me’
ma náá !nzí!vírá	‘then he stole from me’
ma n-áá!nzéré!mí!já	‘then he made me float’

ma ni váanó!mbákí!rá

‘then they build for me’

3.5. Conditional

The conditional is formed with the proclitic *ni-* and the are verb, with H tone on the subject prefix. The surface tone form is thus complicated by prosodic interactions between the proclitic and the SP, in predictable ways.

3.5.1. No OP

The pattern in this form is parallel to that of the consecutive, including the fact that the SP has a H tone, indeed the one significant difference is the lack of complementizer *ma* in the conditional. L verbs have H on the second stem vowel (or last vowel, if there is only one), which spreads left up to the SP. In CVCV stems, downstep may separate the two stem Hs.

ni kó!shá	‘if we grind’
ni vá!gwá	‘if they fall’
ní kó!góra	‘if we buy’
ni kó!sé!ká	‘if we laugh’
ne kó!ng’óóda	‘if we write’
ni vá!góríza	‘if we sell’
ni kó!rákóóra	‘if we release’
ni vá!kóúmbaara	‘if they swagger’
ni kó!móromella	‘if we keep talking’
ni kó!gávóranya	‘if we dole out’
ni vá!véézegera	‘if they belch’

The stem tone pattern is the same when an SP of the shape V is present: the clitic and SP merge into one long syllable.

n-ó!ógwá	‘if you fall’
n-áá!shá	‘if he grinds’
n-óó!négá	‘if you insult’
n-áá!ng’ó!sá	‘if he pulls’
n-óó!gó!rá	‘if you buy’
n-óó!chóóra	‘if you draw’
n-óó!móroma	‘if you speak’
n-óórakóóra	‘if you release’
n-óó!góyáána	‘if you be disarranged’
n-áá!sóúvira	‘if she believes’
n-óó!véénzegera	‘if you belch’

If the SP is 1s, its H tone is transferred to the preceding vowel, which is lengthened.

níí !ngwá	‘if I fall’
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níí !ndórá	‘if I see’
níí !ngé!vá	‘if I circumcise’
níí !ngáyá	‘if I forbid’
níí !ng’óóda	‘if I write’
níí !ngóríza	‘if I sell’
níí !séégera	‘if I limp’
níí !mbááandiika	‘if I write’
níí !mbóórooka	‘if I relax’
níí !ngánágana	‘if I think’
níí !sáám̄boroganya	‘if I dismantle’

In the case of a CV or V prefix before a V-initial root, we expect underlying forms like /nɪ kúangóha/: the surface result [nɪ kwá!ángóha] can be understood as the result of spreading the second H to the root-initial vowel, which would give *nɪ kó!ángóha*, and then applying glide formation to reduce the initial two syllables to one, resulting in a H!H fall within the syllable.²⁵ Since the mora of the SP transfers to the root-initial vowel, both the prefix H and the stem H are present within that syllable.

ní kwé!éjá	‘if we want’
nɪ yé!éyá	‘if he sweeps’
nɪ kwí!ívílla	‘if we forget’
nɪ wí!ívílla	‘if you forget’
nɪ kwá!ángóha	‘if we speed up’
nɪ wá!ánígira	‘if you go up’

When the SP is 1s, the mora and tone of the SP transfers to the proclitic, thus the root-initial syllable remains short and the downstep appears immediately after the proclitic.

níí !jéjá	‘if I want’
níí !nzé!yá	‘if I sweep’
níí !nzám̄bóka	‘if I ford’
níí nzanígira	‘if I go up’

If the verb has H, the M2 pattern is realized as no stem tone in the case of CV and CVCV stems, in which case the only H is that of the SP.

nɪ kóta	‘if we bury’
nɪ vánwa	‘if they drink’
nɪ kóvega	‘if we shave’
nɪ vároma	‘if they bite’

²⁵ Note that the syndrome of vowel-initial roots “behaving like” then have long vowels only holds for V+V combinations involving an object prefix: H is assigned to the second root syllable in /nɪ kú-angóha/, not */nɪ kú-aángóha/.

When the stem is longer, the H appears on the final vowel, again optionally split by downstep from the penultimate syllable.

nɪ kó!vééhá	‘if we lie’
ní kó!kárágá	‘if we judge’
nɪ vá!hógómá	if they hum
nɪ kó!vóhóóllá	‘if we untie’
nɪ vá!sáállí!zá	if they injure
nɪ vá!vódóng’áná	‘if they go around’
nɪ kó!tóóngámíjǎ	‘if we invert’

In V-initial stems, the initial syllable has a H!H tone shape, the first H being that of the SP and the second being the final H, which spreads to the first root vowel.

ní ví!ívá	‘if they steal’
ní kwí!ígá	‘if we learn’
nɪ kwá!ánórá	‘if we take down’
nɪ vá!ágóróká	‘if they come down’
ní wóó!nóó!nyá	‘if you mess up’

When the SP has the shape V, the SP vowel merges with the proclitic *ní-*, resulting in a H tone.

n-óótya	‘if you fear’
n-óótema	‘if you chop’
n-áánwa	‘if he drinks’
n-ááruka	‘if he vomits’
nóó!híimá	‘if you hunt’
n-óó!góó!tá	‘if you defeat’
n-óó!hégéǎ	‘if you sob’
n-óó!káraángá	‘if you fry’
n-óó!vódóng’áná	‘if you go around’
n-óó!gíróǎg’á!ná	‘if you turn around’
n-óó!kóónzákára	‘if you become a widower’
n-áájúóká!nyá	‘if he mixes up’

A parallel pattern is found when the SP is 1s, where the proclitic becomes *níí*.

níí nwa	‘if I drink’
níí mbega	‘if I shave’
níí !ndéétá	‘if I bring’
níí !ngárágá	‘if I judge’
níí !sáámórá	‘if I slap’
níí !ndáángáázá	‘if I announce’
níí !mbóhóóllá	‘if I untie’
níí !njíríng’á!ná	‘if I be quiet’

níí nduungámíjǎ	‘if I invert’
níí nzita	‘if I kill’
níí !nzómbáká	‘if I build’
níí !nzávókányá	‘if I split’

3.5.2. WITH OP

When the verb contains an OP, the tone follows the previously outlined more complex pattern. L stems of 3+ syllables optionally behave like H verbs; 3+ syllable stems with an initial long vowel usually behave like H verbs; vowel-initial L stems after a CV OP usually behave like H verbs and VCV stems always do; in lieu of H-toned behavior, the stem has H on the second vowel

nǐ vá!kíshá	‘if they grind it’
nǐ vá!kóséká	‘if they laugh at us’
n-ó!óngósá	‘if you disagree with me’
nǐ vá!ánóónda	‘if they follow me’
níí !ngóráanga	‘if I call you’
n-óó!nzávira	‘if you bury me’
níí mbasékíza	‘if I make them laugh’
nǐ vákorákóóra	‘if they release us’
n-ó!kósékáanga	‘if you laugh hab. us’
n-ó!kóyíí!nzíllá	‘if you work for us’
n-ákítáándora vwaango	
~ n-ákítáándorá vwaango	‘if he shreds it quickly’
nǐ váǎ!mórómella	
~ nǐ váǎ!móró!mél lá	‘if they constantly talk about him’
nǐ vákógavóránya	
~nǐ vákírívó!rógányá	‘if they divide it up’
níí !njééya	‘if I sweep it’
n-ó!gwáá!mbóká	‘if you cross it’
n-ó!kwíí!víllá	‘if you forget us’
n-ó!óǎjéǎ	‘if you want me’

H verbs are simpler, in always acting like H verbs, which have stem initial H and final H in case the stem is trisyllabic or longer.

nǐ vá!kínwá	‘if they drink it’
nǐ vákovéga	‘if they shave us’
níí ngerééta	‘if I bring it’
n-óó!ndééta	‘if you bring me’
níí mbavé!gérá	‘if I shave for them’
n-óó!ndí!vórá	‘if you answer me’
n-okíká!ráángá	‘if you fry it’
n-ómbó!hóóllá	‘if you untie him’

ní vákíkúú!níká	‘if they cover it’
ní !mbííta	‘if I kill them’
ní vá!chóó!gíhízà	‘if they sharpen it’
n-óó!nzàta	‘if you surgery me’

3.5.3. NEGATIVE CONDITIONAL WITHOUT OP

The negative conditional places the subordinate negative prefix -ta- between the SP (which has H tone) and the MStem. In L verbs, we generally find H on the second stem vowel. In CVCV stems, surface downstep may separate the two final H tones.

L verbs

ní !ndágwá	‘if I don’t fall’
kó!tázyá	‘if we don’t go’
n-á!táshá	‘if he doesn’t grind’
kó!támápná	‘if we don’t know’
ní !ndárí!má	if I don’t plow
n-á!táró!gá	‘if he doesn’t bewitch’
ní kó!tásé!má	‘if we don’t insult’
ní vátágéná	‘if they don’t wonder’
n-ó!tásiínga	‘if you don’t bathe’
ní kótarúúmba	‘if we don’t push’
nívátasóóma	‘if they don’t read’
ní !ndátééva	‘if I don’t request’
n-á!távíímba	‘if he doesn’t roof’
kótaróónga	‘if we don’t season’
nikótang’óóda	‘if we don’t write’
kótagóríza	‘if we don’t sell’
n-á!táváríza	‘if he doesn’t count’
n-ó!támóróma	‘if you don’t speak’
ní !ndávágára	‘if I don’t spread out’
ní vátamínága	‘if they don’t stir’
ní vátagoyáána	‘if they don’t be disarranged’
ní !ndárákúóra	‘if I don’t release’
ní vátasóóvira	‘if they don’t believe’
n-á!tátáándora	‘if he doesn’t tear to pieces’
n-ó!táséémbella	‘if you don’t weed’
ní vátahííríta	‘if they don’t snore’
n-átáháánzooka	‘if he doesn’t talk loudly’
ní kí!tángéréng’ana	‘if it doesn’t be shiny’
ní ndagavóranya	‘if I don’t dole out’
n-átagánágana	‘if he doesn’t think’
kótavéézegera	‘if we don’t belch’
ní ndaziízagilla	‘if I don’t continue’
ní kí!tááká	‘if it doesn’t give off light’

ní nduohá	‘if I don’t scatter’
ní kútaará	‘if we don’t spread’
n-á!tééyá	‘if he doesn’t sweep’
vá!tééná	‘if they don’t want’
kótaambóka	‘if we don’t cross’
n-ótiivílla	‘if you don’t forget’
n-ótaanígira	‘if you don’t go ahead’
ní ndaambágilla	‘if I don’t stretch’

H verbs follow the ordinary M2 pattern, with final H except for stems having fewer than three vowels. Downstep may separate the final and penultimate H syllables.

H verbs

ní vátanwa	‘if they don’t drink’
n-ótarya	‘if you don’t eat’
kótakwa	‘if we don’t pay dowry’
ní vátaróma	‘if they don’t bite’
ní kítahera	‘if it doesn’t come to an end’
n-átakma	‘if he doesn’t play’
kótavega	‘if we don’t shave’
kótaroka	‘if we don’t vomit’
ní ndareetá	‘if I don’t bring’
n-átariingá	‘if he doesn’t fold’
vá!táhiímá	‘if they don’t hunt’
kótadoorá	‘if we don’t pick up’
ní kótadooka ^o	‘if we don’t reach’
n-átanagirá	‘if he doesn’t catch’
vá!táchéré!vá	‘if they don’t be late’
kótanagó!rá	‘if we don’t run’
n-á!tátázóka	‘if he doesn’t escape’
ní vátahínórá	‘if they don’t lift up’
kótachereva ^o	‘if we don’t be late’
kótavogííllá	‘if we don’t agree’
ní kó!tákaráángá	‘if we don’t fry’
vátavohóó!llá	‘if they don’t untie’
ní ndakoumbéé!rá	‘if I don’t hug’
n-á!tákuúmbéérá	‘if he doesn’t hug’
ní vá!táátá	‘if they don’t do surgery’
ní zítaayá	‘if they don’t graze’
ní vá!tíítá	‘if they don’t kill’
ní zí!tááná	‘if they don’t moo’
n-ó!tíímbá	‘if you don’t sing’
n-á!tíívá	‘if he doesn’t steal’
vátaatányá	‘if they don’t break’
ní !ndííngírá	‘if I don’t enter’

ní ndeerémá ‘if I don’t float’

3.5.4. NEGATIVE CONDITIONAL WITH OP

When an OP is present, there is an increased frequency of the double-H pattern. Single-H L verbs are attested as follows (predictably in CVCV stems, final H can split into two):

L verbs

ní vátakíshá	‘if they don’t grind it’
ní ndavarora°	‘if I don’t see them’
ní ndavaró!rá	‘if I don’t see them’
n-á!tákorágá	‘if he doesn’t promise us’
n-á!takurá!gá	‘if he doesn’t promise us’
ní váteesé!má	‘if they don’t insult themselves’
ní vátaandá!gá	‘if they don’t promise me’
ní vátakoráanga	‘if they don’t call you’
vá!tákichóora	‘if they don’t draw it’
n-á!takóbííma	‘if he doesn’t measure us’
ní ndavisáámba	‘if I don’t burn them’
kó!tá!kígóriza	‘if we don’t sell it’
n-á!taamóroma	‘if he doesn’t speak to me’
kótakitáándora	‘if we don’t tear it to pieces’
ní vátakoyíínzilla	‘if they don’t work for us’
n-ótakosóúvira	‘if you don’t believe us’
vá!távóróganya	‘if they don’t stir up’
ní vátaasíníkiza	‘if they don’t annoy me’
n-á!taamóromera	‘if he doesn’t speak for me’
n-á!takoróúngikiza	‘if he doesn’t straighten us’
ní kótachééya	‘if we don’t sweep it’
ní !ndáchááha	‘if I don’t pluck it’
ní ndaváaga	‘if I don’t scratch them’
ní ndavééna	‘if I don’t want them’
ní kótachaambákana	‘if we don’t refuse it’

When the stem has three or more syllables, we often encounter the double-H variant pattern where L verbs act like H verbs and have initial and final H in the stem.²⁶

ní vátakísí!ngá	‘if they don’t bathe it’
vátakíchóó!rá	‘if they don’t draw it’
ní kótakírúú!mbá	‘if we don’t push it’
n-átavaró!ndá	‘if he doesn’t follow them’
n-á!taamó!ró!má	‘if he doesn’t speak to me’

²⁶ In the available data, there is only one token with short first vowel and H exclusively on that vowel. Verbs with initial long vowel are analytically ambiguous in this respect.

kótavasáá!móra	‘if we don’t slap them’
kótakitáá!ndóra	‘if we don’t tear it to pieces’
n-átihóó!ndóóllá	‘if he doesn’t stare at himself’
n-ó!táníí!ndííllá	‘if you don’t wait for me’
n-átinyóó!ngá	‘if he doesn’t join himself’
vá!tácháá!mbóká	‘if they don’t cross it’
vátaanzí!víllá	‘if they don’t forget me’
n-ótakwáá!mbágíllá	‘if you don’t stretch towards us’

A triple-H pattern also exists with H on the first, penult and final vowels, being derived from the double-H pattern plus application of final-H splitting.

nɪ vátrívá!rí!zá	‘if they don’t count themselves’
nɪ vátaangó!ró!rá	‘if they don’t drag me’
ní ndakitáá!ndó!rá	‘if I don’t tear up it’
nótakohóó!ndóó!llá	‘if you don’t stare at us’
n-ótaaníí!ndíí!llá	‘if you don’t wait for me’
nɪ kótavazéé!ngéé!llá	‘if we don’t stare them’
n-átakuróó!ngíkí!zá	‘if he doesn’t straighten us’
n-ó!tácháá!mbó!ká	‘if you don’t cross it’
n-átaanzí!ví!llá	‘if he doesn’t forget me’
nɪ kótacháá!mbáká!ná	‘if we don’t refuse it’

H verbs have a similar range of options. CV roots have only one, single-H, tone pattern. Disyllables can have a single root-initial H.

vá!tákin!wá	‘if they don’t drink it’
nɪ kó!tákíryá	‘if we don’t eat it’
n-ó!távátyá	‘if you don’t fear them’
ní ndavahónya	‘if I don’t heal them’
kóteevéga	‘if we don’t shave self’
n-ótakovóha	‘if you don’t tie us’
n-ó!tákótéga	‘if you don’t trap us’
vá!táánóma	‘if you don’t bite me’
vátaakorééta	‘if they don’t bring us’
nɪ vátaakoréétá	‘if they don’t bring us’
nɪvátakedééka	‘if they don’t cook it’
n-átakudúóka	‘if he doesn’t reach us’
n-á!táángóóna	‘if he doesn’t help me’
nɪ vá!tákwááta	‘if they don’t do surgery on us’
níí !ndáchííva	‘if I don’t steal it’
n-á!tárwíimba	‘if he doesn’t sing it’
n-átaanzíta	‘if he doesn’t kill me’

More often, the verb has the double-H pattern with separate Hs on the first and last syllables.

nɪ vátakírǎ!sǎ	‘if they don’t throw it’
nɪ kótíró!mǎ	‘if we don’t bite ourselves’
n-ótaziké!rá	‘if you don’t milk them’
n-ótakovó!há	‘if you don’t tie us’
n-ótaandó!mǎ	‘if you don’t send me’
nɪ vátakoréé!tǎ	‘if they don’t bring us’
nɪ kótakedóó!rá	‘if we don’t pick up it’
nɪ kótakidóó!ká	‘if we don’t reach it’
ní ndakokóó!ná	‘if I don’t help you’
ní ndakitáá!gǎ	‘if I don’t plant it’
n-átavagúú!tǎ	‘if he doesn’t defeat them’
n-átakíví!ká	‘if he doesn’t put it’
nɪ kótaví!tǎ	‘if we don’t kill them’
vǎ!táchí!vǎ	‘if they don’t steal it’
n-á!tákwǎá!tǎ	‘if he doesn’t do surgery on us’

In the available data, stems with 3+ syllables always have at least an initial and final H

nɪ kótavavé!gérǎ	‘if we don’t shave for them’
n-ótamnǎ!gírǎ	‘if you don’t catch him’
n-átaasú!gúmǎ	‘if he doesn’t push me’
vátakíkǎ!ráángǎ	‘if they don’t fry it’
n-ótakovó!hóóllǎ	‘if you don’t untie us’
n-átaangúú!mbéérǎ	‘if he doesn’t hug me’
n-otakovéé!zégérǎ	‘if you don’t belch on us’
vǎ!táanzí!gízǎ	‘if they don’t teach me’

More often, the final H splits into a H!H sequence, resulting in a net of three Hs within the stem.

n-átakovó!hóó!llǎ	‘if he doesn’t untie us’
nɪ kótakíkǎ!rá!gǎ	‘if we don’t cut it’
vǎ!tákíkǎ!ráá!ngǎ	‘if they don’t fry it’
nɪ vátakuchéé!rí!zǎ	‘if they don’t greet us’
ní ndazyáá!vó!rá	‘if I don’t split them up’
n-ótam`ná!gí!rá	‘if you don’t catch him’
n-átakisháá!gǎ!rá	‘if he doesn’t sharpen it’
n-á!tágwóó!mbǎ!ká	‘if he doesn’t build it’
n-á!tákwí!mí!llǎ	‘if he doesn’t lead us’
n-á!táású!gú!mǎ	‘if he doesn’t push me’
n-ótaanzí!gí!zǎ	‘if you don’t teach me’
n-átaangúú!mbéé!llǎ	‘if he doesn’t hug me’
nɪ kótachí!zórí!zǎ	‘if we don’t fill it’

n-átakovó!dóng'á!ná
n-otakovéé!zégé!rá

'if he doesn't go around us'
'if you don't belch on us'

3.6. Bare Future

The "bare future" has the morphosyntactic limit that there is no affirmative main clause form, but it does exist in negative main clauses, which select the post-verbal negators *mbá*, *dáave*, and it has a citation subordinate clause form.

3.6.1. MAIN CLAUSE NO OP

The tone at the right edge of the verb in this tense is slightly obscured, due to possible leftward spreading of H from the post-verbal word into the verb and the fact that the penult H/Fall distinction could not be detected, because the penult is never utterance final. The tense is also obscured by the fact, discussed in X, that if a noun follows the verb, the verb becomes toneless (though generally receives H tone because of a H from the following noun and perhaps ultimately from the negative marker). The tone pattern is, nevertheless, identifiable as being the M2 pattern. L verbs have H on the first two vowels of the root, which may spread to the preceding syllable.

L verbs

vashá ! dáave	'they won't grind'
vagórá ! dáave	'they won't buy'
vamíí!zá dáave	'they won't cast seeds'
kokíínda dáave	'we won't faint'
mgóríza dáave	'2p won't sell'
arííndíílla dáave	'he won't wait'
vazáá!záámá dáave	'they won't taste'
vareká!nízá dáave	'they won't divide equally'

When the root is vowel-initial and the SP has the form (C)V, there is no leftward spread of H, but the second root vowel has H.

veepá ! dáave	'they won't want'
kwaayá !dáave	'we won't graze'
yeeyá !dáave	'he won't sweep'
vyoohá !dáave	'they won't scatter'
vaambóka dáave	'they don't cross'
yiigó!rá dáave	'he won't open'
wiivíílla dáave	'you won't forget'
vaambákana dáave	'they won't refuse'

The tone pattern after the 1s SP N- is the same, though the root-initial vowel is short on the surface.

nzará !dáave	'I won't spread a bed'
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nzáyó!rá dáave	‘I won’t shout’
nzanígira dáave	‘I won’t go ahead’
nzímílla dáave	‘I won’t lead’
nzavógulla dáave	‘I won’t unbury’

H C-initial roots have final H except for CV and CVCV roots which are toneless: that H is separated from the H of the negative marker by a downstep.

H verbs

atya dáave	‘he won’t fear’
mbina dáave	‘I won’t dance’
adeeká !dáave	‘he won’t cook’
uherévá ! dáave	‘you won’t be late’
vavookízá ! dáave	‘they won’t wake’
akaráángá ! dáave	‘he won’t fry’
vayouyóómá ! dáave	‘they won’t run slowly’
vavodóng’áná ! dáave	‘they won’t go around’
vakaráángíráná ! dáave	‘they won’t fry for e.o’

Vowel-initial H verbs have a final H except in the case of disyllabic stems, which like CVCV H stems, are toneless.

viita dáave	‘they won’t kill’
kwiiwa dáave	‘we won’t steal’
kwimba dáave	‘we won’t sing’
nzata dáave	I won’t do surgery
nzita dáave	I won’t kill
yeerémá !dáave	‘he won’t float’
viigízá !dáave	‘they won’t teach’
yiingírá !dáave	‘he won’t enter’
vombáká !dáave	‘they won’t build’
nzigizá! dáave	I won’t teach
woonóóná !dáave	‘you won’t mess up’

3.6.2. MAIN CLAUSE WITH OP

When an OP is present, the previously noted variants of the M2 pattern are attested. In the case of L verbs, this means that CV and CVCV stems have H on V2, and on longer stems the pattern may vary between H on V2, or else it may follow the tone pattern of lexically H stems.

L verbs

vakishá ! dáave	‘they won’t grind it’
vakirimá ! dáave	‘they won’t plow it’
nging’osá !dáave	‘I won’t pull it’
vakosémá !dáave	‘they won’t insult us’

umchóó!rá dáave
nguchóóra dáave
mbaváríza dáave
vaanzívílla dáave
vakígóríza dáave
vavárákóó!rá dáave
aandá!kóórá !dáave
vakeséé!mbéllá dáave
akúzíríllá !dáave
akuyíí!nzíllá ! dáave
aapiínzilla dáave
akosáá!móórá ! dáave
vakígávóranya dáave
vakugórízira dáave
vakovéé!nzégéllá dáave

'you won't draw him'
'I won't draw you'
'I won't count them'
'they won't forget me'
'they won't sell it'
'they won't release them'
'he won't release me'
'they won't weed it'
'he won't continue for you'
'he won't work for us'
'he won't work for me'
'he won't slap us'
'they won't divide it up'
'they won't sell for us'
'they won't belch on us'

vamwéépa dáave
ucháá!rá dáave
ovéé!ná dáave
vanzálla dáave
vaapepá ! dáave
vachééya dáave
vavíí!víllá! dáave
akwáá!mbágíllá ! dáave
onzá!vógóllá !dáave

'they won't want him'
'you won't spread it'
'you won't want them'
'they won't spread for me'
'they won't want me'
'they won't sweep it'
'they won't forget them'
'he won't stretch for us'
'you won't unbury me'

H verbs

vakínwá ! dáave
vamoróma dáave
vakoví!sá dáave
kugoshí!rá dáave
vakóhó!llá dáave
vakókóó!ná dáave
ndiɲaapná! dáave
vakihí!nórá !dáave
vaasó!gómá ! dáave
akusíisollá ! dáave
avoráá!gírá ! dáave
akitáá!ngáázá !dáave
vakitúú!ngámíjǎ ! dáave
akotáá!ngáázírǎ ! dáave

'they won't drink it'
'they won't bite him'
'they won't hide us'
'we won't drive it'
'they won't hear you'
'they won't help us'
'I won't eat it'
'they won't lift it up'
'they won't push me'
'he won't chop weeds for us'
'he won't eat it'
'he won't announce it'
'they won't invert it'
'he won't announce for us'

vakwíí!tá dáave
vacháá!há dáave
onzí!tá dáave
vachíí!vá dáave

'they won't kill us'
'they won't pluck it'
'you won't kill me'
'they won't steal it'

vamwíí!gízǎ ! dáave	‘they won’t teach him’
vachóó!gíhízǎ ! dáave	‘they won’t sharpen it’
akwáá!górókízǎ ! dáave	‘he won’t make us come down’

3.6.3. AFFIRMATIVE RELATIVE NO OP

The pattern for bare-future relatives is complicated by the fact that SP-selection can influence tone pattern in Logoori. This is not surprising, in light of the influences that we have previously seen regarding the headless subject relative tone patterns, where H from the prefix /ó-/ shifts towards the right. We then find a distinction between V vs CV SPs in subject-relative forms. In this section, we first consider subject relatives with a CV SP, then those with a V SP, and then we move to non-subject relatives.

CV subject relatives

The most common pattern with L verbs bearing a CV subject prefix is ordinary M2 – H on the second stem vowel.

vwahá !vágwá	‘who will fall’
vwahá !vágóná	‘who pl will sleep’
avááguugá vagórá	‘the grandfathers who will buy’
aváándo varímá	‘the people who will plow’
vwahá varórá	‘who pl will see’
aváándo vaséká	‘the people who will laugh’
avanákivara vabííma	‘the non-Logooris who will measure’
vwahá vagéénda	‘who will walk’
avarími vaháánda	‘the farmers who will get stuck’
avaréma varáanga	‘the cripples who will call’
vwahá vayéénga	‘who will brew’
aváána vabóróka	‘the children who will fly’
vwahá vagóríza	‘who pl will sell’
vwahá vavaríza	‘who pl will count’
vwahá vabóróka	‘who will fly’
vwahá varakóóra	‘who will release’
aváándo varííndílla	‘the people who will wait’
vwahá vatáándora	‘who will shred’
aváándo vagávóranya	‘the people who will dole out’
vwahá vavéézegera	‘who will belch’
aváándo vavarízirana	‘the people who will count for e.o’

The double-H pattern is also encountered, though less frequently (and more often with longer stems). In the case of CVCV stems, the analysis is ambiguous in that CV!CV could represent two independent melodic Hs, or it could be from application of the rule splitting final H. Examples like *avasóóréeéri vavá!rízǎ* unambiguously exemplify the two-H subpattern and not the result of final H splitting.

aváándo vari!má	‘the people who will plow’
aváándo vasé!ká	‘the people who will laugh’
aváándo vachóór!á	‘the people who will draw’
vwahá vagó!rízà	‘who will sell’
avíimilli vakó!rórá	‘the leaders who will cough’
avasóórééri vavá!rízà	‘the boys who will count’
avakóóngo vagó!yááná	‘the bosses who will be disarranged’
vwahá vará!kóórá	‘who will release’
vwahá vadí!gírà	‘who will limp’
aváándo vavéé!zégérà	‘the people who will belch’
vasááza vá!róóngikiza	‘the men who will straighten’

A further variant, attested in stems with 3 or more vowels, has separate Hs on the final and penult syllables, leading to three Hs.

avasóóréri vavá!rí!zá	‘the boys who will count’
vwahá vagó!rí!zá	‘who will sell’
avadíríji vagá!vórá!nyá	‘the Tirikis who will dole out’
avakóóngo vagó!yáá!ná	‘the bosses who will be disarranged’
avarógoori varí!ndí!llá	‘the Logooris who will wait for’
vwahá vadí!gí!rá	‘who will limp’
vwahá vasí!níkí!zá	‘who will annoy’
vwahá vasí!nyáá!rá	‘who will sneer’

H verbs have the canonical M2 pattern, where there is no stem H in CV and CVCV stems.

aváándo vanwa	‘the people who will drink’
vwahá vatya	‘who pl will fear’
vwahá vaholla	‘who pl will hear’
aváándo vakolla	‘the people who will do for’
aváándo varoma	‘the people who will bite’
vwahá vatura	‘who pl will leave’
aváándo vavega	‘the people who will shave’
vwahá vavisa	‘who pl. will hide’
vwahá vahona	‘who will get better’
avííha varasa	‘the brides who will throw at’
vwahá varega	‘who will win’

With longer verb stems there is a final H.

vwahá !váhááná	‘who pl will give’
mónyí mókoopá	‘You who will help’
avíimillí variingá	‘the leaders who will fold’
vwahá !váréétá	‘who will bring’
avíisokuro varootá	‘the grandchildren who will dream’

avańkari vasuurá	‘the women who will (throw out)’
vwahá vativórá	‘who pl will answer’
avááguoku vakarágá	‘the grandmothers who will decide’
vwahá vavohoolá	‘who will untie’
vwahá !vákaráángá	‘who pl will fry’
avarógoori vakaráángá	‘the Logooris who will fry’
vwahá vagaasiza°	‘who will bless’
avagáá!mbí vávóókízá	‘the pastors who will wake’
avíivi vahaambíká	‘the thieves who will be drunk’
vwahá vagirong’anya°	‘who will invert’
aváándo vavodong’ana°	‘the people who will go around’

This final H may split between the penult and final.

vwahá vakámá!tá	‘who will catch’
vwahá !vákóró!gá	‘who will stir’
avarógoori vakaráá!ngá	‘the Logooris who will fry’
avóófisá vasuundórá!nyá	‘the officers who will over-pour’

The proper analysis of CVVCV H stems is not clear. There are numerous cases with a H!H stem pattern, which could reflect a double H pattern, alternatively could come from splitting of final H.

avaróji vasáá!llá	‘the witches who will get hurt’
avásáá!kóró vataá!gá	‘the old men who will plant’
avíisokoro varóó!tá	‘the grandchildren who will dream’
avakári vasóó!vá	‘the women who will throw out’
vwahá varéé!tá	‘who will bring’
avasáákóró vakóó!ńá	‘the old men who will help’

There is reason to think that these examples attest a true double-H pattern and not just splitting of final H. The reason is that splitting depends on there being spreading of the final H to at least the penult, whereupon the multiply-linked H becomes two. H verbs in the M2 pattern generally do not spread the final H to root-initial position, see X, although we see a few examples above e.g. *vwahá !váréétá*, where final H spreads through the entire word. Examples like *avasáákóró vakóó!ńá* are not at all uncommon, and they differ from forms like *vwahá !váréétá* in having H just on the root-initial syllable. This is explained if cases like *vakóó!ńá* have two stem Hs and not just one.

Unambiguous cases of the double-H pattern in H verbs are as follows. First, CVCV roots are unambiguous, since such H stems do not otherwise have any stem H, so no H to split. Second, trisyllabic stems have the downstep right after the root-initial syllable, not between penult and final.

aváándo vakí!ná	‘the people who will play’
aváándo varú!ká	‘the people who will vomit’
vwahá vaká!mátá	‘who will catch’

aváá!góókó vaká!rágá	‘the grandmothers who will decide ’
vwahá vakó!rógá	‘who will stir’
aváándereva vavó!hóóllá	‘the drivers who will untie’
vwahá vatáá!ngáázá	‘who will announce’
avákwáasi vavó!dóng’ána	‘the in-laws who will go around’
aváándo vatúú!ngámíná	‘the people who will invert’

There can then be (and very frequently are) examples combining the two-H pattern plus splitting of final H.

avááguokó vaká!rá!gá	‘the grandmothers who will decide (law)’
vwahá vaká!ráá!ngá	‘who pl will fry’
vááguugá vaví!mbó!rá	‘the grandfathers who will unroof’
vwahá vatáá!ngáá!zá	‘who will announce’
avakeere vachí!rín!g’ána	‘the old women who will be quiet’
avóófisa vasúú!ndórá!nyá	‘the officers who will over-pour’
aváándo vaháá!ngárízá!ná	‘the people who will argue’

V subject relatives

The pattern-tendencies are different when the SP is a vowel. With L verbs, virtually all examples have the two-H pattern

L

omosí!g-ágwá	‘the enemy who will fall’
omóó!nd-áshá	‘the person who will grind’
umbókw adó!yá	‘the blind person who will hit’
omóónd-ará!gá	‘the person who will promise’
omóónd-arí!má	‘the person who will plow’
omwóómbach-á!gú!rá	‘the builder who will buy’
vwah-á!chóó!rá	‘who will draw’
omóónd-agéé!ndá	‘the people who will walk’
omkikuy-á!nóó!rá	‘the Kikuyu who will get’
omóónd-amóó!ná	‘the person who will gossip’
omokó!róónd-ágé!rízá	‘the respected person who will test’
omoróóndi amí!nágá	‘the follower who will stir’
vwahá amó!rómá	‘who will speak’
vwah-á!vá!gárá	‘who will hang’
omóónd-ará!kóórá	‘the person who will release’
om’kóóng-agó!yáána	‘the boss who will be disarranged’
omoróómbi asáá!mbó!rá	‘the builder who will dethatch’
om’k-á!yí!nzí!rá	‘the brother in law who will work’
omok-á!ráá!ndízá	‘the brother in law who will announce’
vwah-ágáná!gá!ná	‘who will think’
om’kóó!nzákárí así!níkí!zá	‘the widow who will annoy’
om’kíkuy-á!vórógá!nyá	‘the Kikuyu who will stir up’

omong'óodi así!mógókí!zá	'the scribe who will revive'
vwah-á!véé!zégérá	'who will belch'
om'káán-asáá!mbórógá!nyá	'the girl who will dismantle'
vwah-á!záá!záá!má	'who will taste'

Infrequently, L verbs with the shape CVVCV are attested with a single H

amwáávo-dííra	'the sibling who will hold'
móóndo achóóra	'the man who will draw'
omó!ndéré!v-ágáálla	'the driver who will stare'
vwahá agéénda	'who will walk'
omwíih-aháánda	'the bride who will get stuck'
omoróji akíínda	'the witch who will faint'
vwah-á!kwéésa	'who will pull'
omóónd-aríínda	'the person who will watch'

In other words, the double-H pattern is virtually mandatory if the SP is just a vowel, contrary to the general pattern that a single stem H is found, at least without an OP on the verb.

As for vowel-initial stems, where a V SP becomes a glide, L verbs are somewhat mixed in having a few cases of single H, but generally both L and H verbs follow the double H pattern (with or without splitting of the final H).

L verb

vwahá yeepá	'who will want'
umbó!gósó !yéé!ná	'the Bukusu who will want'
omóóndo yéé!yá	'the person who will sweep'
omwáána yaambóka	'the child who will ford'
om'syaará yaanígira	'the cousin who will go ahead'
vwahá !véé!llé!ká	'who will go downhill'
vwahá !yí!ví!llá	'who will forget?'
omwíisokoro yí!víllá	'the grandchild who will forget'
vwahá !yáá!nígí!rá	'who will go ahead?'
vwahá !yí!zóri!zá	'who will remember?'

H verbs only have the double-H pattern.

eng'óómbe yáá!yá	'the cow who will moo'
omóóndo yí!vá	'the person who will steal'
omotéénde yí!tá	'the neighbor who will kill'
omokí!kóyó !yáá!yó!rá	'the Kikuyu who will shout'
omwáámi yóó!nóó!nyá	'the chief who will mess up'
vwahá !yóó!mbá!ká	'who will build?'
omórína yí!ngí!rá	'the friend who will enter'
vwahá !yáá!vórá!nyá	'who will cut up?'
om'téénde yáá!vórá!nyá	'the neighbor who will cut up'

Non-subject relatives

Non-subject relative verb forms, on the other hand, systematically follow the simple M2 pattern, regardless of the shape of the subject prefix: only 2 tokens of 406 unambiguously have the double-H pattern, and can be dismissed as errors. Another 17 tokens have downstep only between the penult and final in longer verb stems, e.g. *rwáá !ngíróng'á!nyá* 'when I will turn around'. With the canonical double-H pattern, the first downstep would be between the first and second stem vowels – instead, this is a phonetic variant of more-attested *rwáá !ngíróng'ányá*, with splitting of H between the penult and final syllables. Non-subject relatives have the canonical M2 pattern, regardless of the subject prefix. First we consider temporal relatives, followed by object relatives. In some examples of CVCV stems where M2 is prepausal, there may be split of the final H

L verbs

<i>rwá !váshá</i>	'when they will grind'
<i>rw-ó!ógwá</i>	'when you will fall'
<i>rwá korora°</i>	'when we will see'
<i>rw-óó!rírá</i>	'when you will cry'
<i>rwá kōrima°</i>	'when we will plow'
<i>rwáá !ngé!já</i>	'when I will wonder'
<i>rwá !kóng'óóda</i>	'when we will write'
<i>rwá !várónda</i>	'when they will follow'
<i>rwá kúchóóra</i>	'when we will draw'
<i>rwá !kórakóóra</i>	'when we will release'
<i>rwá !kóváríza</i>	'when we will count'
<i>rwá kúhóórúuka</i>	'when we will relax'
<i>rwá vaséembella</i>	'when they will weed'
<i>rw-áá!móróma</i>	'when he will speak'
<i>rwá kugávóranya</i>	'when we will dole out'
<i>rwá korakóórana</i>	'when we will release e.o'
<i>rwá vamorómija</i>	'when they will babble'
<i>rwá varóúmbanira</i>	'when they will push e.o'
<i>rwá vavéezegera</i>	'when they will belch'
<i>rw-óó!véézegeera</i>	'when you will belch'
<i>rwá veeyá</i>	'when they will sweep'
<i>vwahá !véé!yá</i>	'who will sweep'
<i>rwáá !nzéyá</i>	'when I will sweep'
<i>rwá kwuungá</i>	'when we will join'
<i>rwáá !nzángóha</i>	'when I will speed up'
<i>rwá weelléka</i>	'when you will go downhill'
<i>rwá vaanígira</i>	'when they will go ahead'

H verbs have final H on stems longer than dimoraic, and the final H may split between the penult and final.

H verbs

rw-áárya	‘when he will eat’
ni rí rwa varya	‘when will they eat’
rwá koha	‘when we will give’
rw-óónwa	‘when you will drink’
rwá korasa	‘when we will throw’
rwá koshira	‘when we will drive’
rw-óó!táágá	‘when you will plant’
rwá !vádééká	‘when they will cook’
rwá nzagó!rá	‘when I will pluck’
rwá kosigámá	‘when we will kneel’
rwá vavegáná	‘when they will shave e.o’
rwáá !njérévá	‘when I will be late’
rwá kochereva°	‘when we will be late’
rwáá !njéré!vá	‘when I will be late’
rwáá !sígámá	‘when I will kneel’
rw-ómogóyé !gókádóká	‘when the rope snaps’
rw-óó!vágára	‘when you will hang’
rwá !vákáraángá	‘when they will fry’
rwá !vávóhóóllá	‘when they will untie’
rwá kocheerízá	‘when we will greet’
rwá varaagírá	‘when they will eat ugali’
rwá kutaangaaza°	‘when we will announce’
rwáá !mbáámbízá	‘when I will start a fire’
rwá !kógíróngányá	‘when we will turn around’
rwá !vávódóng’áná	‘when they will go around’
rwá vatuungamija°	‘when they will turn’
rwá kwiiva°	‘when we will steal’
rwáá nzigízá	‘when I will teach’
rwá kwiingira°	‘when we will enter’
rwá !kwóómbá!ká	‘when we will build’

Object-relative forms likewise follow the ordinary M2 pattern.

ovóshu vwa kushá	‘the flour which we will grind’
ovoró !v-óóshá	‘the millet that you will grind’
ikííndo cha korágá	‘the thing which we will promise’
ingóvu y-aanává	‘the dress that I will sew’
kitábu ch-oorora°	‘the book which you will see’
mkáána w-eeróra	‘the girl which it will see’
ináma y-aagórá	‘the meat that he will buy’
aváándo va koyáára	‘the people who we will sue’
aváándo v-aayáára	‘the people who he will sue’
avíisokuro v-ooróonda	‘grandchildren that you will follow’

ikítábo cha vakwéesa
ikítábo cha varíinda
iziséendi zy-aanyóóra
omsáara gw-aaváa
omgízi gwa kogóriza
omgízi gw-aagóriza
vwahá wa varákóóra
avarími va vayíinzilla
háí ha vajáágira
kindíkí !ch-á!áséembera
ovuchíma vwa vázáazaama
imbólírání ya vaambákana
ovoró vwaa ndékániza

‘the book which they will pull’
‘the book which they will guard’
‘the money that he will get’
‘the tree that he will carve’
‘the homestead that we will sell’
‘the homestead that he will sell’
‘who will they release’
‘the farmers who they will work for’
‘where will they start’
‘what will he weed’
‘the ugali which they will taste’
‘the agreement which they will refuse’
‘the millet which I will divide equally’

avarógoori va veepá
avasígu va kwíizóriza
omwáana wa waambáyiza

‘the Logooris who they will want’
‘the enemies who we will remember’
‘the child who you will make swing’

H verbs

imbwá yaa ndya
ovoséra vwaa nwa
ekedeté ch-uuruma
ibarwá ya kutuma
igáási y-ookora
myóumba ya vatora
iziséendi zya guug-ávisa
umwóoyo gw-ushulla
amagáanda ga kutaagá
avásóoréri va kokooná
ɪná!má yáa-ndééká
ɪná!má y-óódééká
izing’óombe zya kohaana
imbáno j-ooretá
iddíjji ryaa mbómóra
iddíjji !ryáa mbómóra
risáa!ndógó ryaa mbinóra
vwahá wa vavóhóollá
omó!dógá gwa vavodong’ána
omóóndo w-ooherekerá^o
amáazi ga kusundórányá

‘the dog which I will fear’
‘the alcohol that I will drink’
‘finger that you will bite’
‘the letter which we will send’
‘the work which you will do’
‘the house which they will leave’
‘the money which grandfather will hide’
‘voice that you will hear’
‘the beans which we will plant’
‘the boys who we will help’
‘meat which I will cook’
‘meat which you will cook’
‘the books that we will give’
‘knives that you will bring’
‘the wall which I will destroy’
‘the wall which I will destroy’
‘the crate which I will lift up’
‘who will they untie’
‘the car which they will go around’
‘the person who you will escort for’
‘the water which we will pour’

omóóndo wa yiitá
ivisáara vya vaatányá
irichóongwa rya kwaagú!rá

‘the person who he will kill’
‘the sticks which they will break’
‘the orange which we will pluck’

3.6.4. AFFIRMATIVE RELATIVE WITH OP

Because selection of an OP is a factor that tends to result in double-H tokens, we expect and do find attestation of the double H pattern. It is unknown whether there is an further-increased likelihood for the double-H pattern arising from the CV factor noted in subject relatives plus the vowel-initial SP factor (determining this would require a substantially-expanded investigation), therefore all SPs will be treated the same w.r.t. stem tone.

With L roots, CV roots have H on the final vowel.

guug-á!vó!shá	‘the grandfather who will grind it’
rvitábo vya kovahá	‘the books that we will give them’
avíísokoro vakutya°	‘the grandchildren who will fear you’
r-ó!úndyá	‘when you will fear me’
rwá kómtá	‘when we will bury him’
haí h-ógá!nwá	‘where will you drink it’

L CVCV verbs also may have just a final H.

omórém-agó!shirá	‘the cripple who will drive it’
oké!nógá	‘he who will pick it’
omotéénd-avá!rógá	‘the neighbor who will bewitch them’
aváá!séká	‘they who will laugh at me’
rwá !kóvásémá	‘when we will insult them’

H verbs may have just a penultimate H.

avááyaará vakuhólla	‘the cousins who will hear you’
ofis-ákináva	‘the officer who will sew it’
rwá kovaróma	‘when we will bite them’
rwá kóktivása	‘when we will hide it’
rw! kovatóra	‘when we will leave them’
rwá kókirása	‘when we will throw it’
rw-óó!mbéga	‘when you will shave me’
rw-óó!ndéga	‘when you will trap me’
avagéni vavaróma	‘the guests who will bite them’
aváketéga	‘the ones who will trap it’
avááandu viivása	‘the people who will hide selves’
omóónd-eevóha	‘the person who will tie himself’

These are the unadorned realizations of M2 with an OP, in CVCV verbs. CVCV stems of both tone classes may also have the pattern H!H.

L	
amwaav-akó!rá!gá	‘the sibling who will promise us’
aváánaandi vakong’ó!sá	‘the Nandi who will pull us’
avíí!gízí vakígó!rá	‘the teachers who will buy it’

avíivori vamsé!ká	‘the parents who will laugh at him’
rwá mbayó!gá	‘when I will talk to them’
rwá weeró!rá	‘when you will see self’
omódirijí akosé!má	‘the Tiriki who will insult you’
omóónd-agó!rí!má	‘the person who will plow it’
omóramw-á!ángó!llá	‘the in-law who will do for me’

H

rwá kovaró!má	‘when we will bite them’
izisiimba zikó!té!gá	‘the lions who will trap us’
omóóndu wéé!vó!há	‘the person who will tie himself’
mkáán-akikí!ná	‘the girl who will play it’
rwá !vákító!má	‘when they will send it’
rw-áá!mbé!gá	‘when he will shave me’

We expect H!H from HH in the case of L verbs coming from application of final-splitting to CVCV. Finding the same pattern in H verbs is not expected.

The most general, and expected, pattern for CVVCV is just H on the penult.

L

aváána vakuchóóra	‘the children who will draw us’
avakári vagachóúnga	‘the women who will strain it’
avá!kóráanga	‘the ones who will call us’
vwahá akí!ríinda	‘who will guard it?’
avanákivara vakoróonda	‘the non-Logooris who will follow us’
rw-áá!kírúnga	‘when he will season it’
rwá vakusínga	‘when they will bathe you’
avágayéenga	‘the ones who will brew it’
avávakínga	‘the ones who will protect them’
rw-óókikwéesa	‘when you will pull it’

H

rw-áákedéeka	‘when he will cook it’
rw-áá!vádúoka	‘when he will reach them’
rw-áákogúúta	‘when he will defeat you’
navizar-akokóóna	‘the daughter-in-law who will help us’
avíivi vakeréeta	‘the thieves who will bring it’
aváándo vakisúunga	‘the people who will hang it’
rwá kokiháána	‘when we will give it’
rwá kokijáána	‘when we will eat it’
omónaandí agivíimba	‘the Nandi who will roof it’

H!H is also found though less often with both H and L verbs

L

rwá kovaráá!má	‘when we will curse them’
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rw-óókoríí!ndá	‘when you will watch us’
avá!kósíí!ngá	‘the ones who will bathe us’
rw-óókeng’óó!dá	‘when you will write it’

H	
avákedéé!ká	‘the ones who will cook it’
rwáveekóó!ná	‘when they will help self’
omóónd-akí!réé!tá	‘the person who will bring it’
rwáá ngetéé!vá	‘when I will request it’

The two patterns for VCV stems are H!H and HL

L	
aváá!né!ná	‘the ones who will want me’
avíí!yé!ná	‘the ones who will want themselves’
rw-ó!ó!né!ná	‘when you will want me’
omósáá!kór-áanzé!yá	‘the old man who will sweep me’
avásóóréri vaanzó!há	‘the boys who will scatter me’
avakóóngo vakwééna	‘the bosses who will want us’
avááandu vachééya	‘the people who will sweep it’

H	
sééng-arwíí!mbá	‘the aunt who will sing it’
ochíí!tá	‘he who will kill it’
omónderá!v-áá!nzi!tá	‘the driver who will kill me’
omwáán-acháá!há	‘the child who will pick it’
aváámwaaavo varwíí!mbá	‘the siblings who will sing it’
avasáájeni vaanzáta	‘the sergeant who will do surgery on me’
r-ó!ónzíta	‘when you will kill me’
is-á!kwííta	‘the father who will kill you’
rwá kochííva	‘when we will steal it’
rwáá !mbááta	‘when I will do surgery on them’

Looking at longer stems, the double-H patterns are dominant, and naturally split into triple-H variants with final H!H versus double-H variants where final H does not split.

L verbs

rwá vakivó!ró!gá	‘when they will mix it’
aváá!sóó!ví!rá	‘the ones who will believe me’
avákisáá!mbó!rá	‘the ones who will demolish it’
rwá vamoríí!ndíí!llá	‘when they will wait on him’
rwá vuháá!ndíí!ká	‘when they will write for themselves’
rwá vamoríí!ndíí!llá	‘when they will wait on him’
avasáá!kóró vakígá!vórá!nyá	‘the old men who will dole it out’
omwáána yí!síní!kí!zá	‘the child who will annoy himself’

rwá komoróú!ngíkí!zá
 rwáá mbavéé!zégé!llá
 rwá komoróú!ngíkí!zá
 avarógoori viyíí!nzírí!zá
 aváána vagwáá!mbó!ká
 r-ó!ónzí!ví!llá
 avásóóréri vachíí!gó!rá
 omsáájeni anyá!mbágí!llá
 avíisokoro vaaná!ngóhíz!á

‘when we will straighten him’
 ‘when I will belch on them’
 ‘when we will straighten him’
 ‘the Logori who will make themselves work’
 ‘the children who will cross it’
 ‘when you will forget me’
 ‘the boys who will open it’
 ‘the sergeant who will stretch me’
 ‘the grandchildren who will speed me up’

vwah-ákímí!nágá
 aváándo vakevé!déká
 rwáámbarí!mírá
 omorími w-omwíígizí akívá!gállá
 omkárájí akorá!kóórá
 avarími vagoséé!mbéllá
 rwá vamríí!ndííllá
 rwá vakohó!róókírá
 aváándo va vamhíí!ríítírá
 rwá vamoráá!ndízírá
 rwá kovaháá!ndííkírá
 rw-óonyá!nígíllá
 omwáán-aaná!mbóká
 omwáán-akwíí!víllá
 omwáán-akwáá!mbágíllá

‘who will stir it’
 ‘the people who will bend it’
 ‘when I will plow for them’
 ‘the farmer who the teacher will hang it for’
 ‘the judge who will release us’
 ‘the farmers who will weed it’
 ‘when they will wait on him’
 ‘when they will relax for us’
 ‘the people who they will snore on for him’
 ‘when they will announce for him’
 ‘when we will write for him’
 ‘when you will go ahead of me’
 ‘the child who will ford me’
 ‘the child who will forget us’
 ‘the child who will stretch towards us’

L verbs additionally attest the simple M2 pattern, with a single H on the second stem vowel

rwá vakígávóra
 omodák-avaváriza
 rwá vakorakóóra
 rwá kovayávógólla
 aváá!sékéélla
 avakáána vakihááandiika
 avákuhóóndólla
 omódógá gwa kokogórízira
 omwíisokoro avarékániza
 aváándo vakugánágana
 navizara wa komorómera
 omóóndo waa ngosíníkizira
 vwah-óókerékánizira
 rwá waanígira
 avíígizí vaanámbákana

‘when they will divide it’
 ‘the pauper who will count them’
 ‘when they will release us’
 ‘when we will unbury them’
 ‘they who will laugh at me’
 ‘the girls who will write it’
 ‘the ones who will stare at us’
 ‘the car that we will sell to you’
 ‘the grandchild who will separate then’
 ‘the people who will think of us’
 ‘the daughter-in-law who we will speak for’
 ‘the person who I will anger for you’
 ‘who will you divide it for’
 ‘when you will go ahead’
 ‘the teacher who will refuse me’

H verbs have two expected outcomes, double-H and the derived variant with final splitting.

avarógoori vakísú!gúmá	‘the Logoris who will push it’
rwá kokebó!mórá	‘when we will destroy it’
rwá vakovó!hóóllá	‘when they will untie us’
rwáá ngísóó!ngórá	‘when I will unhook it’
rwá vamchéé!rízá	‘when they will greet him’
aváámwaavo vavoráá!gírá	‘the siblings who will eat it’
avíí!gízí vakitáá!ngáázá	‘the teachers who will announce it’
ikííndo chaa mbatáá!ngáázirá	‘the thing that I will announce for them’
rwá vaambó!dóng’ána	‘when they will go around me’
rwá vakotúúngamjina ^o	‘when they will turn us’
mkárají akíhí!nó!rá	‘the judge who will lift it up’
rwá kókiká!dó!rá	‘when we will snap it’
omodíríj-akíká!ráá!ngá	‘the Tiriki who will fry it’
rw-ákevó!hóó!llá	‘when he will untie it’
omóónd-akísóó!ndó!rá	‘the person who will pour it’
omkúóonzakarí akuvóó!kí!zá	‘the widow who will wake us’
rwá vagoháá!mbí!zá	‘when they will start (fire) it’
chííf-áá!ngáásí!zá	‘the chief who will bless me’
rwá kovahóó!móó!rá	‘when we will massage them’
ombóko-zisíír!úú!rá	‘the blind person who will chop them’
rwáá mbakóó!mbéé!lá	‘when I will hug them’
rw-óókusáá!móó!rá	‘when you will slap us’
ikídáájí cha kooz-ákuká!rágí!rá	‘the case which uncle will judge for us’
navizar-avavó!dóng’ána	‘the daughter-in-law who will go around them’
omóóndo w-akísóó!ndórányí!rá	‘the person who he will pour it for’
rwáá !njáá!tá!nyá	‘when I will bust it up’
avákó vaapí!mí!llá	‘the brothers in law who will lead me’
rw-áá!víí!gí!zá	‘when he will teach them’
urwíímbo rw-aanyí!mbí!zá	‘the song that he will make me sing’
aváándo vaanzá!gáá!nyá	‘the people who will meet me’
rw-óó!chíí!ngí!rá	‘when you will enter it’
rw-ááchóó!gíhí!zá	‘when he will sharpen it’

3.6.5. NEGATIVE RELATIVE

In the negative relative, we generally observe the ordinary single H version of M2.

L verbs

guug-á!tá!gwá	‘the grandfather who will not fall’
kitábo chotarórá	‘the book which you will not see’
avíígízí !vátágó!rá	‘the teachers who will not buy’
rwá ndang’óóda	‘when I will not write’

rwá !kótámíza
 rwá ndaséembella
 rwá ndarínduilla
 umogízi gwa kotagóríza
 vwahá !látámóróma
 aváándo vatarakóóra
 umok-ótaráándiza
 ovuchíma vwa vatazáázaama
 ivííndo vttang'éréng'ana
 rwá vatayavógulla
 rw-ó!távéezegera

'when we will not cast seeds'
 'when I will not weed'
 'when I will not wait'
 'the homestead that we will not sell'
 'who won't speak'
 'the people who will not release'
 'the brother in law who will not announce'
 'the ugali which they will not taste'
 'the things which will not shine'
 'when they will not unbury'
 'when you will not belch'

rwá !ndíivá
 rw-óteepá
 vwahá até!éna
 avóófisá vatiivílla
 avarógoori vataambáaya
 rw-ótiigóra
 avarími vatiizóriza
 imbólrani ya váándú vataambákana
 msyaar-átaanígira

'when I will not steal'
 'when you will not want'
 'who will not want?'
 'the officers who will not forget'
 'the Logooris who will not swing'
 'when you will not open'
 'the farmers who will not remember'
 'the agreement that the people will not refuse'
 'the cousin who will not go ahead'

H verbs also have a final H when the stem is longer than CVCV, with the usual proviso that final H may split between final and penult.

H verbs

vwahá atánwa
 aváándo vatatega
 ikííndo chatadeeká
 iddíji rya ndabomó!rá
 irisáándógó rya ndahínórá
 ñháma ya ndakaráá!ngá
 rwá kotasigámá
 ibárasi ya kotasugúmá
 rwá kotaháámbáá!ná
 vwahá !átávógóra
 umorími ataraagí!rá
 góók-átásaamóó!rá
 omkári w-otakóómbéé!lá
 rwá ndagíróng'ányá
 aváána vatavodongá!ná
 omó!dógá gwa vatavodóng'ána
 omóóndu wa kotasuondóranyá

'who will not drink?'
 'the people who will not trap'
 'the thing that he will not cook'
 'the wall which I will not destroy'
 'the crate which I will not lift up'
 'the meat which I will not fry'
 'when we will not kneel'
 'the horse which we will not push'
 'when we will not come together'
 'who won't receive'
 'the farmer who will not eat'
 'the grandmother who will not slap'
 'woman that you will not hug'
 'when I will not turn around'
 'the girls who will not go around'
 'the car which they will not go around'
 'the person who we will not pour for'

omóónd-ataá!tá
 omodíríji ateevá

'the person who will not do surgery'
 'the Tiriki who will not put up a fence'

r-ó!tááhá
 aváána va vatiigízà
 aváábaabá vataatányá
 omwéembe gwa vataagó!rá
 aváándo vataagáá!ná
 rwá ndaatanyá
 omwóúmbachí atóó!mbá!ká
 omóónd-atáá!yó!rá
 omorín-atíí!gí!zá
 omwáán-atóó!nóónyá
 omóóndo wa ndaagorókízirá

‘when you will not pick’
 ‘the children who they will not teach’
 ‘the fathers who will not bust up’
 ‘the mango which they will not pluck’
 ‘the people who will not meet’
 ‘when I will not bust up’
 ‘the builder who will not build’
 ‘the person who will not shout’
 ‘the friend who will not teach’
 ‘the child who will not mess up’
 ‘the person who I will not come down for’

When an OP is added, the pattern usually shifts to the double-H pattern, as is generally the case for M2 with an OP.

L verbs

guug-á!tá!vó!shá
 avíimíllí vataavoshá
 avíí!gízí vatakígó!rá
 avíívórí !vátáánsé!ká
 omotééend-atávarógá
 omóónd-atagorí!má
 aváákoozá vataanáanga
 avarími vatakitáaga
 vakóónzakarí vatakochoóra
 omorími w-omwíigízí atakívágálla
 omódák-atavaváríza
 omkárájí atakorákóóra
 omkárájí atakorá!kóóra
 aváándo vatírà!kóó!rá
 ikígúuti cha kotavaséémbella
 omwíivi atáá!nííndíllá
 avíimílli vataapí!nzí!llá
 vwahá atáá!ng’óódérá
 avarími vatagoséé!mbé!llá
 rw-ótakeséé!mbé!llá
 avakáána vatakiháandiika
 r-ótaangóó!ngóó!má
 rwá vatamoríí!ndíí!llá
 rwá kotavayávógulla
 aváándo vatakogánágana
 vasáá!kóró vatakígá!vórá!nyá
 avasóórérí vataavavéé!zégéllá

‘the grandfather who will not grind it’
 ‘the leader who will not grind it’
 ‘the teachers who will not buy it’
 ‘the parents who will not laugh at him’
 ‘the neighbor who will not bewitch them’
 ‘the person who will not plow it’
 ‘the uncles who will not call me’
 ‘the farmers who will not plant it’
 ‘the widows who will not draw you’
 ‘the farmer who the teacher will not hang it for’
 ‘the pauper who will not count them’
 ‘the judge who will not release us’
 ‘the judge who will not release us’
 ‘the people who will not release themselves’
 ‘the field that we will not weed for them’
 ‘the thief who will not wait me’
 ‘the leaders who will not work for me’
 ‘who will not write for me?’
 ‘the farmers who will not weed it’
 ‘when you will not weed it’
 ‘the girls who will not write it’
 ‘when you will not roll me’
 ‘when they will not wait on him’
 ‘when we will not unbury them’
 ‘the people who will not think of us’
 ‘the old men who will not dole it out’
 ‘the boys who will not belch on them’

rw-ótaapé!ná
 aváándo vateeyá

‘when you will not want me’
 ‘the people who will not sweep’

aváándo vatachééya
 avakóóngo vatakwéé!ná
 omosáákor-átaanzé!yá
 aváána vataanzá!llá
 avásóórééri vataanzóha
 avíísokoro vataapná!ngóhá
 rw-ótaanzí!ví!llá
 avíígizí vataapná!mbákáná
 avarími vatakwíí!zórízá
 omsáá!kór-átaapná!mbááyí!zá
 msáájeni ataapná!mbágí!llá

‘the people who will not sweep it’
 ‘the bosses who will not want us’
 ‘the old man who will not sweep me’
 ‘the children who will not spread for me’
 ‘the boys who will not scatter me’
 ‘the grandchildren who will not speed me up’
 ‘when you will not forget me’
 ‘the teacher who will not refuse me’
 ‘the farmers who will not remember us’
 ‘the old man who will not make me swing’
 ‘the sergeant who will not stretch me’

H verbs

haí h-otaganwá
 rwá kotamta
 aváándo vateevóha
 omóónd-atéé!vóhá
 avagéni vatavaró!má
 avavóko vataangóóna
 omóónd-atakedéé!ká
 avanákivara vatakotí!vórá
 omóónd-ataá!mbádó!rá
 umgéni ataambó!hóóllá
 avíígizi vatakitáá!ngáázá
 omóónd-atakitáá!ngáá!zá
 góú!k-átáá!sáámóóra
 ikídáági cha koozá atakuká!rágírá
 chííf-ataá!ngáási!zá
 navizar-atakogí!rúng’ányá

‘where will not you drink it’
 ‘when we will not bury him’
 ‘the people who will not tie themselves’
 ‘the person who will not tie himself’
 ‘the guests who will not bite them’
 ‘the blind people who will not help me’
 ‘the person who will not cook it’
 ‘the non-Logooris who will not answer us’
 ‘the person who will not whip me’
 ‘the guest who will not untie me’
 ‘the teachers who will not announce it’
 ‘the person who will not announce it’
 ‘the grandmother who will not slap me’
 ‘the case which uncle will not judge for us’
 ‘the chief who will not bless me’
 ‘the daughter-in-law who will not turn you around’

rwá ndavááta
 omóónderév-ataá!nzítá
 vwahá atá!chíívá
 rwá kotachííva
 rw-átavíí!gí!zá
 orwíímbo rw-ótaapí!mbízá
 orugága rwa kotáá!nzévé!rá
 r-ótachíí!ngírá
 rwá kotachóó!nóó!nyá
 omwóú!mbáchí atóó!mbákírá

‘when I will not do surgery on them’
 ‘the driver who will not kill me’
 ‘who will not steal it?’
 ‘when we will not steal it’
 ‘when he will not teach them’
 ‘the song that you will not make me sing’
 ‘the fence that we will not put up for me’
 ‘when you will not enter it’
 ‘when we will not mess it up’
 ‘the builder who will not build for himself’

3.6.6. HEADLESS S-RELATIVES

Headless subject relative forms in the bare future have what should now be familiar complexities, owing to the encroachment of H tone from the SP into the verb stem. In cl.

2 and other CV-prefixing forms, the SP has H tone, but the stem has the ordinary single-H M2 pattern since the SP H is entirely outside the stem.

L verbs

avá!shá	‘the ones who will grind’
avá!séká	‘the ones who will laugh’
avá!rwáána	‘the ones who will fight’
avá!móróma	‘the ones who will speak’
avávoróganya	‘the ones who will stir up’
avá!rákóóra	‘the ones who will release’
avá!véézegeza	‘the ones who will belch’

H verbs

avátya	‘the ones who will fear’
avávega	‘the ones who will shave’
avá!réétá	‘the ones who will bring’
avá!jágóra	‘the ones who will run’
avá!káraángá	‘the ones who will fry’
avá!gíróng’ányá	‘the ones who will turn around’
avá!túúngámíjána	‘the ones who will invert’

An exception is that syllable fusion with vowel-initial verbs brings the H of the SP into the domain of the stem. In that case, L verbs generally have the double H pattern (including the final-splitting variant)

avóó!ngá	‘ones who will join’
avé!éyá	‘the ones who will sweep’
avéé!já	‘the ones who will want’
avíí!vílla	‘the ones who will forget’
avá!ángóha	‘the ones who will speed up’
aváá!mbóka	‘ones who will cross’
avíí!gó!rá	‘ones who will open’
aváá!mbááyá	‘ones who will swing’
aváá!nígí!rá	‘ones who will go up’

H verbs always have the double-H pattern

avéé!vá	‘the ones who will put up a fence’
avíí!tá	‘ones who will kill’
aváá!há	‘ones who will pick’
aváá!tányá	‘the ones who will break’
aváá!yó!rá	‘ones who will shout’
aváá!vó!rá	‘ones who will take down’
avíí!gí!zá	‘ones who will teach’
avóó!nóó!nyá	‘ones who will mess up’

When the SP is a V prefix, the pattern shifts substantially: H and L roots behave the same, and systematically follow the double-H pattern. This is similar to the frequent double-H pattern would in other vreb words with an OP, but it is exceptionless and does not depend on the presence of an OP.

L verbs

ugwá	‘the one who will fall’
ushá	‘the one who will grind’
ogó!ná	‘the one who will sleep’
óró!gá	‘the one who will bewitch’
orée!vá	‘the one who will be drunk’
uchóó!rá	‘the one who will draw’
urí!ndá	‘the one who will watch’
uyáá!rá	‘the one who will sue’
omó!ró!má	‘the one who will speak’
ubú!róká	‘the one who will fly’
udú!vó!rá	‘the one who will smash’
omí!ná!gá	‘the one who will stir’
ogó!yááná	‘the one who will be disarranged’
urá!kóórá	‘the one who will release’
osée!mbéllá	‘the one who will weed’
oróó!ngí!ká	‘the one who will be straight’
usáá!mbó!rá	‘the one who will demolish’
usóó!ví!rá	‘the one who will believe’
oyóó!mbóó!rá	‘the one who will pour lots’
oháá!nzóóká	‘the one who will talk loudly’
urí!ndííllá	‘the one who will wait’
ogá!nágáná	‘the one who will think’
osí!níkí!zá	‘the one who will annoy me’
uyá!vógó!llá	‘the one who will unbury’
ovée!zégé!rá ~ ovée!zégérá	‘the one who will belch’
owée!ná	‘the one who will want’
owée!yá	‘the one who will sweep’
wóó!há	‘the one who will scatter’
wáá!yó!rá	‘the one who will shout’
wí!góra	‘the one who will open’
wáá!mbó!ká	‘the one who will cross’
wí!rúú!rá	‘the one who will winnow’
wáá!nigí!rá	‘the one who will go up’
owáá!mbágíllá	‘the one who will stretch’
owí!námíjána	‘the one who will bend’

H verbs

okwá	‘the one who will pay dowry’
ónwá	‘the one who will drink’
utyá	‘the one who will fear’

oté!gá	‘the one who will trap’
oté!má	‘the one who will chop’
ovó!há	‘the one who will tie’
oró!má	‘the one who will bite’
odéé!ká	‘the one who will cook’
odóó!rá	‘the one who will pick up’
oréé!tá	‘the one who will bring’
orééta	‘the one who will bring’
onáá!ná	‘the one who will eat’
obó!mórá	‘the one who will demolish’
uché!ré!vá	‘the one who will late’
oká!rá!gá	‘the one who will judge’
osí!gá!má	‘the one who will kneel’
ovó!hóó!llá	‘the one who will untie’
oká!ráá!ngá	‘the one who will fry’
osáá!mó!rá	‘the one who will slap’
okóó!mbéé!rá	‘the one who will hug’
otáá!ngáázá	‘the one who will announce’
ozáá!záá!má	‘the one who will taste’
ovó!dóng’á!ná	‘the one who will go around’
ogí!róng’ányá	‘the one who will turn around’
osóó!ndórá!nyá	‘the one who will pour’
otóó!ngámí!ná	‘the one who will turn upside down’
owíí!tá	‘the one who will kill’
owíí!vá	‘the one who will steal’
wáá!há	‘the one who will pluck’
wáá!tá	‘the one who will do surgery’
wáá!gó!rá	‘the one who will pluck’
wáá!vórá	‘the one who will take down’
wóó!nóó!nyá	‘the one who will mess up’
wáá!vóká!nyá	‘the one who will separate’
wíí!zúrí!zá	‘the one who will fill’

In the case of mono- and dimoraic stems, H!H is retained phrase medially, a fact that distinguishes melodic two-H sequences from H!H via pre-pausal H-splitting.

urí!má vwaangu	‘the one who will plow quickly’
ové!gá marova	‘the one who will shave Marova’
avá!rímá vwaangu	‘the ones who will plow quickly’
avávega marova	‘the ones who will shave Marova’

HSRel with OP

aváá!ndóó!ngámí!ná	the ones who will turn me upside down
avéé!yá	the ones who will sweep
okí!rí!má	the one who will plow it

okí!ná!vá	the one who will sew it
okó!réétá	the one who will bring us
ovééna	the one who will want them
wéé!véézégé!llá	the one who will belch on himself

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EM200104172427.010	3	CWCVCV	wí!mígá	the one who will strangle herself
EM200104163053.247	3	VCVCV	vgánwa	the one who will drink it
EM200104163053.186	3	VCVCV	vkí!ryá	the one who will eat it
EM200518213602.005	3	VCVCV	vkí!ryá	the one who will eat it
EM200509210539.076	3	VCVCV	vkí!shá	he who will grind it
EM200518213602.042	3	VCVCV	vkí!shá	the one who will grind it
EM200509210539.067	3	VCVCV	vkí!tyá	he who will fear it
EM200518213602.017	3	VCVCV	vkí!nwa	the one who will drink it
EM200518213602.022	3	VCVCV	vkítya	the one who will fear it
EM200920111752.134	3	VCVCV	vkó!há	the one who will give to us
EM200418183726.345	3	VCVVCV	odélé!ká	the one who will cook
EM200418183726.348	3	VCVVCV	ogéénda	the one who will walk
EM200418183726.349	3	VCVVCV	oró!ótá	the one who will dream
EM200418183726.353	3	VCVVCV	ovéé!ná	the one who will want them
EM221028131645.067	3	VCVVCV	ovééna	the one who will want them
EM200802231920.219	3	VCVVCV	ucháá!há	the one who will pick it
EM200104163053.147	3	VCVVCV	ucháá!há	the one who will pluck it
EM200509210539.085	3	VCVVCV	uchéé!ná	he who will want it
EM200509210539.094	3	VCVVCV	uchí!tá	he who will kill it
EM200509210539.108	3	VCVVCV	uchó!ngá	the one who will join it
EM200418183726.344	3	VCVVCV	vkó!ótá	the one who will scrape
EM200802231920.251	3	VCVVCV	vkwiita	the one who will kill you
EM200104172427.108	3	VCVVCV	óó!mbé!lgá	the one who will shave me
EM200802231920.248	3	VCVVCV	óó!mbé!lgá	the one who will shave me
EM200804000928.239	3	VCVVCV	óó!ngó!llá	the one who will do for me
EM200802231920.225	3	VCVVCV	óó!nzé!yá	the one who will sweep me
EM190210111327.003	3	VCVVCV	óó!sé!ká	he who will laugh at me
EM200104172427.057	3	VCVVCV	óó!ndó!yá	the one who will hit me
EM200104163053.180	3	VCVVCV	óó!ngó!l!ná	the one who will help me
EM200104163053.052	3	VCVVCV	óó!ná!nzá	the one who will love me
EM200104163053.240	3	VCVVCV	óó!ní!ndá	the one who will watch me
EM200104172427.115	4	CWCVCVCV	wí!kárá!gá	the one who will judge herself
EM200518213602.062	4	VCVVCV	oké!dóná	the one who will make it into pieces
EM200509210539.058	4	VCVVCV	oké!nógá	he who will pick it
EM200518213602.075	4	VCVVCV	oké!nógá	the one who will pick it
EM200518213602.093	4	VCVVCV	oké!sóná	the one who will point at it
EM200104163053.243	4	VCVVCV	oké!tá!má	the one who will chop it
EM200509210539.049	4	VCVVCV	oké!tégá	he who will trap it
EM200518213602.111	4	VCVVCV	oké!tégá	the one who will trap it
EM200518213602.108	4	VCVVCV	oké!lvó!há	the one who will tie it
EM200118160629.141	4	VCVVCV	okó!ró!rá	the one that will see us
EM200802231920.223	4	VCVVCV	okó!sé!má	the one who will insult you
EM200804000928.251	4	VCVVCV	vgó!shirá	the one who will drive it
EM200518213602.009	4	VCVVCV	vkí!górá	the one who will buy it
EM200802231920.203	4	VCVVCV	vkí!kíná	the one who will play it
EM200802231920.235	4	VCVVCV	vkí!ná!vá	the one who will sew it
EM221028131645.065	4	VCVVCV	vkí!ná!vá	the one who will sew it
EM200518213602.105	4	VCVVCV	vkí!rásá	the one who will throw it
EM221028131645.064	4	VCVVCV	vkí!rí!má	the one who will plow it
EM200518213602.088	4	VCVVCV	vkí!rí!má	the one who will plow it
EM200804000928.256	4	VCVVCV	vkí!rí!má	the one who will plow it
EM200118160629.122	4	VCVVCV	vkó!vé!gá	the one that will shave us
EM200118160629.002	4	VCVVCV	vkó!jí!bá	the one that will answer us
EM200804000928.243	4	VCVVCV	vkó!r!gá	the one who will promise us
EM200118160629.143	4	VCVVCV	vkó!ró!lmá	the one that will bite us
EM200802231920.192	4	VCVVCV	svá!ró!rá	the one who will see them
EM200518213602.070	4	VCVVCV	oké!dó!rá	the one who will pick it up
EM200418183726.352	4	VCVVCV	oké!dó!rá	the one who will pick it up
EM200518213602.052	4	VCVVCV	oké!hé!nzá	the one who will look for it
EM200518213602.055	4	VCVVCV	oké!hé!nzá	the one who will look for it
EM200418183726.350	4	VCVVCV	oké!jó!rá	the one who will get it
EM200518213602.037	4	VCVVCV	oké!jó!rá	the one who will get it
EM200509210539.031	4	VCVVCV	oké!ré!étá	he who will bring it
EM200518213602.032	4	VCVVCV	oké!ró!ndá	the one who will follow it
EM200418183726.347	4	VCVVCV	okó!hé!nzá	the one who will seek us
EM200104163053.051	4	VCVVCV	okó!ré!étá	the one who will bring us
EM221028131645.066	4	VCVVCV	okó!ré!étá	the one who will bring us
EM200802231920.194	4	VCVVCV	vgí!ví!mbá	the one who will roof it
EM200104163053.001	4	VCVVCV	vkí!chó!rá	the one who will draw it
EM200518213602.013	4	VCVVCV	vkí!chó!rá	the one who will draw it
EM200518213602.049	4	VCVVCV	vkí!dí!rá	the one who will hold it
EM200104163053.002	4	VCVVCV	vkí!kí!ngá	the one who will protect it
EM191020095706.022	4	VCVVCV	vkí!kú!ngá	the one who will chase it
EM200418183726.346	4	VCVVCV	vkí!ná!ná	the one who will eat it
EM200509210539.040	4	VCVVCV	vkí!rí!ndá	he who will watch it
EM200518213602.027	4	VCVVCV	vkí!rí!ngá	the one who will fold it
EM200518213602.098	4	VCVVCV	vkí!sí!nzá	the one who will slaughter it
EM200518213602.080	4	VCVVCV	vkí!tá!ágá	the one who will plant it
EM200518213602.083	4	VCVVCV	vkí!tá!ágá	the one who will plant it

EM200118160629.051	4	VCVCVVCV	ɔkó!chóó!Írá	the one that will draw us
EM200104163053.050	4	VCVCVVCV	ɔkó!dúú!ká	the one who will reach us
EM200118160629.019	4	VCVCVVCV	ɔkó!gúú!tá	the one that will defeat us
EM200104163053.053	4	VCVCVVCV	ɔkó!kúú!ngá	the one who will chase you
EM200418183726.351	4	VCVCVVCV	ɔkó!nywééká	the one who will beat us
EM200118160629.025	4	VCVCVVCV	ɔkó!rí!Índá	the one that will guard us
EM200104163053.005	4	VCVCVVCV	ɔkó!yáára	the one who will sue you
EM200920111752.138	4	VCVCVVCV	ɔmó!róóndá	the one who will bring him
EM200104163053.003	4	VCVCVVCV	ɔró!chóórá	the one who will draw it
EM191020095706.017	4	VCVCVVCV	ɔró!kíngá	the one who will protect it
EM200104163053.194	4	VCVCVVCV	ɔvǎ!dúú!ká	the one who will reach them
EM191020095706.018	4	VCVCVVCV	ɔvǎ!síingá	the one who will bathe them
EM200802231920.257	4	VCVCVVCV	ɔvǎ!ríingá	the one who will fold them
EM200104163053.049	4	VCVCVVCV	ɔvǎ!táágá	the one who will plant them
EM200802231920.215	4	VCVCVVCV	ɔvǎ!táágá	the one who will plant them
EM191020095706.019	4	VCVCVVCV	ɔzǎ!dóórá	the one who will pick up them
EM200118160629.115	4	VCVCVVCV	okáheenza ^o	the one that will look for us
EM190303111506.003	4	VCVCVVCV	ɔvǎ!koona ^o	the one who will help them
EM200104163053.004	4	VCVCVVCVCCCCC	ɔzǎ!dóórá	the one who will pick them up
EM200104163053.119	4	VCVCVVCV	ɔchá!á!gǎ!rǎ	the one who will make me sing
EM200104163053.249	4	VCVCVVCV	ɔgwǎ!á!mbó!ká	the one who will cross it
EM200104172427.023	4	VCVCVVCV	ɔkwǎ!vǎ!llá	the one who will forget us
EM200802231920.256	4	VCVCVVCV	ɔvǎ!gǎ!zǎ	the one who will teach them
EM200104172427.113	4	VCVCVVCV	ɔchǎ!l!rúú!trǎ	the one who will winnow it
EM200802231920.201	4	VCVCVVCV	ɔó!l!rǎ!mbǎ!zǎ	the one who will make me sing
EM200802231920.259	4	VCVCVVCV	ɔó!l!nzǎ!gǎ!rǎ	the one who will pluck me
EM200920111752.136	4	VCVCVVCV	óó!l!nzǎ!nóónyǎ	the one who will mess me up
EM200104163053.183	4	VCVCVVCV	ɔóndakó!tǎ!rǎ	the one who will release me
EM200802231920.246	4	VCVCVVCV	ɔó!l!ngǎ!á!sǎ!zǎ	the one who will bless me
EM200104172427.101	4	VCVCVVCV	ɔó!l!ngǎ!tǎ!ó!mbé!l!rǎ	the one who will hug me
EM200104172427.041	5	VCVCVVCVVCV	wéé!l!véé!zégé!llá	the one who will belch on himself
EM221028131645.068	5	VCVCVVCVVCV	wéé!l!véé!zégé!llá	the one who will belch on himself
EM200104172427.111	5	VCVCVVCV	okékoró!gǎ	the one who will stir it
EM200104163053.154	5	VCVCVVCV	ɔkǎ!nǎ!gǎ!rǎ	the one who will catch it
EM200802231920.228	5	VCVCVVCV	ɔvǎ!vá!rǎ!zǎ	the one who will count them
EM200802231920.253	5	VCVCVVCV	okévo!hóó!llá	the one who will untie it
EM200920111752.131	5	VCVCVVCV	okóvo!hóó!llá	the one who will untie us
EM200104163053.128	5	VCVCVVCV	ɔkǎ!kǎ!rá!á!ngǎ	the one who will fry it
EM200802231920.199	5	VCVCVVCV	ɔkǎ!kǎ!rá!á!ngǎ	the one who will fry it
EM200802231920.200	5	VCVCVVCV	ɔkǎ!kǎ!rá!á!ngǎ	the one who will fry it
EM190303111506.005	5	VCVCVVCV	ɔvǎ!l!hómóó!rǎ	the one who will massage them
EM200920111752.140	5	VCVCVVCV	ɔkó!l!vó!ó!kǎ!zǎ	the one who will wake us
EM200104172427.069	5	VCVCVVCV	ɔvǎ!rǎ!agǎ!l!rǎ	the one who will eat it
EM200802231920.247	5	VCVCVVCVVCV	ɔkǎ!tǎ!á!ngǎ!á!zǎ	the one who will announce it
EM200802231920.198	5	VCVCVVCVVCV	ɔkǎ!l!zǎ!zǎ!á!l!mǎ	the one who will taste it
EM200802231920.229	5	VCVCVVCVVCV	ɔzǎ!l!sǎ!rǎ!ú!l!rǎ	the one who will chop (weeds) them
EM200802231920.210	5	VCVCVVCVVCV	ɔchǎ!ó!l!gǎ!hǎ!zǎ	the one who will sharpen it
EM200802231920.209	5	VCVCVVCVVCV	ɔó!l!nǎ!mbǎ!gǎ!llá	the one who will stretch me
EM200104163053.224	5	VCVCVVCVVCV	ɔó!l!nǎ!mbǎ!gǎ!llá	the one who will stretch to me
EM200104163053.157	5	VCVCVVCVVCV	ɔó!l!sǎ!nǎ!kǎ!l!zǎ	the one who will annoy me
EM200802231920.211	5	VCVCVVCVVCV	ɔó!l!nǎ!mbǎ!á!yǎ!zǎ	the one who will make me swing
EM200104163053.122	6	VCVCVVCVVCV	akó!l!gǎ!rǎ!ngǎ!á!nyǎ	the one who will turn us around
EM200920111752.147	6	VCVCVVCVVCV	ɔkó!l!gǎ!rǎ!ngǎ!á!nyǎ	the one who will turn you around
EM200802231920.202	6	VCVCVVCVVCV	ɔvǎ!l!vó!dǎ!ngǎ!á!nǎ	the one who will go around them
EM200802231920.234	6	VCVCVVCVVCV	ɔkǎ!l!sǎ!ó!ndǎ!rǎ!nyǎ	the one who will pour it for
EM200804000928.240	6	VCVCVVCVVCV	ɔkó!l!tǎ!ó!ngǎ!mǎ!l!nǎ	the one who will invert us
EM200104163053.187	6	VCVCVVCVVCV	ɔkó!l!zǎ!á!zǎ!ám!l!rǎ	the one who will taste for us

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When there is an OP, the predicted pattern is similar to that found in all M2 forms having OP. However, because the SP in this form is underlyingly H and shifts to the right, there is always H on the OP, unless the SP is -N- or -I-: downstep separates that H from the stem Hs.

L verbs

wǎ!shǎ	‘the one who will grind himself’
okǎ!shǎ	‘the one who will grind it’
óó!sékǎ	‘he who will laugh at me’
okǎ!gǎ!rǎ	‘the one who will buy it’
wǎ!mǎ!gǎ	‘the one who will strangle herself’
oké!nǎ!gǎ	‘the one who will pick it’

okí!rímá	‘the one who will plow it’
oké!sóná	‘the one who will point at it’
okó!ró!rá	‘the one that will see us’
okó!rá!gá	‘the one who will promise us’
úú!ndó!yá	‘the one who will hit me’
okó!jí!bá	‘the one that will answer us’
oké!róóndá	‘the one who will follow it’
okí!bíímá	‘the one who will measure it’
okí!chóórá	‘the one who will draw it’
okí!díírá	‘the one who will hold it’
okó!ráángá	‘the one who will call us’
okó!yáára	‘the one who will sue you’
úú!náá!nzá	‘the one who will love me’
uvá!sííngá	‘the one who will bathe them’
okó!chóó!rá	‘the one that will draw us’
úú!níí!ndá	‘the one who will watch me’
úúndakúú!rá	‘the one who will release me’
úú!síníkí!zá	‘the one who will annoy me’
úú!síníkíz!á	‘the one who will annoy me’
wéé!véézégé!llá	‘the one who will belch on himself’

uchúú!ngá	‘the one who will join it’
ové!é!ná	‘the one who will want them’
uchéé!ná	‘he who will want it’
óó!nzé!yá	‘the one who will sweep me’
okwíí!ví!llá	‘the one who will forget us’
ogwáá!mbó!ká	‘the one who will cross it’
úú!nímbí!zá	‘the one who will make me sing’
uchíí!rúú!rá	‘the one who will winnow it’
úú!námbágí!llá	‘the one who will stretch me’

L verbs don’t have downstep after first syllable, comment

H	
okí!ryá	‘the one who will eat it’
okí!tyá	‘he who will fear it’
ugánwa	‘the one who will drink it’
okítya	‘the one who will fear it’
oké!tégá	‘he who will trap it’
oké!dójá	‘the one who will make it into pieces’
okí!rásá	‘the one who will throw it’
oké!tégá	‘the one who will trap it’

okó!végá
 óó!mbé!gá
 okó!ró!má
 oké!té!má
 okí!ná!vá
 oké!réétá
 okó!nywééká
 okí!kúúngá
 okí!náájá
 okí!rííngá
 oké!nóórá
 ovákoona°
 uzí!dóórá
 oví!táágá
 oró!kííngá
 ová!dúúká
 okó!héénzá
 okí!síínzá
 óó!ngóó!ná
 okó!gúú!tá
 okó!kúú!ngá
 okó!réé!tá
 wí!kárá!gá
 okí!kárá!ngá
 úú!ngóómbéé!rá
 akó!gíróng'á!nyá
 okó!záázáámí!rá
 okí!táángáá!zá
 ovóraagí!rá

'the one that will shave us'
 'the one who will shave me'
 'the one that will bite us'
 'the one who will chop it'
 'the one who will sew it'
 'he who will bring it'
 'the one who will beat us'
 'the one who will chase it'
 'the one who will eat it'
 'the one who will fold it'
 'the one who will get it'
 'the one who will help them'
 'the one who will pick them up'
 'the one who will plant them'
 'the one who will protect it'
 'the one who will reach them'
 'the one who will seek us'
 'the one who will slaughter it'
 'the one who will help me'
 'the one that will defeat us'
 'the one who will chase you'
 'the one who will bring us'
 'the one who will judge herself'
 'the one who will fry it'
 'the one who will hug me'
 'the one who will turn us around'
 'the one who will taste for us'
 'the one who will announce it'
 'the one who will eat it'

ocháá!há
 uví!tá
 okwííta
 ocháá!górá
 úú!námábááyí!zá
 oví!gí!zá
 ochóó!gíhí!zá

'the one who will pluck it'
 'the one who will kill them'
 'the one who will kill you'
 'the one who will pluck it'
 'the one who will make me swing'
 'the one who will teach them'
 'the one who will sharpen it'

EM200804000928.249	otákitáá!ngáá!zá	the one who will not announce it
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EM200104163053.227	otáá!síníkí!zá	the one who will not annoy me
EM200418190757.002	otákunywééka	the one who will not beat us
EM200104172427.008	otéé!véézégéllá	the one who will not belch on himself
EM200802231920.221	otáá!ngáásí!zá	the one who will not bless me
EM200802231920.224	otámoróónda	the one who will not bring him
EM200104163053.192	otá!nágí!llá	the one who will not catch
EM200104163053.257	otá!nágí!rá	the one who will not catch
EM200804000928.242	otázisí!rúú!rá	the one who will not chop (weeds) them
EM200104172427.047	otáketé!má	the one who will not chop it
EM200802231920.216	otá!vívárí!zá	the one who will not count them
EM200104172427.106	otá!gwáá!mbó!ká	the one who will not cross it
EM200802231920.191	otáá!ngóllá	the one who will not do for me
EM200104172427.051	otá!gánwá	the one who will not drink it
EM200804000928.244	otágushíra	the one who will not drive it
EM200104163053.169	otávoráá!gí!rá	the one who will not eat it
EM200104172427.011	otá!kíryá	the one who will not eat it
EM200418190757.006	otákɪnǎáɲa	the one who will not eat it
EM200804000928.254	otá!vírí!ngá	the one who will not fold them
EM200104163053.228	otá!kwíí!ví!llá	the one who will not forget us
EM200104172427.109	otákikaráá!ngá	the one who will not fry it
EM200802231920.204	otákiká!ráángá	the one who will not fry it
EM200418190757.001	otákepóóra	the one who will not get it
EM200804000928.257	otá!kóhá	the one who will not give to us

EM200804000928.245	otávavó!dóng'á!ná	the one who will not go around them
EM200104172427.062	otíí!shá	the one who will not grind himself
EM200104172427.035	otáá!ngóó!ná	the one who will not help me
EM200104163053.139	otáá!ndó!yá	the one who will not hit me
EM200104163053.124	otáá!ngúúmbéé!rá	the one who will not hug me
EM200802231920.239	otákosé!má	the one who will not insult you
EM200920111752.137	otákotóó!ngámíjána	the one who will not invert us
EM200104172427.013	otííkará!gá	the one who will not judge herself
EM200802231920.218	otá!kwíí!tá	the one who will not kill you
EM200802231920.212	otáá!nímbí!zá	the one who will not make me sing
EM200920111752.149	otáá!námbááyízána	the one who will not make me swing
EM200802231920.244	otáchaahá	the one who will not pick it
EM200418190757.003	otákedóóra	the one who will not pick it us
EM200920111752.143	otávitáága	the one who will not plant them
EM200920111752.133	otá!kíkí!ná	the one who will not play it
EM200802231920.231	otá!kírí!má	the one who will not plow it
EM200104163053.196	otá!cháágó!rá	the one who will not pluck it
EM200104172427.091	otáchaahá	the one who will not pluck it
EM200804000928.258	otáá!nzágó!rá	the one who will not pluck me
EM200802231920.237	otá!kísúúndórá!nyána	the one who will not pour it for
EM200802231920.217	otá!kórá!gá	the one who will not promise us
EM200104172427.003	atávakíínga	the one who will not protect them
EM200104172427.087	otá!vádóóka	the one who will not reach them

EM200104172427.040	otáá!ndákóó!rá	the one who will not release me
EM200802231920.195	otá!gívíimba	the one who will not roof it
EM200804000928.241	otá!váró!rá	the one who will not see them
EM200418183726.358	otá!kóhéenza	the one who will not seek us
EM200802231920.222	otá!kíná!vá	the one who will not sew it
EM200920111752.142	otá!chóó!gíhí!zá	the one who will not sharpen it
EM200104172427.015	otáá!mbé!gá	the one who will not shave me
EM200804000928.250	otáá!mbégá	the one who will not shave me
EM200104163053.217	otákekorá!gá	the one who will not stir it
EM200104172427.082	otíí!mí!gá	the one who will not strangle herself
EM200802231920.249	otáá!námbugí!llá	the one who will not stretch me
EM200104172427.117	otáá!námbugí!llá	the one who will not stretch to me
EM200802231920.240	otáá!nzé!yá	the one who will not sweep me
EM200104172427.088	otákozáázamira	the one who will not taste for us
EM200802231920.250	otákızáázaama	the one who will not taste it
EM200802231920.196	otá!ví!gí!zá	the one who will not teach them
EM200104163053.260	otákogí!róngr'á!nyá	the one who will not turn us around
EM200804000928.238	otákogí!róngr'á!nyá	the one who will not turn you around
EM200802231920.254	otákevó!hóó!llá	the one who will not untie it
EM200802231920.205	otákovóó!kízá	the one who will not wake us
EM200418183726.357	oté!é!ná	the one who will not want us
EM200104172427.100	otáá!nii!ndá	the one who will not watch me
EM200104172427.032	otáchiirúú!rá	the one who will not winnow it

quick review of below then delete if superfluous

Negative relatives generally follow the regular M2 pattern: CV roots have H in L verbs and L in H verbs.

guug-áftá!gwá
rwá kotasha°
avátarya
vwahá atarya

'the grandfather who will not fall'
'when we will not grind'
'the ones who will not eat'
'who won't eat'

mbwá ya ndatya
vasóóréeri vatanwa
íny-atata
rwá kotaha

'the dog which I will not fear'
'the boys who will not drink'
'the mother who will not bury'
'when we will not give'

CVCV stems are all-L for H verbs and HH or H!H for L verbs.

L

omwáána wítarórá
omóónd-atá!rímá
rwá!tágoná
omogóye gwa kotang'ósá
ikííndo cha Maróv-á!tágyá
avááguugá vatagora°
avááguugá !vátáyó!gá
avátadó!yá
ikííndo cha kotará!gá
ikítábo ch-otasé!má
izingóvo zya vataná!vá
rw-ó!tári!rá
omotéénd-atáró!gá

'the child which it won't see'
'the person who will not plow'
'when he will not sleep'
'the rope which we will not pull'
'the thing which Marova will not prohibit'
'the grandfathers who will not buy'
'the grandfathers who will not talk'
'the ones who will not hit'
'the thing which we will not promise'
'book that you will not insult'
'the clothes that they will not sew'
'when you will not cry'
'the neighbor who will not bewitch'

H

aváánaandí vatavina
aváándo vatatega
aváándo vatavoha
avááyaará vatakuza
ekedéte ch-otaroma
izisééndí zya guug-átavisa
rwá kotashira
rwá ndakina
rwá ndarasa
rw-átaróka
omwóoyo g-otaholla

'the Nandis who will not dance'
'the people who will not trap'
'the people who will not tie'
'the cousins who will not die'
'the finger that you will not bite'
'the money which grandfather will not hide'
'when we will not drive'
'when I will not play'
'when I will not throw'
'when he will not vomit'
'voice that you will not hear'

CVVCV

L

avátayéénga
aviisokoro v-otaróonda
aviivóri vatapóóra
rwá !kótámiíza
rwá kotaráánga
rwá kotariínda
omó!dógá gwa kotarúumba
omwáána wa ndachóóra

'the ones who will not brew'
'grandchildren that you will not follow'
'the parents who will not get'
'when we will not cast seeds'
'when we will not call'
'when we will not guard'
'the car which we will not push'
'the child who I will not draw'

H

rwá kotapaaaná
rwá kotaveehá
avagáambi vatavoóká
avarimi vatataagá
avátakringa°
avátakooaná
avímílli vatariingá
mbáno j-otareetá
rwá kotadeeká

'when we will not eat'
'when when we will not lie'
'the pastors who will not wake'
'the farmers who will not plant'
'the ones who will not protect'
'the ones who will not help'
'the leaders who will not fold'
'knives that you will not bring'
'when we won't cook'

The pattern with VCV stems is that predominately, the stem has a single final H which may spread to the left

L

avakóóngo vateepá
ipóómba y-oteeya°
rwá kotumbá
avarimi vatoongá
rwá !ndóóhá
rwá !ndáárá

'the bosses who will not want'
'the house that you won't sweep'
'when we will not sing'
'the farmers who will not join'
'when I will not scatter'
'when I will not spread'

H

enzó!ká y-ótiítá
omodiriji ateevá
rwá !ndiivá
rwá kotaayá

'snake that you will not kill'
'the Tiriki who will not put up a fence'
'when I will not steal'
'when we will not graze'

r-ó!tááhá 'when you will not pick'

There are some tokens with a downstep before the final vowel, which need to be separated into two subgroups.

séng-atí!mbá 'the aunt who will not sing'
omóónd-atáá!tá 'the person who will not do surgery'

avá!tí!vá 'the ones who will not steal'
rwá !kótóó!ná 'when we will not sin'
rwá !kótóó!ngá 'when we will not join'

{just figure this out: s.t. about right-shift}

In longer L verbs, the pattern is M2, that is H on the second stem vowel, plus leftward spreading.

aváána vatabóróka 'the children who will not fly'
omogizi gwa kotagórizá 'the homestead that we will not sell'
izing'óombe zya kotarakóóra 'the cows which we will not release'
rwá kotagoyáána 'when we will not be disoriented'
omok-ótaráándiza 'the brother in law who will not announce'
avarimi va vatáyíinzilla 'the farmers who they will not work for'
rwá vatatáándora 'when they will not shred'
rwá vatasécembera 'when they will not weed'
rwá kotazíirilla 'when we will not continue'
ovoró vwa ndarékániza 'the millet which I will not divide equally'
navizara wa kotamórómera 'the daughter-in-law who we will not speak for'
rwá vatayavógolla 'when they will not unbury'
rwá kotagavóronya 'when we will not dole out'
avátahóóndoola 'the ones who will not stare'

With H verbs, there is a final H which spread leftward, but that final H may be downstepped.

ibárási ya kotasugúmá 'the horse which we will not push'
rwá kotasigámá 'when we will not kneel'
vwahá !átavógórá 'who won't receive'
rwá ndagiróng'ányá 'when I will not turn around'
omó!dógá gwa vatavodóng'ána 'the car which they will not go around'
omóóndo wa kotasooondórányá 'the person who we will not pour for'
vwahá !aátátóóngámínyá 'who won't invert'

risáándogo rya ndahmó!rá 'the crate which I will not lift up'
iddiji rya ndabomó!rá 'the wall which I will not destroy'
avarógori vatacheré!vá 'the Logoori who will not be late'
rw-á!tá!kádó!ká 'when he will not snap'
omóóndo wa kotakará!gá 'person that we will not judge'
izing'óombe zya vatavohóó!llá 'the cows which they will not untie'
jnama ya ndakaráá!ngá 'the meat which I will not fry'
omorimi w-omóónd-átá!chééri!zá 'the farmer who the person will not greet'

Longer V-initial L verbs have H on the second stem vowel.

avarimi vatizórizá 'the farmers who will not remember'
omgikoy-átaayóra 'the Kikuyu who will not shout'
avóófisá vatiivilla 'the officers who will not forget'
r-ótaambóka 'when you will not ford'
rw-ótiigóra 'when you will not open'
rw-átaangóha 'when he will not speed up'
rwá kotiivilla 'when we will not forget'
rw-otumilla 'when you will not lead'
rw-átaambááya 'when he will not swing'

H verbs have a final H, which may be downstepped.

omwáán-atóó!nóonyá 'the child who will not mess up'
aváána va vatigizá 'the children who they will not teach'
aváabaabá vataatányá 'the fathers who will not bust up'
richúungwa rya kotaagóra 'the orange which we will not pluck'
rwá ndaatányá 'when I will not bust up'

omwóómbachí atóó!mbá!ká 'the builder who will not build'
omorin-atí!gí!zá 'the friend who will not teach'
omóónd-atáá!yó!rá 'the person who will not shout'
avátizóri!zá 'the ones who will not fill'
omwáán-atoonóó!nyá 'the child who will not mess up'
omorin-átíngi!rá 'the friend who will not enter'
omwécembe gwa vataagó!rá 'the mango which they will not pluck'

When an OP is present, the tone pattern changes to that typical of M2 pattern verbs having an OP

<these too uncertain at the moment>

L

avíimilli vatavushá 'the leader who will not grind it'
guug-átá!vó!shá 'the grandfather who will not grind it'

H

rwá kotamá 'when we will not bury him'
omkáráji atakohá 'the judge who will not give to us'
hai h-otaganwá 'where will not you drink it'
avíisokoro vatakotya° 'the grandchildren who will not fear you'
avá!tíryá 'the ones who will not eat themselves'

L verbs wobble between H!H and HH

L

rwá ndavayógá	'when I will not talk to them '
amwaaav-atakó!rágá	'the sibling who will not promise us'
omšyaar-átavarora"	'the cousin who will not see them '
omotéénd-átavarógá	'the neighbor who will not bewitch them'
rwá ndakígó!rá	'when I will not buy it '
aváá!náándí !vátákóng'ó!sá	'the Nandi who will not pull us '
omodiriji atakosé!má	'the Tiriki who will not insult you '
omoroji atakiri!má	'the witch who will not plow it '
avá!táándó!rá	'the ones who will not see me'
omóónd-atagori!má	'the person who will not plow it'
avii!gizi vatakigó!rá	'the teachers who will not buy it'

H verbs have HL

H

rwá vataktóma	'when they will not send it '
rwá kotavaróma	'when we will not bite them '
rwá kotakivisa	'when we will not hide it '
rwá kotavatóra	'when we will not leave them '
rwá kotakirása	'when we will not throw it '
omkáán-atakikína	'the girl who will not play it'
aváásyaará vatakohólla	'the cousins who will not hear you '
rw-átaambéga	'when he will not shave me '
rw-ótaanzita	'when you will not kill me '
rw-ótaambéga	'when you will not shave me '
r-ótaandéga	'when you will not trap me '
izisiimba zitakotéga	'the lions who will not trap us'
aváándo vateevóha	'the people who will not tie themselves'
<anomalies>	
omóónd-atéé!vohá	'the person who will not tie himself'
avagéni vatavaró!má	'the guests who will not bite them'
ofisá atakíná!vá	'the officer who will not sew it'

CVVCV L stems (always?) have HL

L

omogát-atamoróonda	'the lazy person who will not bring him '
avóófisá vatakorúumba	'the officers who will not push us '
vagáámbi vatazimíiza	'the pastors who will not cast them '
vakóónzakari vatakochoóra	'the widows who will not draw you '
rw-ótakeng'óóda	'when you will not write it '
rwá ndavarímda	'when I will not guard them '
rwá ndavayáára	'when I will not sue them '

Same? Opt final !?

H

ombógós-átavariinga	'the Bukusu who will not fold them '
omodót-atavítáága	'the infant who will not plant them '
omónaandí atagriviimba	'the Nandi who will not roof it '
rwá kotakedééka	'when we will not cook it '
rwá kotakháána	'when we will not give it '
avavóko vataangóóna	'the blind people who will not help me '
rwá kotakíná!ná	'when we will not eat it '

V-initial usu H!H, some HL

L

aváána vataanzá!llá	'he children who will not spread for me '
omosaákor-átaanzé!yá	'the old man who will not sweep me '
rw-ótaapné!ná	'when you will not want me '
avá!táápné!ná	'the ones who will not want me'
avá!tééyé!ná	'the ones who will not want themselves'
avakóóngo vatakwéé!ná	'the bosses who will not want us'
aváándo vatachééya	'the people who will not sweep it'
hai y-ótaapóngá	'where will you not join me '

H

is-étakwiita	'the father who will not kill you '
rwá kotachiiva	'when we will not steal it '
rwá ndavááta	'when I will not do surgery on them '
séenge atarwiimba	'the aunt who will not sing it'
avá!táchíiva	'the ones who will not steal it'
omóónd-atryááta	'the person who will not do surgery on herself'
omóónderév-atáá!nzitá	'the driver who will not kill me'

Longer: m2, H-style M2

L

	avátuváriza	'the ones who will not count themselves'
	avátakígóriza	'the ones who will not sell it'
	omkáráji atakorákóóra	'the judge who will not release us'
	avátakísáámbara	'the ones who will not demolish it'

	avakáana vatakháandiika	'the girls who will not write it'
	aváándo vatakogánágana	'the people who will not think of us'
	avakári vateeng' éréng' anya	'the women who will not shine themselves'
+	omwáán-atí!síníkizá	'the child who will not annoy himself'
+	omkáráji atakorá!kóórá	'the judge who will not release us'
+	omwíivi atáá!niindíllá	'the thief who will not wait me'
+	avasóóréri vataavéé!zégéllá	'the boys who will not belch on them'
+	avátaambéé!zégéllá	'the ones who will not belch on me'
+	avarími vatakwí!zórízá	'the farmers who will not remember us'
f	omóónd-atáá!mbádó!rá	'the person who will not whip me'
f	aváándo vatúrá!kóó!rá	'the people who will not release themselves'
f	avátasóó!ví!rá	'the ones who will not believe me'
f	avátakohóó!ndóó!llá	'the ones who will not stare at us'
f	avarími vatagoséé!mbé!llá	'the farmers who will not weed it'
f	omóónd-ataanza!yó!llá	'the person who will not shout for me'
f	omóónd-atavnyá!vógó!llá	'the person who will not unbury them'
f	omwíivi atí!róóngíkí!zá	'the thief who will not straighten himself'
f	avátakwáá!mbájí!llá	'the ones who will not stretch toward us'

H

avátaambi!nó!rá	'the ones who will not lift me up'
avátahnó!rá	'the ones who will not lift up'
omgéni ataambá!hóóllá	'the guest who will not untie me'
aváteevó!hóó!llá	'the ones who will not untie themselves'
omóónd-atakisóó!ndó!rá	'the person who will not pour it'
góó!k-átáá!sáámóórá	'the grandmother who will not slap me'
góóko atasáá!móórá	'the grandmother who will slap me'
aví!gizi vatataangáá!zá	'the teachers who will not announce'
avíigizi vataktáá!ngáázá	'the teachers who will not announce it'
omorín-atáá!nzígí!zá	'the friend who will not teach me'
avakáana vataambó!dóng' áná	'the girls who will not go around me'
avasááza vataavó!dóng' á!ná	'the men who will not go around them'
aváándo vataambó!dóng' áná	'the people who will not go around me'
omóónd-atakisóó!ndórá!nyá	'the person who will not pour it'
avátaandóó!ngámín!lá	'the ones who will not turn me upside down'
omwóó!mbáchi atú!mbákirá	'the builder who will not build for himself'
avátachi!zórí!zá	'the ones who will not fill it'

CV	l	guug-á!tá!vó!shá	'the grandfather who will not grind it'	CV
CV	h	avá!tírnyá	'the ones who will not eat themselves'	CV
CVCV	h	avagéni vatavaró!má	'the guests who will not bite them'	CVCV
CVCV	h	izisiimba zitakotéga	'the lions who will not trap us'	CVCV
CVCV	h	aváándo vateevó!há	'the people who will not tie themselves'	CVCV
CVCV	h	omóónd-atéé!vóhá	'the person who will not tie himself'	CVCV
CVCV	l	omotéénd-atávarogá	'the neighbor who will not bewitch them'	CVCV
CVCV	l	avá!táándó!rá	'the ones who will not see me'	CVCV
CVCV	l	omóónd-atagorí!má	'the person who will not plow it'	CVCV
CVCV	l	aví!gizi vataktígó!rá	'the teachers who will not buy it'	CVCV
CVCVCV	l	avátuváriza	'the ones who will not count themselves'	CVCVCV
CVCVCV	h	avátaambi!nó!rá	'the ones who will not lift me up'	CVCVCV
CVCVCV	h	avátahnó!rá	'the ones who will not lift up'	CVCVCV
CVCVCV	l	avátáktígóriza	'the ones who will not sell it'	CVCVCV
CVCVCV	l	omóónd-atáá!mbádó!rá	'the person who will not whip me'	CVCVCV
CVCVCVCV	l	omwáán-atí!síníkizá	'the child who will not annoy himself'	CVCVCVCV
CVCVCVCV	h	avakáana vataambó!dóng' áná	'the girls who will not go around me'	CVCVCVCV
CVCVCVCV	h	avasááza vataavó!dóng' á!ná	'the men who will not go around them'	CVCVCVCV
CVCVCVCV	h	aváándo vataambó!dóng' áná	'the people who will not go around me'	CVCVCVCV
CVCVCVCV	l	aváándo vatakogánágana	'the people who will not think of us'	CVCVCVCV
CVCVCVCV	l	omóónd-atavnyá!vógó!llá	'the person who will not unbury them'	CVCVCVCV
CVCVCVCV	l	avakári vateeng' éréng' anya	'the women who will not shine themselves'	CVCVCVCV
CVCVCV	h	omgéni ataambá!hóóllá	'the guest who will not untie me'	CVCVCV
CVCVCV	l	omkáráji atakorá!kóórá	'the judge who will not release us'	CVCVCV
CVCVCV	l	omkáráji atakorá!kóórá	'the judge who will not release us'	CVCVCV
CVCVCV	h	aváteevó!hóó!llá	'the ones who will not untie themselves'	CVCVCV
CVCVCV	l	aváándo vatúrá!kóó!rá	'the people who will not release themselves'	CVCVCV
CVCV	l	omwáán-atí!síníkizá	'the child who will not bathe himself'	CVCV
CVVCV	l	avátakosíinga	'the ones who will not bathe us'	CVVCV
CVVCV	l	avátagavéénga	'the ones who will not brew it'	CVVCV
CVVCV	h	avarími vataktáaga	'the farmers who will not plant it'	CVVCV
CVVCV	h	avátakedééka	'the ones who will not cook it'	CVVCV
CVVCV	h	aváteekeóna	'the ones who will not help themselves'	CVVCV
CVVCV	h	omóónd-atakedéé!ká	'the person who will not cook it'	CVVCV
CVVCVCV	h	omóónd-atakisóó!ndó!rá	'the person who will not pour it'	CVVCVCV
CVVCVCVCV	h	omóónd-atakisóó!ndórá!nyá	'the person who will not pour it'	CVVCVCVCV
CVVCVCV	h	góó!k-átáá!sáámóórá	'the grandmother who will not slap me'	CVVCVCV
CVVCVCV	h	góóko atasáá!móórá	'the grandmother who will slap me'	CVVCVCV
CVVCVCVCV	h	avátaandóó!ngámín!lá	'the ones who will not turn me upside down'	CVVCVCVCV
CVVCVCV	h	aví!gizi vatataangáá!zá	'the teachers who will not announce'	CVVCVCV
CVVCVCV	h	avíigizi vataktáá!ngáázá	'the teachers who will not announce it'	CVVCVCV
CVVCVCV	l	avátasóó!ví!rá	'the ones who will not believe me'	CVVCVCV

CVVCVCV	l	avátakisáám-bora	'the ones who will not demolish it'	CVVCVCV
CVVCVCV	l	avátakohó!ndóó!llá	'the ones who will not stare at us'	CVVCVCV
CVVCVCV	l	avarími vatagoséé!mbé!llá	'the farmers who will not weed it'	CVVCVCV
CVVCVCV	l	omwiivi atáá!n'indíllá	'the thief who will not wait me'	CVVCVCV
CVVCVCVCV	l	avasóóréri vatavavéé!zégéllá	'the boys who will not belch on them'	CVVCVCVCV
CVVCVCVCV	l	avátaambéé!zégéllá	'the ones who will not belch on me'	CVVCVCVCV
CVVCVCVCV	l	omwiivi atí!fróongíkí!zá	'the thief who will not straighten himself'	CVVCVCVCV
CVVCVCVCV	l	avakáana vatakiháandiika	'the girls who will not write it'	CVVCVCVCV
VCV	h	sééngé atarwíimba	'the aunt who will not sing it'	VCV
VCV	h	omóónderév-atáá!nzítá	'the driver who will not kill me'	VCV
VCV	h	avá!táchiiva	'the ones who will not steal it'	VCV
VCV	h	omóónd-atuyáata	'the person who will not do surgery on herself'	VCV
VCV	l	avakóóngo vatakwéé!j'ná	'the bosses who will not want us'	VCV
VCV	l	avá!táápé!j'ná	'the ones who will not want me'	VCV
VCV	l	avá!tééyé!j'ná	'the ones who will not want themselves'	VCV
VCV	l	aváándo vatachééya	'the people who will not sweep it'	VCV
VCVCV	h	omorín-atáá!nzígí!zá	'the friend who will not teach us'	VCVCV
VCVCVCV	h	omwóó!mbáchi ató!mbákírá	'the builder who will not build for himself'	VCVCVCV
VCVCVCV	h	avátachií!zóri!zá	'the ones who will not fill it'	VCVCVCV
VCVCV	l	omóónd-ataanza!yó!llá	'the person who will not shout for me'	VCVCV
VCVCVCV	l	avarími vatakwí!zórízá	'the farmers who will not remember us'	VCVCVCV
VCVCVCV	l	avátakwáá!mbági!llá	'the ones who will not stretch toward us'	VCVCVCV

2	VCVCVCVCV		aváá!mwáávo vatarwíimba	the siblings who will not sing it
2	VCVCVCVCV	l	aváakoozá vataanánga	the uncles who will not call me
3	VCVCVCVCVCV		aváámwaavo vataroráá!gira	the siblings who will not eat it
3	VCVCVCVCVCV		aváándo vataanza!gáányá	the people who will not meet me
4	VCVCVCVCVCVCV		aváándo vatachóó!mbákí!rá	the people who will not build it for me
2	VCVCVCVCV	h	avááyaará vatakohólla	the cousins who will not hear you
3	VCVCVCVCVCV		avakárají vatakihí!nórá	the judge who will not lift it up
3	VCVCVCVCVCV		aváko vataá!nyími!llá	the brothers in law who will not lead me
3	VCVCVCVCVCV		avanákivara vatakotí!lvorá	the non-Logooris who will not answer us
2	CVVCV	h	avarími vataktáága	'the farmers who will not plant it'
2	VCVCVCVCV	l	avarína vataangá!lyá	the friends who will not prohibit me
3	VCVCVCVCVCV		avasáájéni vatamchéé!r'i!zá	the sergeants who will not greet him
2	VCVCVCVCV		avásóórésé!ri vataanzóha	the boys who will not scatter me
2	CVVCV	l	avátagyééngá	'the ones who will not brew it'
2	CVVCV	h	avátakedééka	'the ones who will not cook it'
2	CVVCV	l	avátakosiíngá	'the ones who will not bathe us'
2	CVVCV	h	aváteekóópá	'the ones who will not help themselves'
4	VCVCVCVCVCVCV		avífigizi vataapá!mbákáná	the teacher who will not refuse me
3	VCVCVCVCVCV		avíimíllí vataapí!nzí!llá	the leaders who will not work for me
3	VCVCVCVCVCV		avíisokoro vataapá!ngóhá	the grandchildren who will not speed me up
2	VCVCVCVCV		avíivórí !vátámsé!ká	the parents who will not laugh at him
3	VCVCVCVCVCV		chiíf-atáá!ngáásí!zá	the chief who will not bless me
4	VCVCVCVCVCVCV		ikidáági cha koozá atakoká!rágírá	the case which uncle will not judge for us
3	VCVCVCVCVCV		ikigúúti cha kotavaséémbella	the field that we will not weed for them
4	VCVCVCVCVCV		msáájéni ataanpá!mbági!llá	the sergeant who will not stretch me
3	VCVCVCVCVCV		mokárají atagoháá!mbí!zá	the judge who will not start it (a fire)
3	VCVCVCVCVCV		navizar-ataanza!g'ó!rá	the daughter-in-law who will not pluck me
4	VCVCVCVCVCVCV		navizar-atakogí!r'óng'ányá	the daughter-in-law who will not turn you around
4	VCVCVCVCVCVCV		navizar-atávavó!d'óng'áná	the daughter-in-law who will not go around them
2	VCVCVCVCV	h	ofisá atakiná!vá	the officer who will not sew it
3	VCVCVCVCVCVCV		r-ótaangóó!ngóó!má	when you will not roll me
3	VCVCVCVCVCV		r-ótachí!ngírá	when you will not enter it
3	VCVCVCVCVCV		rwá kotachóó!nóó!nyá	when we will not mess it up
3	VCVCVCVCVCV		rwá kotakébó!mó!rá	when we will not destroy it
3	VCVCVCVCVCV		rwá kotakí!kád'ó!rá	when we will not snap it
3	VCVCVCVCVCVCV		rwá kotakíráándiza	when we will not announce it
4	VCVCVCVCVCVCV		rwá kotamróongíkiza	when we will not straighten him
3	VCVCVCVCVCVCV		rwá kotavahóó!móórá	when we will not massage them
4	VCVCVCVCVCVCV		rwá kotavaváyógolla	when we will not unbury them
2	VCVCVCVCV		rwá ndakeréeta	when I will not bring it
4	VCVCVCVCVCVCV		rwá ndakisáá!mbórógányá	when I will not dismantle it
3	VCVCVCVCVCVCV		rwá ndavakóómbéela	when I will not hug them
2	VCVCVCVCV		rwá ndavakwéésa	when I will not pull them
3	VCVCVCVCVCVCV		rwá vatagoháá!mbízá	when they will not start (fire) it
3	VCVCVCVCVCV		rwá vatagígoriza	when they will not sell it
3	VCVCVCVCVCVCV		rwá vatamorí!ndí!llá	when they will not wait on him
4	VCVCVCVCVCVCV		rwáá ndavavéé!zégéllá	when I will not belch on them
4	VCVCVCVCVCVCV		rw-átachóó!gíhízá	when he will not sharpen it
3	VCVCVCVCVCVCV		rw-átakízá!záámá	when he will not taste it
3	VCVCVCVCVCV		rw-átaví!gí!zá	when he will not teach them
3	VCVCVCVCVCVCV		rw-ótáándákóóra	when you will not release me
4	VCVCVCVCVCVCV		rw-ótaapá!nigí!llá	when you will not go ahead of me
3	VCVCVCVCVCV		rw-ótaanza!yó!rá	when you will not shout at me
3	VCVCVCVCVCV		rw-ótaanzi!gízá	when you will not teach me
3	VCVCVCVCVCV		rw-ótaanzi!ví!llá	when you will not forget me
3	VCVCVCVCVCV		rw-ótaanzi!ví!rá	when you will not steal for me
3	VCVCVCVCVCVCV		rw-ótakeséé!mbé!llá	when you will not weed it
3	VCVCVCVCVCVCV		rw-ótaktáándórá	when you will not shred it

4	VCVVCVVCVVCV V		sééng-atakotúú!ngámi!ná	the aunt who will not invert us
3	VCVVCVVCVVCV		ombóko atazisi!rúú!rá	the blind person who will not chop (weeds) them
3	VCVVCVVCVVCV		omkóó!nzakári atakovóókiza	the widow who will not wake us
4	VCVVCVVCVVCV		omsáá!kór-átaapná!mbááy!zá	the old man who will not make me swing
3	VCVVCVVCVVCV		omodák-ataavárizza	the pauper who will not count them
3	VCVVCVVCVVCV		omodiriji ataká!ráá!ngá	the Tiriki who will not fry it
2	VCVVCVVCV	l	omóramw-átaangólla	the in-law who will not do for me
3	VCVVCVVCVVCV		omorém-ataanzó!nóó!nyá	the cripple who will not mess me up
2	VCVVCVVCV	h	omorém-atagóshira	the cripple who will not drive it
3	VCVVCVVCVVCV		omorimi w-omwifigizi atakivágálla	the farmer who the teacher will not hang it for
2	CVVCV	h	omóónd-atakedééká	'the person who will not cook it'
3	VCVVCVVCVVCV		omóónd-ataktáá!ngáá!zá	the person who will not announce it
2	VCVVCVVCV		omwáán-atachááha	the child who will not pick it
2	CVVCV	l	omwáán-atiisí!ngá	'the child who will not bathe himself'
3	VCVVCVVCVVCV		orogága r-otáá!nzévé!rá	the fence that you will not put up for me
3	VCVVCVVCVVCV		orogága rwa kotáá!nzévé!rá	the fence that we will not put up for me
3	VCVVCVVCVVCV		orwímbo rw-otaap!mbízá	the song that you will not make me sing
4	VCVVCVVCVVCV		vasáá!kórú vatak!gá!vórá!nyá	the old men who will not dole it out
2	VCVVCVVCV		vasáájeni vataanzáta	the sergeant who will not do surgery on me

Hsrel neg

hsr	h	EM200104172427.050	otánwa	the one who will not drink	CV
hsr	h	ML180128115526.185	mweene á!tánywá	the one who won't drink	CV
hsr	l	EM200104163053.114	otárya	the one who will not eat	CV
hsr	l	EM200104172427.031	otá!shá	the one who will not grind	CV
hsr	h	EM200104163053.256	otátéma	the one who will not chop	CVCV
hsr	h	ML180128123241.007	mweena átarima mba ^o	the one who will not plow	CVCV
hsr	h	ML180128123241.003	mweene átaholla mba ^o	the one who won't hear	CVCV
hsr	l	EM200104172427.093	otávega	the one who will not shave	CVCV
hsr	l	EM200104163053.200	otá!m!lgá	the one who will not strangle	CVCV
hsr	l	ML180128115526.187	mweene á!tágórá	the one who won't buy	CVCV
hsr	l	ML180128115526.188	mweene á!tágórá mbá	the one who won't buy	CVCV
hsr	l	ML180128115526.189	mweene átagora dáave	the one who won't buy	CVCV
hsr	h	EM200104163053.143	otá!kára!gá	the one who will not judge	CVCVCV
hsr	h	EM200104163053.245	otákoró!gá	the one who will not stir	CVCVCV
hsr	h	EM200104172427.038	otá!giróng'ányá	the one who will not turn	CVCVCV
hsr	h	EM200104163053.130	otákaráá!ngá	the one who will not fry	CVCVCV
hsr	l	EM200104163053.144	otá!góriza	the one who will not sell	CVCVCV
hsr	l	EM200104172427.077	otá!sínkiza	the one who will not annoy	CVCVCV
hsr	h	EM200418183726.356	otá!dééká	the one who will not cook	CVCV
hsr	h	EM200418183726.360	otá!róótá	the one who will not dream	CVCV
hsr	h	EM200104172427.063	otá!dóóká	the one who will not reach	CVCV
hsr	h	ML180128115526.182	mweene á!tadeeká	the one who won't cook	CVCV
hsr	l	EM200104163053.259	otárákóú!rá	the one who will not release	CVCVCV
hsr	l	EM200418183726.354	otá!chóórá	the one who will not grow	CVCV
hsr	l	EM200418183726.355	otá!kúuta	the one who will not scrape	CVCV
hsr	l	EM200418183726.359	otá!géenda	the one who will not walk	CVCV
hsr	l	EM200104163053.235	otá!r!í!ndá	the one who will not watch	CVCV
hsr	h	EM200104172427.078	otá!ráág!rá	the one who will not eat	CVCVCV
hsr	h	EM200104172427.107	otá!kóombéé!rá	the one who will not hug	CVCVCV
hsr	l	ML180128123241.001	mweene á!tasiingra	the one who won't stop	CVCVCV
hsr	l	ML180128123241.002	mweene á!tasiingra mba ^o	the one who won't stop	CVCVCV
hsr	l	EM200104163053.193	otá!véézegeza	the one who will not belch	CVCVCV
hsr	l	EM200104163053.246	otázaazáá!má	the one who will not taste	CVCVCV
hsr	h	EM200418190757.005	otá!á!tá	the one who will not do surgery	VCV
hsr	h	EM200104163053.188	otáá!há	the one who will not pluck	VCV
hsr	l	EM200418190757.004	oté!é!yá	the one who will not sweep	VCV
hsr	l	EM180826103255.065	otáaza	the one who won't come	VCV
hsr	h	EM200104163053.214	otáá!mbó!ká	the one who will not cross	CVCV
hsr	l	EM200104172427.059	otii!vi!llá	the one who will not forget	VCVCV
hsr	h	EM200104163053.258	otáá!gó!rá	the one who will not pluck	VCVCV
hsr	l	EM200104172427.061	otii!rúú!rá	the one who will not winnow	VCVCV
h			otá!nági!llá	the one who will not catch	CVCVCV
h			otá!nági!rá	the one who will not catch	CVCVCV

and the OP

h	otá!gánwá	the one who will not drink it	CV
h	otá!kiryá	the one who will not eat it	CV
l	otii!shá	the one who will not grind himself	CV
h	otáketé!má	the one who will not chop it	CVCV
l	otáá!ndó!yá	the one who will not hit me	CVCV
h	otáá!mbé!gá	the one who will not shave me	CVCV
h	otá!kekorá!gá	the one who will not stir it	CVCV
l	otii!m!lgá	the one who will not strangle herself	CVCV
h	otii!kará!gá	the one who will not judge herself	CVCVCV
l	otáá!sínki!zá	the one who will not annoy me	CVCVCVCV

h	otákog!róng'á!nyá	the one who will not turn us around	CVCVCVCV
h	otákkaráá!ngá	the one who will not fry it	CVCVVCV
l	otáá!ndákóó!rá	the one who will not release me	CVCVVCV
h	otákonywéeka	the one who will not beat us	CVVCV
h	otákpáápa	the one who will not eat it	CVVCV
h	otákepoóra	the one who will not get it	CVVCV
h	otáá!ngóó!ná	the one who will not help me	CVVCV
h	otákedoóra	the one who will not pick it up	CVVCV
l	atávakínga	the one who will not protect them	CVVCV
h	otá!vadóóka	the one who will not reach them	CVVCV
l	otá!kóhéénza	the one who will not seek us	CVVCV
l	otáá!ní!ndá	the one who will not watch me	CVVCV
h	otávoráá!gí!rá	the one who will not eat it	CVVCVCV
l	otéé!véézégéllá	the one who will not belch on himself	CVVCVCVCV
l	otákozáazamira	the one who will not taste for us	CVVCVCVCV
h	otáá!ngúúmbéé!rá	the one who will not hug me	CVVCVVCV
h	otáchaahá	the one who will not pluck it	VCV
l	oté!é!ná	the one who will not want us	VCV
l	otá!gwáá!mbó!ká	the one who will not cross it	VCVCV
l	otá!kwí!ví!llá	the one who will not forget us	VCVCV
h	otá!cháagó!rá	the one who will not pluck it	VCVCV
l	otáá!pámbággí!llá	the one who will not stretch to me	VCVCVCV
l	otáchiirúú!rá	the one who will not winnow it	VCVCVCV

3.7. Progressive

The progressive is another tense with the M2 pattern. Since it has the final suffix *-aa*, deletion of H in CV(CV) H stems is inapplicable, and because the SP stands immediately before the stem, there is a more-varied array of surface tone realizations owing to vowel-vowel fusion effects, compared to the indefinite future. Also because of the final affix *-aa* which conditions addition of *-IIZ-* after a monosyllabic root, there are no surface monosyllabic stems in this tense.

3.7.1. NO OP

As expected, in L verbs the H appears on the second stem vowel, and generally spreads left to the root initial vowel.

L verbs

vagwíizaa	‘they are falling’
vazíizaa	‘they are going’
agonáa	‘he is sleeping’
nzéeraa	‘I am allergic’
nzóoyaa	‘I am scooping’
otéévaa	‘you are requesting’
jííngaa	‘I am being foolish’
amínáгаа	‘he is stirring’
aguríizaa	‘he is selling’
omórómaa	‘you are speaking’
móvalíizaa	‘you plural are counting’
varákóóraa	‘they are releasing’
jííngokaa	‘I am melting’
koháángaaraa	‘we are arguing’
koséemberaa	‘we are weeding’
kong'éréng'anaa	‘we are being shiny’
kovéénzegeraa	‘we are belching’

Vowel-initial L stems do not undergo leftward spreading of that H, when preceded by a CV subject prefix.

kweepáa	‘we are wanting’
mweeyáa	‘you pl. are sweeping’
vaambókaa	‘they are crossing’
yimílaa	‘he is leading’
wiirúúraa	‘you are winnowing’
waanígíraa	‘you are going up’

After the 1s SP /N/ (which does not cause lengthening of the root vowel), spreading does extend to the first root syllable, though on occasion there is no spreading.

népáa	‘I am wanting’
nzéyáa	‘I am sweeping’
nzámbókaa	‘I am crossing’
nzimíllaa ~ nzímíllaa	‘I am leading’

With H verbs, the H appears on the final syllable, regardless of stem length, and spreads left to the second stem syllable.

H verbs

atɪɪzáa	‘he is fearing’
okweezáa	‘you are paying dowry’
gucheezáa	‘it is rising’
mbɔlláa	‘I hear’
mbegáa	‘I am shaving’
vakamáa	‘they are ending’
adeekáa	‘he is cooking’
akoonywáa	‘he is being helped’
sanóráa	‘I am combing’
mɔkaráángáa	‘you are frying’
kɔfɔngóráa	‘we are opening’
ashaagáráa	‘he is sharpening’
usaamóóráa	‘you are slapping’
otóungámíjáa	‘you are turning upside down’

These limits on leftward spreading hold for vowel-initial roots: the first syllable is not targeted when the SP has the shape CV or N.

yimbáa	‘he is singing’
kwiitáa	‘we are killing’
vɔumbákáa	‘they are building’
mwiingíráa	‘you pl. are entering’
woonóónyáa	‘you are messing up’

nzimbáa	‘I am singing’
nzitáa	‘I am killing’
nombákáa	‘I am building’
nzerémáa	‘I am floating’
nzingíráa	‘I am entering’

3.7.2. WITH OP

L verbs with an OP may have H on the second stem vowel.

kovasémáa	‘we are insulting them’
vakigóráa	they are buying it
áándógáa	‘he is bewitching me’
véesékáa	‘they are laughing at themselves’
ngeyééngaa	‘I am brewing it’
vakováambaa	‘they are crucifying us’
vaapánzaa	‘they are loving me’
kukigórízaa	‘we are selling it’
aambárízaa	‘he is counting me’
mbavarízaa	‘I am counting them’
ngoyógéeraa	‘I am talking for you’
aandáágríraa	‘he's planting for me’
vakugórízíraa	‘they are selling for us’
vakorakóóraa	‘they are releasing us’
avogávóranyaa	‘he is dividing it up’
achéeyáa	‘he is sweeping it’
avééjánaa	‘he is wanting them’
vaapénéáa	‘they are wanting me’

The two-H pattern is also possible, especially with polysyllabic stems.

vavadó!yáa	‘they are hitting them’
vakoré!káa	‘they are leaving us’
vaandé!káa	‘they are leaving me’
akoróó!ndáa	‘he is following us’
ngeyéé!ngáa	‘I am brewing it’
vaková!rízíaa	‘they are counting us’
vaandá!kóríaa	‘they are releasing me’
ngeséé!mbélláa	‘I am weeding it’
vaaní!ndílláa	‘they are attending to me’
vakumó!róminyáa	‘they are speaking to us’
akigá!vórányáa	‘he is dividing it up’
kovavéé!zégélláa	‘we are belching on them’

ajéé!yáa	'he is sweeping it'
mbóó!ngáa	'I am joining them'
mbéé!náa	'I am wanting them'
mwíí!villáa	'I am forgetting him'
vacháá!mbókáá	'they are crossing it'
mbáá!ngóhízáa	'I am speeding them up'
vuyó!mbákíráa	'they are building for themselves'

H roots may have a single initial H.

vakotéga	'they are trapping us'
ngikáaraa	'I am slicing it'
kumbégaa	'we are shaving him'
aandómaa	'he is sending me'
akiríízaa	'he is eating it'
ngedéékaa	'I am cooking it'
ndohéénzaa	'I'm looking at it. ¹¹ '
aandíízaa	'he's fearing me'
aandémeraa	'he's chopping for me'
aangáaraangíraa	'he's frying for me'

vaanzítaa	'they are killing me'
vuyítaa	'they are killing selves'
vakwítaa	'they are killing us'
achiimbaa	'he is singing it'
kucháátaa	'we are surgerying it'

More often, H verbs follow the double-H pattern.

vaambó!lláa	'they are hearing me'
kovavé!gáa	'we are shaving them'
akoró!máa	'he is biting us'
ngové!gáa	'I am shaving you'
aganwéé!záa	'he is drinking it'
ngedéé!káa	'I am cooking it'
kukiríí!ngáa	'we are folding it'
aandéé!táa	'he is bringing me'
vakovó!gilláa	'they are accepting us'
mbaká!rágáa	'I am judging them'
vaambó!hóóláa	'they are untying me'
vakiká!ráángáa	'they are frying it'
vaakodéé!kéráa	'they are cooking for us'
vamkóó!mbéélláa	'they are hugging him'
vakugí!róng'ányáa	'they are turing us around'
vakitúú!ngámínáa	'they are inverting it'
vaakoháá!ndíkíráa	'they are writing for us'

uu!mbó!dóng'ániráa	'you are going around me'
mbíí!táa	'I am killing them'
aanzá!táa	'he is surgerying me'
vaanzi!ngilláa	'they are entering for me'
yuyí!gálláa	'he is obstructing himself'
kucháa!vóráa	'I am cutting it up'
vaanzi!gízaa	'they are teaching me'
ojáa!yízaa	'you are grazing it-9'
okwáa!vókányáa	'you are separating us'
vaanzó!mbákíráa	'they are building for me'

3.7.3. AFFIRMATIVE RELATIVE NO OP

Given the lack of inflectional prefix between the SP and the stem, we expect there to be a behavioral analogy between the progressive and the bare future. In the latter case we found that subject relatives with a V subject prefix strongly shift to the double-H pattern. In the progressive as well, the dominant tone pattern for subject relatives with a V subject prefix is a double-H pattern

L verbs

ńndu arímáa	'the person who is plowing'
umóónd-arí!máa	'the person who is plowing'
guug-á!só!náa	'the grandfather who points at'
umbókw adó!yáa	'the blind person who hits'
umwúú!mbách-á!gó!ráa	'the builder who is buying'
umwíih-aháánda	'the bride who gets stuck'
umóóndu asyéé!záa	'the person who is grinding'
avá!chóó!ráa	'the ones who draw'
umóónd-amó!rómaa	'the person who is speaking'
umoróómbi amí!ná!gáa	'the builder who is stirring'
umwíik-avá!rí!záa	'the relative who counts'
umoróji así!nyáa!ráa	'the witch who sneers'
umorími aséé!mbélláa	'farmer who is weeding'
om'k-á!yí!nzí!ráa	'the brother in law who is working'
umóónd-aháá!ndí!káa	'the person who is writing'
umwíí!kállí á!gá!vórá!nyáa	'the chairman who doles out'
umóónd-avéé!zégé!ráa	'the person who is belching'
om'sáa!kór- á!háa!ngárizá!náa	'the old man who argues'
vwah-á!yáa!mbó!káa	'who is crossing'

H verbs

mwíígizí avé!gáa	'the teacher who is shaving'
mwáana aró!káa	'the child who is vomiting'
mwíígizí avé!gáa	'the teacher who is shaving'
umóóndu avó!háa	'the person who is typing'

vwah-ánwéé!záa
 omóóndo aréé!táa
 vwah-á!ká!mátáa
 navizar-aká!ráa!ngáa
 góók-achi!ring'á!náa
 manyi mndu yí!táa
 omwíiha yí!mbáa
 avásóóréeri ví!íváa

'who is drinking'
 'the person who is bringing'
 'who is catching?'
 'the daughter-in-law who fries'
 'the grandmother who is quiet'
 'I know the man who is killing'
 'the bride who is singing'
 'the boys who are stealing'

váándo vataá!ngáásáa
 varóji vavohóóláa
 aváándo vatéé!záa
 váándo vadéé!káa
 aváándo vadeekáa
 váándo vadóóraa
 aváándo vakó!róráa
 váándo vavá!rízáa
 aváándo vaká!ráángá
 váándo vachéé!rízáa
 váándo vakóó!náa
 váándo vahí!nóráa
 aváándo vahóó!móóráa
 váándo vará!kóóráa
 váándo vahá!kízáa
 váándo vató!máa
 varóji vavohóóláa
 avákári vé!éyá

'the people who are announcing'
 'the witches who are untying'
 'the people who are burying'
 'the people who are cooking'
 'the people who are cooking'
 'the people who are picking up'
 'the people who are coughing'
 'the people who are counting'
 'the people who are frying'
 'the people who are greeting'
 'the people who are helping'
 'the people who are lifting'
 'the people who are massaging'
 'the people who are releasing'
 'the people who are scorching'
 'the people who are sending'
 'the witches who are untying'
 'the women who are sweeping'

Other relative clause forms follow the single-H M2 pattern.

L verbs

rwá! várógáa
 myáma ya agoráa
 rwá !kóhépáa
 rwá !kósékáa
 rwá !kóhámáa
 rw-óó!gónáa
 rw-óó!chóóraa
 rwá! várwáána
 amarwá gaa-jééngaa
 aváándo v-aaráángaa
 umódogá gw-uúróúmbaa
 rwáá!dúvúra

'when they are bewitching'
 'the meat which he is buying'
 'when we are exposing teeth'
 'when we are laughing'
 'when we are moving'
 'when you are sleeping'
 'when you are drawing'
 'when they are fighting'
 'the alcohol that I am brewing'
 'the people that he is calling'
 'the car that you are pushing'
 'when he is crushing'

rwóó!yónóyaa	‘when you are babbling’
zing’óó!mbé zyá kóváriaa	‘the cows that we are counting’
rwá! kógósána	‘when we are disagreeing’
rwávagóríza	‘when they are selling’
rw-ávárogoori vamórómaa	‘when the Logooris are talking’
rwá korákóóra	‘when we are releasing’
omwáána waasáávizaa	‘the child which I am cleaning’
<i>rwávatáándoraa</i>	<i>‘when they are tearing’</i>
rw-ál!vóómbachi vayíínziraa	‘when the builders are working’
móóndo w-aaríí!ndíríráá	‘the person who he is watching’
omóóndo waaganágana	‘the person who he is thinking of’
rwá! gátávágraa°	‘when it is boiling’
rwá vagávóronya	‘when they are doling out’
mugóye gw-aaróóngikizaa	‘the rope that he is untangling’
<i>rwá vatáándoraaanyaa</i>	<i>‘when they are tearing up’</i>
rwáá! sáámburuganyaa	‘when I am destroying’
rwáá!njénaá	‘when I am wanting’

H verbs

omwáána waa ngobáa	‘the child who I am beating’
rwá kokeráa	‘when we are milking’
rw-omwíísokur-akínáa	‘when the grandchild is playing’
rwáá!ndómáá	‘when I am sending’
rw-óóvegáa	‘when you are shaving’
rwá kokaráa	‘when we are slicing’
rwá !kórásá	‘when we are throwing’
rwá vaveehá	‘when they are lying’
ribóksi ry-ooreetáa	‘the box that you are bringing’
aváána v-íkúúngáa	‘the children that it-9 is chasing’
váándórí !níí!déékáa	‘they saw me cooking’
amarwá guunweezáa	‘the alcohol that you are drinking’
rwá kokooráa	‘when we are extracting’
rwávakóroraa	‘when they are coughing’
rwá!vákóbáná	‘when they are fighting’
rwá!váhínóráa	‘when they are lifting’
rwá!vásúgúmáa	‘when they are pushing’
rw-íímbw-í!njágóráa	‘when the dog is running’
ɪnáma yaangaráángá	‘the meat that I am frying’
rwá vahomooraa°	‘when they are massaging’
aváándo vavíitiihizáa	‘the people which it is scaring’
zingúza zyavazáázaamaa	‘the vegetables that they are tasting’
myóóndo yaatuongámínyáa	‘the hammer which he is inverting’
rwávúgáa	‘when they are learning’

rwá !márov-á!rímáa
móóndu w-aarí!ndíríráa
rw-á!ávée!nzégéráa

‘when Marova is plowing’
‘the person who he is watching’
‘when he is belching’

3.7.4. AFFIRMATIVE RELATIVE WITH OP

Relative verb forms with an OP typically have the double-H pattern.

L verbs

amang’ána gaa m’má!nyáa
avíivurí vam!sé!káa
omódogá gwa vaangó!lláa
mkáán-akí!náa
umodíríji akó!sé!máa
aváána váa!nzí!ráa
avakári vagá!chóó!ngáa
avanákivara vakoróó!ndáa
rwá vakíyáví!ráa
omodák-avavá!rí!záa
avásóóréri vachí!gó!ráa
rwá vam’rí!ndí!lláa
rwá kokízáa!záámáa
rwáa !mbávée!zégé!lláa
rwá !kóváháa!ndí!kí!ráa
avaróji vachée!jáa
avasóóréri váa!nzó!háa
izing’óómbe zi!gwáa!mbó!káa
rwá! kócháa!yóó!ráa
rwá! vágwáa!rá!mí!jáa
omwáa!n-áa!jámbókí!záa
omsáájen-íáa!jámbágí!lláa

‘the words which I am making him know’
‘the parents who are laughing at him’
‘the car which they are buying for me’
‘the girl who is playing’
‘the Tiriki who is insulting you’
‘the children who are going for me’
‘the women who are straining it’
‘the non-Logooris who are following us’
‘when they are burying it’
‘the pauper who is counting them’
‘the boys who are opening it’
‘when they are waiting for him’
‘when we are tasting it’
‘when I am belching on them’
‘when we are writing for him’
‘the witches who are wanting it’
‘the boys who are scattering me’
‘the cows which are crossing it’
‘when we are shouting it’
‘when they are opening it’
‘the child who is making me ford’
‘the sergeant who is stretching me’

H verbs

rwáa! m’té!máa
izing’óómbe zyaa ngotó!máa
jáama yaa mbaká!lláa
rwá !Márov-á!ámbe!gáa
omóónd-akó!vó!háa
vwahá vadée!káa
avarína vaangóó!jáa

‘when I am chopping it’
‘the cows which I am sending you’
‘the meat which I am slicing for them’
‘when Marova is shaving me’
‘the person who is tying you’
‘who are cooking’
‘the friends who are helping me’

r-óó!ndíí!záá	‘when you are fearing me’
rwá kokiháá!náá	‘when we are giving it’
rwá kokiká!dó!ráá	‘when we are snapping it’
avarógoori vakisó!gú!máa	‘the Logoris who are pushing it’
ibarwá y-akotó!mí!ráá	‘the letter that he is sending us’
avásóóréri v-aakivó!gú!lláá	‘the boys who he is taking it for’
rwá vakovó!hóó!lláá	‘when they are untying us’
rwá ngitáá!ngáá!záá	‘when I am announcing it’
omóóndu w-akisóó!ndóranyí!ráá	‘the person who he is pouring it for’
rwá vaambó!dóng’á!náá	‘when they are going around me’
rwá! Máróv-á!ánzá!táá	‘when Marova is doing surgery on me’
rwá goug-á!chíí!táá	‘when grandfather is killing it’
rw-áá!víí!gí!záá	‘when he is teaching them’
umwíí!gíz-íá!vóó!nóó!nyáá	‘the teacher who is messing them up’
rw-ó!ónzí!táá	‘when you are killing me’

The single-H pattern is found in some L root tokens.

avá!kóvárízaa	‘the ones who count us’
rwáá mganáganaa	‘when I am thinking of you’
rwáá !m’rííndinllaa	‘when I am waiting for him’
rw-áá!mráángaa	‘when she is calling him’
rwá mbakóróraa	‘when I am dragging them’
rvibága vya kuvachóóllaa	‘the cats which we are drawing for them’

3.7.5. AFFIRMATIVE RELATIVE NEGATIVE

OMFG no exx of negative from EM

sr[n[	pg	EM180610101037.024	<ORT>vwah-ataguriza</ORT>	vwah-á!tá!górízáá	who isn’t selling
sr[n[	pg	ML171211115828.092	<ORT>avana vatagwiza dave</ORT>	aváána vátagwíízaa dáave	children who are not
sr[n[	pg	ML180108113302.035	<ORT>arakona mndu atanweza</ORT>	arákóóna mndo átanyweezaa°	he will help the perso
sr[n[	pg	ML180108113302.036	<ORT>varakuba vana vatasheza</ORT>	varakóba váána vátasyéézaa	they will beat the chil
sr[n[	pg	ML180108113302.037	<ORT>ndakona vakari vataguriza</ORT>	ndakóóna vakári vátagórízaa	I will help the women
sr[n[	pg	ML180108113302.038	<ORT>ndakona vakari vatanava</ORT>	ndakóóna vakári vátanavaa°	I will help the women
sr[n[	pg	ML180108113302.039	<ORT>ndasinga vana vatakina</ORT>	ndasíinga váána vá!tákináá	I will wash the childr
sr[n[	pg	ML180108113302.040	<ORT>ndunga mndu atarima dave</ORT>	nduunga mndo átarimáa dáave	I won’t pay the man v
sr[n[	pg	ML180108113302.041	<ORT>mangubi mndu atarima</ORT>	maangubí !mndo átarimáa	I will beat the man w
sr[n[	pg	ML180108113302.042	<ORT>vahenzi vana vatavoha</ORT>	vaheenzi váána vátavohaa°	they looked at the chi
sr[n[	pg	ML180108113302.043	<ORT>ahenzi mndu atarindilla</ORT>	aheenzi mndo átaríindillaa	h looked the the perso

sr[n]	pg	ML180108115003.001	<ORT>vahezi zimbwa zitarondilla</ORT>	vaheezi zimbwá !zítaróondilla	they looked the dogs
sr[n]	pg	ML180108115003.002	<ORT>sangalli mwana atarama</ORT>	saangaalli mwáána átaráámaa	I praised the child wh
sr[n]	pg	ML180108115003.003	<ORT>vanwechi vana vatasara</ORT>	vanyweechi váána vátasááraa	they beat the children
sr[n]	pg	ML180108115003.004	<ORT>vamani mndu atadeka</ORT>	vamanyi mndu átadeekáa	they know the person
sr[n]	pg	ML180108115003.005	<ORT>ndora mkari atavinaga</ORT>	ndoraa mkári átaavinagá	I see the woman who
sr[n]	pg	ML180108115003.006	<ORT>akoni mwana atamoroma</ORT>	akoonyi mwáána átamórómaa	he helped the child w
sr[n]	pg	ML180108115003.007	<ORT>vanwe mwana atahegena</ORT>	vanwée mwáána á!táhégéná	they found the child v
sr[n]	pg	ML180108115003.008	<ORT>varindilli umwigizi atarakura</ORT>	varíndilli omwí!gízí átarakóóra	they waited for the te
sr[n]	pg	ML180108115003.009	<ORT>varori mndu atavoholla</ORT>	varorí !mndu átavohooláa	they saw the person v
sr[n]	pg	ML180108115003.010	<ORT>vatuji mndu atayizira</ORT>	vatuunji mndu átayízíraa	they paid the man wh
sr[n]	pg	ML180108115003.011	<ORT>varasameha vandu vatacheriza</ORT>	varasáá!mééhá vá!ndó vá!táchéérízá	they will forgive the p they will help the chil
sr[n]	pg	ML180108115003.013	<ORT>varakona vana vatavodongana</ORT>	varákóó!ná váá!ná vátavódóng'ána	around
sr[n]	pg	ML180108115003.014	<ORT>varatunga mndu atasamburugana</ORT>	varátúúnga m!ndó átasáámبورuganya	they are paying the m they are looking for th
sr[n]	pg	ML180108115003.017	<ORT>vahenza vandu vatarungikiza</ORT>	vaheenaa vándu vátaróúngíkiza	untangling
sr[n]	pg	ML180108115003.036	<ORT>ndakona mkari atasundurana</ORT>	ndakóóna mkári á!tásúúndórányáa	I will help the woman
sr[n]	pg	ML180128115526.162	<ORT>vene vatanweza</ORT>	veene vátanyweezáa	the ones who are not
sr[n]	pg	ML180128115526.163	<ORT>mwene atagwiza</ORT>	mweene átagwíízaa	the one who is not fal
sr[n]	pg	ML180128115526.173	<ORT>vene vatariza</ORT>	veene vátaríízaa	the ones who are not
sr[n]	pg	ML180128115526.174	<ORT>vene vatavega</ORT>	veene vátavegáa	the ones who are not
sr[n]	pg	ML180128115526.175	<ORT>mwene atakina</ORT>	mweene á!tákináa	the one who is not pla
sr[n]	pg	ML180128115526.176	<ORT>mwene atatura</ORT>	mweene á!tátóráa	the one who is not lea
sr[n]	pg	ML180128115526.177	<ORT>mwene atiga</ORT>	mweene átigá	the one who is not lea
sr[n]	pg	ML180128115526.178	<ORT>mwene ateya</ORT>	mweene áteeyá	the one who is not sw
sr[n]	pg	ML180128115526.183	<ORT>mwene atanweza</ORT>	mweene átanweezá	the one who is not dri
sr[n]	pg	ML180128123241.004	<ORT>mwene atadeka mba</ORT>	mweene átadeekáa mba	the one who is not co
sr[n]	pg	ML180128123241.005	<ORT>mwena atarima mba</ORT>	mweena átarimáa mba ^o	the one who is not ple
sr[n]	pg	ML180520095442.089	<ORT>mndu atavega</ORT>	mndu átavegáa	the person who is not
sr[n]	pg	ML180520095442.090	<ORT>vana vatimba</ORT>	váána vátimbáa	the children who are
sr[n]	pg	ML180520095442.091	<ORT>imbwa itanagura</ORT>	imbwá !ítanagoráa	the dog who is not ru
sr[n]	pg	ML180520095442.092	<ORT>isimbwa itanagura</ORT>	isimbwá !ítanagoráa	the dog who is not ru
sr[n]	pg	ML180520095442.093	<ORT>mwana atagwiza</ORT>	mwáána átagwíízaa	the child who is not f
sr[n]	pg	ML180520095442.094	<ORT>engombe itanweza</ORT>	eng'óombe ítanweezáa	the cow who is not dr
t[n]	pg	ML180108115003.100	<ORT>rwavatariza</ORT>	rwávataríízá	when they are not eating
t[n]	pg	ML180108115003.101	<ORT>rwavatasheza</ORT>	rwávatasyéézaa	when they are not grinding
t[n]	pg	ML180108115003.102	<ORT>rwavatarima</ORT>	rwávatarimaa ^o	when they are not plowing
t[n]	pg	ML180108115003.104	<ORT>rwavatavega</ORT>	rwá!vátavégáa	when they are not shaving
t[n]	pg	ML180108115003.106	<ORT>rwavatakona</ORT>	rwávatakóónaa	when they are not helping
t[n]	pg	ML180108115003.108	<ORT>rwandarama</ORT>	rwáá!ndaráámaa	when I am not cursing
t[n]	pg	ML180108115003.111	<ORT>rwandahandika</ORT>	rwáá!ndáháándikaa	when I am not writing

OP examples

CVCVVCVV	3	rwá ndam'téézaa	when I am not burp
CVCVCVCVV	4	iking'áng'a cha ndavagé!nyáá	the beast which I a
CVCVCVCVV	4	ikivóni cha ndaziróllaa	the reason which I
CVCVCVVCVV	4	aváána vatachííjaa	the children who a
CVCVVCVCVV	4	rwá ndají!ngí!ráá	when I am not ente
VCVCVCVV	4	umwí!gízi w-atakolláa	the teacher who he
VCVCVVCVV	4	rw-á!tácháaraa	when he is not spr
VCVVCVCVV	4	umokári atáá!ngó!nyáá	the woman who is
VCVVCVCVV	4	rw-útaanzítaa	when you are not k
CVCVCVCVCVV	5	izing'óómbe zya vatakoké!lláa	the cows which the
CVCVCVCVCVV	5	rwá kotakíkí!náá	when we are not p
CVCVCVCVCVV	5	rwá ndavagávóllaa	when I am not divi
CVCVCVCVCVV	5	rwá kutakegó!sáá	when we are not la
CVCVCVCVVCVV	5	veene vatakokóójaa	the ones who are not h
CVCVCVCVVCVV	5	rwá vatavakóóngaa	when they are not
CVCVCVCVVCVV	5	rwá vatakiríizaa	when they are not
CVCVCVCVVCVV	5	rwá kotakishéézaa	when we are not g
CVCVCVVCVCVV	5	avíivi vatachíí!gó!ráá	the thieves who ar

CVCVCVVCVVCVV	5	rwá vatacháá!tá!nyáá	when they are not
CVCVCVVCVVCVV	5	rwá vatavíí!gízáá	when they are not
CVCVCVVCVVCVV	5	rwá!vataámbe!gáá	when they are not sha
CVCVCVVCVVCVV	5	rwá ndavahíí!ngáá!ráá	when I am not disa
CVCVVCVVCVVCVV	5	amarágo ga ndamwáá!mbáká!náá	the agreements wh
CVVCVCVVCVVCVV	5	rwáándakoráámaa	when I am not cursing
VCVCVCVVCVV	5	umúsóóreri w-atakohó!nyáá	the boy who he is r
VCVCVCVVCVV	5	umúsíg-atákeré!gáá	the enemy who is r
VCVCVCVVCVV	5	umúsíg-atakeré!gáá	the enemy who is r
VCVCVCVVCVV	5	mweene átakové!gáá	the one who is not sha
VCVCVCVVCVV	5	rividóje vy-utakodóó!lláá	the pieces which y
VCVCVCVVCVV	5	aváándo v-utakotéé!ráá	the people that you
VCVCVCVVCVV	5	umúúnd-atákiríí!záá	the person who is r
VCVCVCVVCVV	5	vwah-átam'sí!nyáá!lláá	who is not sneering
VCVCVCVVCVV	5	mweene átakokóópaa	the one who is not hel
VCVCVCVVCVV	5	rw-átakichúóngaa	when he is not stra
VCVCVCVVCVV	5	rw-átavabíímaa	when he is not mea
VCVCVCVVCVV	5	rw-útakikwéézaa	when you are not p
VCVCVVCVVCVV	5	ndakóba mwáána átayíinzira	I hit the child who is n
VCVCVVCVVCVV	5	amáto g-utakwáá!hí!ráá	the leaves which y
VCVVCVVCVVCVV	5	mweene átaanzé!yéráá	the one who is not swe
VCVVCVVCVVCVV	5	rw-útaangoyáányaa	when you are not c
CVCVCVCVCVCVV	6	rwá kotakigórizaa	when we are not se
CVCVCVCVCVCVV	6	rwá vatakídóvóraa	when they are not
CVCVCVCVCVCVV	6	rwá ndakusíníkizaa	when I am not ann
CVCVCVCVCVCVV	6	rwávatakoráámaa	when they are not curs

CVCVCVCVCVVCVV	6	rwá kutaziká!ráá!ngáá	when we are not fr
CVCVCVCVCVVCVV	6	rwávatavakóónaa	when they are not help
CVCVCVCVVCVCV	6	varasáá!mééhá vá!ndó vá!tákovéé!rízá	they will forgive the p
CVCVCVCVVCVCVV	6	avíidako vatakusáállizaa	the Idakhos who ar
CVCVCVVCVCVCVV	6	vwahá vatacháá!vórá!nyáá	who are not cutting
CVCVVCVCVCVCVV	6	avasááza va vataandíríziraa	the men that they a
CVCVVCVVCVCVCVV	6	rwá vataangóó!ngómí!jáá	when they are not
CVCVVCVVCVVCVV	6	imitó ja vataanzáá!záámí!nyáá	the mito which the
CVVCVCVCVCVVCVV	6	rwáándakakoráamaa	when I am not cursing
CVVCVCVCVVCVCVV	6	rwáándakiháá!ndíkáá	when I am not writing
VCVCVCVCVCVV	6	umúsóóréri w-atakohó!nyíráá	the boy who he is r
VCVCVCVCVCVV	6	umurími atáakodígí!jáá	the farmer who is r
VCVCVCVCVCVV	6	rw-átakemórómaa	when she is not sp
VCVCVCVVCVCVV	6	eng'óómb-itavaháándizaa	the cow which is n
CVCVCCVCVCVCVCVV	7	imidogá ja kutam'ng'éréng'anyiraa	the cars which we
CVCVCVCVCVCVCVV	7	navizara wa ndamsimó!gókíziráá	daughter in law wh
CVCVCVCVCVCVCVV	7	rwávatakorí!míráá	when they are not plo
CVCVCVCVVCVCVCVV	7	avasóóréri vatakehóó!nónó!káá	the boys who are n
CVCVCVCVVCVCVCVV	7	vaheenaa vándó vatakiróóngikizaa	they are looking for th
CVCVCVVCVCVCVCVV	7	vwahá vatamwáá!górókí!ráá	who are not falling
CVCVCVVCVVCVCVCVV	7	rwávatambéé!nzégélláá	when they are not belo
VCVCVCVCVCVCVV	7	rw-ótavachí!rín'g'á!nyáá	when you are not s
VCVCVCVCVCVCVV	7	rw-átavaché!réví!záá	when she is not ma
VCVCVCVVCVCVCVV	7	korákóóna mndu átakitóó!ngámínyáá	we will help the man v
VCVCVCVVCVCVCVV	7	rw-átavavéé!zégé!lláá	when he is not belo
VCVCVVCVVCVCVCVV	7	umukóóngo w-atam'kóó!mbáárízí!ráá	the boss who he is

VCVVCVCVCVCVCVV	7	vwah-á!táá!símógókí!záá	who is not reviving
VCVCVCVCVVCVCVCVC	8	vatuungaa mndo átakokáraangiziraa°	they are paying the ma
VCVCVCVVCVCVCVCV	8	varátúunga m!ndó átakísáámboroganya	they are paying the ma
VCVCVCVVCVCVCVCV	8	varákóóna m!ndó átakísáámboroganya	they are helping the m
VCVCVCVVCVCVCVCV	8	ndakóóna mkári á!tákúsóó!ndórányiráá	I will help the woman

or[n]	pg	ML180108115003.118	mwáána wakutavegáa	the child who we are not shaving
or[n]	pg	ML180108115003.120	mwáána waandakóónaa	the child who I am not helping
or[n]	pg	ML180108115003.122	zing'óó!mbé zyákótávárízaa	the cows that we are not counting

3.7.6. HEADLESS RELATIVE

The overwhelming majority pattern for headless subject relatives in cl. 1 is the strong double-H pattern

L verbs

ogó!náa	'the one who is sleeping'
oró!gáa	'the one who is bewitching'
osé!káa	'the one who is laughing'
osé!máa	'the one who is insulting'
udú!yáa	'the one who is hitting'
ógéé!ndáa	'the one who is walking'
ósóó!máa	'the one who is reading'
obíí!máa	'the one who is measuring'
ugwíí!záa	'the one who is falling'
oráá!ngáa	'the one who is calling'
oríí!ndáa	'the one who is watching'
omó!ró!máa	'the one who is speaking'
ugó!rí!záa	'the one who is selling'
omí!nágáa	'the one who is stirring'
oyá!víráa	'the one who is burying'
orá!kóó!ráa	'the one who is releasing'
orá!kóóráa	'the one who is releasing'
oséé!mbé!lláa	'the one who is weeding'
oyíí!nzi!ráa	'the one who is working'
ohíí!ríí!táa	'the one who is snoring'
oríí!ndíí!lláa	'the one who is waiting'
oríí!ndíílláa	'the one who is waiting'
omó!rómé!lláa	'the one who is speaking senselessly'

ugá!nágá!náá
ugá!nágánáa
oyá!vógó!lláá
oyá!vógólláa
ovéé!zégé!ráá
wáá!ráa
wéé!yáa
wó!óháa
wáá!mbó!káá
wáá!mbókáa
wíí!ví!lláá
wáá!nígíráa

'the one who is thinking'
'the one who is thinking'
'the one who is unburying'
'the one who is unburying'
'the one who is belching'
'the one who is spreading'
'the one who is sweeping'
'the one who is scattering'
'the one who is crossing'
'the one who is crossing'
'the one who is forgetting'
'the one who is going up'

H verbs

ovó!háa
ómí!gáa
oró!máa
odéé!káa
onáá!náá
oréé!táa
oríí!ngáa
oróó!táa
obó!móráa
oká!má!táa
oká!rágáa
oná!gó!ráa
osí!gámáa
ovó!hóólláa
oká!ráá!ngáa
oká!ráángáa
oráá!gí!ráa
osúó!víráa
okóó!mbéé!ráa
ovó!dóng'á!náa
ovó!dóng'ánáa
ugí!rúng'ányáa
otóó!ngámínáa
wíí!mbáa
wíí!táa
wíí!gízáa
wóó!mbákáa
wáá!vókányáa

'the one who is tying'
'the one who is strangling'
'the one who is biting'
'the one who is cooking'
'the one who is eating'
'the one who is bringing'
'the one who is folding'
'the one who is visiting'
'the one who is demolishing'
'the one who is catching'
'the one who is judging'
'the one who is running'
'the one who is kneeling'
'the one who is untying'
'the one who is frying'
'the one who is frying'
'the one who is eating ugali'
'the one who is believing'
'the one who is hugging'
'the one who is going around'
'the one who is going around'
'the one who is inverting'
'the one who is turning upside down'
'the one who is singing'
'the one who is killing'
'the one who is teaching'
'the one who is building'
'the one who is separating'

Virtually all apparent single H tokens are from disyllabic stems, and may be transcription errors regarding the final tone.

otégaa	‘the one who is trapping’
ugóraa	‘the one who is buying’
oréétaa	‘the one who is bringing’
uchúúngaa	‘the one who is straining’
otáándoraa	‘the one who is tearing up’

note H on OP and therefore almost no examples of H!H

okórogáa	‘the one who bewitches us’
okó!ráángáá	‘the one who calls us’
okó!chóó!ráá	‘the one who is drawing you’
okí!túúmáá	‘the one who is crossing it’
okí!shéézaa	‘the one who is drinking it’
okí!várí!záá	‘the one who is counting you’
okórakóó!ráá	‘the one who is releasing us’
óóndakóó!ráá	‘the one who releases me’
ová!rííndíí!láá	‘the one who is waiting for them’
okí!gávórányáa	‘the one who does it’
uchéé!yáá	‘the one who sweeps it’
óó!péńáa	‘the one who wants me’
ucháá!mbókáá	‘the one who is crossing it’

akó!rómáá	‘the one who is biting us’
óó!mbégáa	‘the one who shaves me’
okó!végáa	‘the one who shaves us’
oké!déékáá	‘the one who is cooking it’
okínweezáa	‘the one who is drinking it’
ovákoopáa	‘the one who usually helps them’
óó!mbérékáa	‘the one who escorts me’
okó!héré!káa	‘the one who escorts us’
okíkaráá!ngáa	‘the one who fries it’
ová!hómóórá(á)	‘the one who massages them’
akó!túúngámí!ńáá	‘the one who is turning us around us’
ovíí!táá	‘the one who kills them’

4. M3: Subjunctive

The third major tone pattern of Logoori is found in forms of the subjunctive when it lacks a tense prefix.²⁷ This tense is the basis for the commonly-used crastinal future, and appears in numerous types of subordinate clause, as well.

4.1. No OP

In the M3 pattern with no OP, the distinction between H and L roots is neutralized. There is H on the second, and also on the third syllable if the second syllable has a short vowel. If the H lands on a long vowel, it is realized as a falling tone just in case that syllable is the penult. The H then usually spread maximally to the left within the stem but does not typically spread to the vowel of the SP (except if the H is utterance final, qv). The main verb is preceded by one of two proclitics, *na* or *ma(a)*, or the inflected auxiliary *SP-maa*.

L

naa shí	‘I will grind’
ma vashí	‘they will grind’
maa varógwí	‘they will be bewitched’
naa séké	‘I will laugh’
ma vamóóǵné	‘they will gossip’
na korííndí	‘we will wait’
nɪ kuvárizí	‘we will count’
ná kóyávírí	‘we will bury’
na vabórókí	‘they will fly’
n-ɔɔrákóɔɪ	‘you will release’
ma varúúmbáné	‘they will push e.o’
vamaa vaséémbéllé	‘they will weed’
naa nzééngéelle	‘I will stare’
n-aaháándíikɪ	‘he will write’
na kohóóróɔkɪ	‘we will take a break’
ma vagávórányɪ	‘they will divide’
na kogánágáne	‘we will think’
vamaa vamórómónye	‘they will babble’
ma koyávíráne	‘we will bury e.o’
na kovéézégére	‘we will belch’
ma vasáámbórizanye	‘they will cause e.o. to dismantle’
ma vamórómérizani	‘they will make e.o. speak continuously’
ma korííndííllane	‘we will wait on e.o’
kumaa kubórókáange	‘we will be flying’
kumaa kugórizáange	‘we will be selling’
kumaa koséémbéráange	‘we will be weeding’
kumaa koyíínzíráange	‘we will be working’
ná vavéézégéeraange	‘they will be belching’

²⁷ Section Z provides examples of inflections where a prefix comes between the SP and the Mstem, for example *arikakáraange*. All such tenses follow the M1 pattern.

ni vééyé
na veené
kumaa kwééyé
vamaa víízórízi
na vaambókí

‘they will sweep’
‘they will search for’
‘we will sweep’
‘they will remember’
‘they will cross’

maa nzéyé
naa nǒmbákí
náá nzígórí

‘I will sweep’
‘I will build’
‘I will open’

H

m-aanwí
n-ootégé
na kotúúmí
ma vaminage°
am-áánágórí
naa njékéchí
ma kokáraange
m-aavóhóollwi
na kotáándórí
naa ngóómbáare
na kohínámíni
kumaa kusógómáange
maa kisóóndóránywi
n-aasáámbórányé
n-aagárángátane
ni vaháángáálizane
kumaa kusáámbóróganyi

‘he will drink’
‘you will trap’
‘we will jump’
‘they will stir’
‘he will run’
‘I will screen’
‘we will fry’
‘he will be untied’
‘we will tear up’
‘I will walk proudly’
‘turn upside down’
‘we will be pushing’
‘it will be spilled’
‘he will dismantle disorganizedly’
‘he will fall and rolled over’
‘they will argue’
‘we will dismantle’

kumaa kwoomí
ná yítí
naa nzítí
na viitwí
na vaaté
na yimbí
maa nzígízí
kumaa kwoombákí
kumaa kwoombákáange
na kwoomíní

‘we will be dry’
‘he will kill’
‘I will kill’
‘they will be killed’
‘they will do surgery’
‘he will sing’
‘I will teach’
‘we will build’
‘we will be building’
‘we will dry’

This verb form also appears in clauses under a variety of modal verbs, and exhibits the same tone pattern in this context.

ndéép-aashí
reka várímí

‘I wanted that he grind’
‘let them plow’

neɲá!á máróv-á!rí mí	‘I want that Marova plow’
geɲé káá !nzóóyé	‘let me scoop’
geɲekaná !kósáámórí	‘we should go to work’
rekaa ngánágá nɪ	‘let me think’
reka vatégé	‘let them trap’
neɲá!á vatégé	‘I want that they trap’
kweɲpa kodééké	‘we’re just about to cook’
veɲpa vadééké	‘they’re just about to cook’
geɲekaná !kókáráange	‘we should fry’
tareká !vásáám bórógánye dáave	‘let them not dismantle’
geɲekaná!á vakóómbééllane	‘they should hug e.o’
geeneká!á mwáám bókí	‘2p need to build’

4.2. With OP

There are two speaker-correlated patterns for M3 with OP. One pattern observed with EM, LI and ML neutralizes the difference between H and L roots, where all verbs have H on the root-initial syllable.

L roots

naa ndísyí	‘I will grind it’
naa moróge	‘I will bewitch him’
nɪvavatéeve	‘they will ask them’
maa ngebómóre	‘I will destroy it’
naa ngígórizi	‘I will sell it’
kúmaa kúvarákuuri	‘we will release them’
nakuvazíírlí	‘we will continue for you’
nayɪháánzookiri	‘he will shout at himself’
kúmaa kuvamóromere	‘we will speak for them’
nakokovézegelle	‘we will belch on you’
naakogóóngomijɪ	‘he will make us fall and roll over’
naambáánzookiri	‘he will shout at me’

kúmaa kujéeye	‘we will sweep it-9’
na kokwíívlí	‘we will forget you’
na kovááyóllí	‘we will shout at them’
maa ngwáámbooki	‘I will cross it’
na kochííruuri	‘we will winnow it’
naanzíróllí	‘he will winnow for me’
na kochíízórizi	‘we will remember it’

H roots

vamaa vamtyí	‘they will fear him’
naa mbavége	‘I will shave them’
ma kovarwáanyɪ	‘we will make them fight’
kúmaa kolléete	‘we will bring it-11’

kumaa kumósúgumi	‘we will push him’
reka ngivógori	‘let me take it-7’
na kokikáraange	‘we will fry it’
ma kúvarwáarizi	‘we will make them ill’
nikovafóombeelle	‘we will make a fire burn for them’
naasáángaalli	‘he will be happy for me’
amaa mbérekizi	‘they will escort me’
maa ngovódong’ane	‘I will go around you’
vamaa vakotóóngaminyi	‘they will invert us’
na vaangáraangiri	‘they will fry for me’
naambáángaallizi	‘he will argue with me’
na vaandáángaaziri	‘they will announce for me’
amaa ngáraangiriziri	‘he will fry for us’
na kuchíivi	‘we will steal it’
na vaanzáte	‘they will do surgery on me’
navakwáate	‘they will do surgery on us’
vamaa vakwáágorizi	‘they will make us come down’
na kuchááraminyi	‘we will cover it’
maa njóóminyi	‘I will dry it’
amaa nzóminyi	‘he will dry me’
naanzíviriri	‘he will steal from me’

The second pattern, found in data from RK, PM, RL and FA, attest a more complex pattern where L roots are treated different from H roots. EM and LI optionally manifest this pattern in free variation with the neutralizing pattern.²⁸ Under this second pattern, if a L verb stem has a short vowel, H is assigned to V2, which is in the second stem syllable.

L verbs

na kokigóri	‘we will buy it’
na vaang’ósi	‘they will pull me’
reka ndigóri	‘let me buy it-5’
n-aangávólli	‘he will dole out to me’
na kokigórizi	‘we will sell it’
reka vaanzáviri	‘let them bury me’
na vaandákóuri	‘they will release me’
n-uvárákóuri	‘you will release them’
na kokisínyikiri	‘we will annoy it’
na veemóromere	‘they will speak to themselves’
na kovabórokiri	‘we will fly for them’
n-aangávóranyiri	‘he will dole out to me’
n-aangárókiziri	‘he will return for me’

²⁸ If is not known whether this option is available for ML: it is not attested in the existing data.

If the root-initial vowel is long, the pattern appears to be that the H is on the first syllable and surfaces as a falling tone. But such roots are analytically ambiguous, since V2 also falls within the first syllable, and the appearance of fall rather than level H in e.g. *naaníndi* just as likely reflects a general rule regarding fall vs. H in long syllables, as discussed in Q.

naaníndi	‘he will wait for me’
naangwírri	‘he will fall on me’
naandéeve	‘he will ask me’
naambéézegelle	‘he will belch on me’
naambáandiiki	‘he will write me down’

We may conclude that in this sub-melody, the pattern is for lexically-L verbs to have H on V2 when an OP is present.

In the case of vowel-initial L verbs, the surface pattern depends on whether the OP syllable merges with the root syllable to create a long vowel. If the root-initial vowel remains short (because the OP is 1s or reflexive), H is on the second stem syllable.

na vaanényé	‘they will want me’
n-aanzígízi	‘he will teach me’
na vaanzámbókílli	‘they will cross for me’
na vaanzáraminyiri	‘they will open for me’
na vaanzírúulli	‘they will winnow for me’
na vaanzízólliri	‘they will remember me’
na viiyámbókiri	‘they will cross for themselves’
na viiyírúuriri	‘they will winnow for themselves’
na veeyényé	‘they will want themselves’
na viiyízóllizi	‘they will remember themselves’

If there is syllabic fusion with vowel lengthening, only the initial syllable has H.

n-ookwéene	‘you will want us’
n-aakwáalle	‘he will spread a bed for you’
n-aagíurori	‘he will winnow it’
na kokwíivilli	‘we will forget you’
na komwáámbókiri	‘we will cross a river for him’
na kuchíizorizi	‘we will remember it’

A further complication regards the status of *-ll-* after a first-syllable short vowel. All speakers agree in presenting forms such as *naangólli* ‘he will buy for me’, with H just on the first vowel. This can be explained under an analysis (standardly proffered in theoretical phonology) where the first half of *ll* “counts” as a vowel, thus the pattern is more abstractly *naangóllí*, with H on *í*. The generality of this pattern is suggested by examples

WAIT I need hard-core L roots

na kochíivɪ	‘we will steal it’
na kochóóminyɪ	‘we will dry it’
na vaanzáte	‘they will do surgery on me’
n-aanzíviri	‘he will steal from me’
na vaanyómijɪ	‘they will dry me’
na yiyáte	‘he will do surgery on himself’
na viiyóminyɪ	‘they will dry for themselves’

Although the subjunctive can appear within a relative clause, there is no difference in its realization in such clauses. It is always preceded by the clitics *ma* or *ni*, or an inflected auxiliary, so there are no effects realized on the SP, as found with other patterns.

rwá! ní nwí	‘when I will drink’
amarwá ga naa-nywɪ°	‘the alcohol that I will drink’
umóó!nd-ámáávégé	‘the person who will shave’
rwá! n-óórógé	‘when you will bewitch’
umóóndu wa maa kokóójé	‘the people that we will help’
vwahá !má vádééké	‘who pl. will cook’
rwá !ní vásímókí	‘when they will leave’
vwahá n-aamórómé	‘who will speak’
vwahá n-aachérévé	‘who will be late’
eng’óómbe ya na kugorizi°	‘the cow which we will sell’
mugóye gwa na varákóori	‘the rope which they will release’
eng’óómbe yaaza vavóhóolle	‘the cow which they will untie’
vwah-á!ám-áákáráange	‘who will fry’
umóó!ndú wá máá ndéékéré	‘the person who I will cook for’
voséra vwá na ayóómbóré	‘the porridge that he will over-pour’
moróji waaza ayóómbóré	‘the witch who will over-pour’
zingóza zyavaaza vazáázáame	‘the vegetables that they will taste’
kindíkí !chá n-ááháándíikɪ	‘what will he write’
kindíkí !chá n-áátúóngámínyɪ	‘what will he invert’

<here is everything I have on ta relgeg

umóónd-atá!m-áávégé	the person who will not shave
umóónd-atá!máádééké	the person who will not cook
vwah-átamaadeeke°	who won’t cook
aváána vatamaa vadeeke°	the children who won’t cook

5. Remote

The remote past tense pattern also neutralizes the H/L contrast when there is no OP. Here we find a single H on the SP syllable. This pattern is attested only in a single tense.

5.1.1. MAIN CLAUSE WITHOUT OP

When there is no OP, H is assigned to the root-initial syllable as long as it is also non-final. When the verb stem is monosyllabic, the only H appears on the prefix -áá-, and is realized as a level H. This prefix-only pattern holds even with a reduplicated verb.

L verb

yáágwa	‘he fell’
ndáásya	‘I ground’
váásyasya	‘they ground over and over’

H verb

kwááfa	‘we came to an end’
yáánywa	‘he drank’
ndáárya	‘I ate’
váánywanywa	‘they drank over and over’

Otherwise, there is a root-initial H for both H and L verbs, where that H is always realized as level H.

L verbs

yáaréma	‘he got lame’
váágóra	‘they bought’
ndááríma	‘I plowed’
kwááróóta	‘we dreamed’
ndáásáamba	‘I roasted’
vaagósana	‘they disagreed’
ndááváriza	‘I counted’
kwáárákoora	‘we released’
kwááháandiika	‘we wrote’
yaagávoranya	‘he divided up’
ndáávóroganya	‘I stirred’
kwáávéenzegera	‘we belched’
kwáásáamburaanya	‘we dismantled disorganizedly’

H verbs

ndááhólla	‘I heard’
yáákúza	‘he died’
kwáárása	‘we threw’
ndááróma	‘I bit’
ndáádééka	‘I cooked’
wááchereva	‘you were late’
váávóhoolla	‘they untied’
yáákáraanga	‘he fried’
kwáátwíkiza	‘we came to an end’
wáásáalliiza	‘you injured’

kwáásáángaara	‘we were happy’
yaakóúmbeella	‘he hugged’
wáávódong'ana	‘you went around’
váávínirana	‘they danced for e.o’
váádéékadeeka	‘they cooked over and over’
kwááháángarizana	‘we argued’

When the stem is vowel-initial, the prefix sequence (SP-áá) may merge syllabically into a single syllable, so that there is only a single H toned syllable in the form. Again, that H is always level H even in the penult.

<u>L verb</u>	
vééya	‘they swept’
vééna	‘they wanted’
yááza	‘he came’
kwóúnga	‘we joined’
kwáámboka	‘we crossed’
váámbakana	‘they refused’

<u>H verbs</u>	
kwááta	‘we did surgery’
wííta	‘you killed’
yííva	‘he stole’
ndéérema	‘I floated’
vóúmbaka	‘they build’
wíígora	‘you opened’
kwíínamijna	‘we turned upside down’
yóónoonya	‘he damaged’
yóúngaanya	‘he joined’

Insertion of *y* is optional in this tense, so an alternative form of the verb preserves distinct prefix and stem syllables, separated by *y*, and H appears on the root-initial syllable.

<u>L verbs</u>	
kwááyéya	‘we swept’
vááyanigira	‘they went up’

<u>H verbs</u>	
vaayónoonya	‘they messed up’
yááyíta	‘he killed’

5.1.2. MAIN CLAUSE WITH OP

The tone pattern of the remote changes when an object prefix is present, in a manner similar to the changes found in the M2 pattern. We begin with the pattern available for all speakers and the only pattern in the data from RL, PM, RK. Unlike the basic form, the

lexical H/L distinction in roots is maintained. In the case of lexically L verbs, H appears on the OP and on V2 of the stem mora.²⁹

yaagó!rímá	‘he plowed it’
yaakó!rógá	‘he bewitched us’
váágí!góra	‘they bought it’
vaakó!gávólla	‘they divided for us’
yaakí!mínága	‘he cooked it’
kwaavá!bórókíra	‘we flew for them’
vaam!górízira	‘they sold to him’
vaam!rákóóra	‘they released him’
yáákwáambákana	‘he refused us’
yáákwí!rúúlla	‘he winnowed for us’

In case the root-initial vowel of a L root is long, that syllable has (level) H.

kwaamó!yáánza	‘we loved him’
kwaavá!ríinda	‘we waited for them’
vaam!ríinda	‘they watched him’
vááva!tééva	‘they asked them’
yaakí!róonga	‘he seasoned it’
yaavá!gwíira	‘he fell on them’
yááva!róonda	‘he followed them’
kwáákí!táandora	‘we tore up it up’
vaakó!séembella	‘they weeded for us’
yááva!súuvira	‘he believed them’
vaakó!véézegella	‘they belched on us’
yáákó!hóóndóolla	‘he stared at us’
wáákó!háanzóokira	‘you shouted at us’
yaakó!háandiikira	‘he wrote to them’

In case the OP is -N- or -I-, the first H is realized on the long syllable of the SP.

víí!syá	‘they ground themselves’
ndéé!rórá	‘I saw self’
véé!tééva	‘they asked selves’
wéé!zééngella	‘you stared at self’
víí!ríindirira	‘they watched themselves’
yíí!gíróng'anya	‘he inverted himself’
yéé!yéjá	‘he wanted self’
yíí!yívílla	‘he forgot himself’
ndéé!yéyéra	‘I swept for self’

²⁹ Data on L monosyllabic roots is sparse: some tokens such as ndaakísya ‘I ground it’ (RK) may indicate that CV roots do not take the melodic H, but as noted elsewhere the phonetic difference between HL and H!H is not trivial, and there are not suitable recorded examples to resolve this question.

víí!yaráminya	‘they opened for themselves’
váá!sínga	‘they bathed me’
yáá!níínda	‘he waited for me’
yáá!nyíira	‘he stretched me out’
yáá!mbáliza	‘he counted me’
yáá!móromira	‘he spoke for me’
yáá!ndákóóra	‘he released me’
yáá!néjá	‘he looked for me’
yáá!nzámbákana	‘he refused me’
yáá!ng’ééndera	‘he walked for me’

In the case of H roots, a universally available option is that the root-initial syllable is toneless and the only H is on the OP, though when the OP is -N- or -I- that syllable merges with the SP and the H is located on the syllable with the SP.

yáákótya	‘he feared us’
yíítya	‘he feared himself’
yáánda	‘he buried me’
vaakóvega	‘they shaved us’
wáájikara	‘you cut them-4’
yííroma	‘he bit himself’
véevega	‘they shaved themselves’
yáánoma	‘he bit me’
váámsuora	‘they refused him’
yáávákoonya	‘he helped them’
véekoonya	‘they helped themselves’
yáákónagulla	‘he ran for us’
yáámótrivolla	‘he answered him’
vaakíhinka	‘they lifted it’
yaakódeekera	‘he cooked for us’
wáávásaalliza	‘you injured them’
wáákózuongoka	‘you went around us’
váángaasiza	‘they blessed me’
yáávávohoolla	‘he untied them’
yííkuumbeella	‘he hugged himself’
víítaangaazira	‘they announced for themselves’
vaakígirong’anya	‘they inverted it’
vaakóvodong’anya	‘they turned us’
yáángirong’anya	‘he inverted me’
váágákaraanga	‘they fried them-6’
yáángaraangira	‘he fried for me’
yááanduungamipira	‘he turned for me’
wáámwíiranya	‘you made him returned’
yííyita	‘he killed himself’
yáánzita	‘he killed me’
yáánzata	‘he did surgery on me’

yáánzìjìzà	‘he taught me’
yáánzìvòrà	‘she gave birth to me’
vaakwóónekera	‘they messed up for us rem.’

In the more extensive collection of examples from EM, we find a further option of retaining the root-initial H, which is downstepped from the H of the OP.

wáá!ngóónà	‘you helped me’
yáává!nywééka	‘he whipped them’
kwááké!dééka	‘we cooked it-7’
vaakí!nágìrà	‘they caught it’
yáá!sánùrà	‘he combed me’
yaavá!súgumà	‘he pushed them’
yaavá!tívòrà	‘he answered them’
yáákó!déékera	‘he cooked for us’
kwéé!déékera	‘we cooked for selves’
váá!njéérìzà	‘they greeted me’
yaavá!gáásìzà	‘he blessed them’
vaaké!gógomanyà	‘they rolled it downhill’
vaakó!tórìzìrà	‘they removed for us’
yaakí!vóroganyà	‘he mixed it up’
yaakí!káraanga	‘he fried it’
váái!sóónduranyìrà	‘they poured on me’

Longer V-initial H? Check CVCV for gap. Also no examples of CV roots so add them to see what happens. Also V-initial because no examples other than ones with non-fusion have the retention pattern. Do a general re-check

L verbs also exhibit an alternative tone pattern: when the first syllable is short, there may be H on the second syllable (as well as the OP), and if the first syllable is long, that syllable may have a (level H) – that is, L verbs may have the H on V2, rather than having no stem-internal H.

váá!ddóyá	‘they pounded it’
ndéé!rórá	‘I saw self’
yaakó!rógá	‘he bewitched us’
yéé!yéńá	‘he wanted self’
vaakó!kííngà	‘they protected us’
yíí!chóóra	‘he drew self’
yáává!tééva	‘he asked them’
víí!sííngà	‘they bathed selves’
váákó!túóngà	‘they paid us’
yéé!yéyéra	‘he swept for self’
vaakó!gávólla	‘they divided for us’

yaakí!góríza	‘he sold it’
yaakí!mínága	‘he cooked it’
yaavá!rákóóra	‘he released them’
yaakó!yíinzilla	‘he worked for us’
yáá!ñíinzilla	‘he worked for me’
ndíí!górízira	‘I sold for self’
váá!mórómera	‘they spoke to me’
vaakó!yávógulla	‘they dug up for us’
vaakó!háandiikira	‘they wrote for us rem’
vaakó!yíinziriza	‘they made us work’
vaakó!véézegella	‘they belched on us’
váái!sóóndoranyira	‘they poured on me’

Free variation between these patterns has been offered

vaakínagira	vaakí!nágira	‘they caught it’
vaakígirong’anya	vaakí!gírung’anya	‘they inverted it’
váágágavoranya	váágá!gávoranya	‘they doled it out’

Is this data real?? these are mostly H stems acting L

vaam!téga	‘they trapped him’
yáá!ngóbá	‘he beat me’
yáákó!véga	‘he shaved us’
vaam!bómólla	‘they destroyed for him’
vaam!nágólla	‘they ran for him’
vaam!súgúma	‘they pushed him’
vaam!góyáanya	‘they made him disarranged’
vaam!kárágira	‘they cut for him’
vam!káraángira	‘they fried for him’
yaagí!káraángiza	‘he fried it’
yaam!bínágira	‘he stirred for him’
vaam!bódóng’anira	‘they went around for him’

5.1.3. RELATIVE CLAUSE WITHOUT OP

The pattern for affirmative relative verbs in the remote is the same as the main clause form.³⁰

L verbs

háí !háyáágwa	‘where did he fall?’
omóó!ndó yáasha	‘the person who ground’

³⁰ Most examples come from EM and ML, with a few examples from PM.

gwá! kwááróra
 umwáána wakwáádóya
 umóóndu yáákíínda
 eng'óómbe ya wáágórizá
 mʊundo kí yaagórizá
 umóóndu wandáárákʊora
 umóóndu yááséémbera
 moróji wááyóómboora
 amáázi gáátávagira
 inyóomba yandééya
 rwáá!yééya
 moryáángo gwayíigora

'the one that we saw'
 'the child who we hit'
 'the person who fainted'
 'the cow which you sold'
 'which person sold'
 'the person who I released'
 'the person who weeded'
 'the witch who over-poured'
 'the water which boiled'
 'the house that I swept'
 'when he swept'
 'the door which he opened'

H verbs

amarwá ga yáánwa
 rwá! ndáánwa
 rwá!ndáávéga
 ekékóóndo chandííta
 ñháma ya ndáádééka
 umwáána yáágériha
 rí rwa yáájágora
 rwá! ndáákáraanga
 umóóndu yááhómoora
 móóndu wa ndáádéékera
 zingóza zya váázázaama
 ekékóómbe cha ndaatúungamija
 umwáána yáátáangaaza
 ekékóóndo chandííta
 ring'ána rya ndíívilla
 umóó!ndó yíigiza

'the beer that he drank'
 'when I drank'
 'when I shaved'
 'the monkey that I killed'
 'the meat that I cooked'
 'the child who was clever'
 'when did he run'
 'when I fried'
 'the person who massaged'
 'the person who I cooked for'
 'the vegetables that they tasted'
 'the cup which I inverted'
 'the child who announced'
 'the monkey that I killed'
 'the word which I forgot'
 'the person who taught'

5.1.4. RELATIVE CLAUSE WITH OP

re-inserting the exx

Enough exx of strange patterns to warrant deeper dig into double-H in Rel question

L

rwá! ndáákísha	when I ground it
rwáá!yáá!ndórá	when he saw me
umóóndu yáákó!rógá	the person who bewitched us
rwá! ndáákí!góra	when I bought it
rwá! ndáákí!rímá	when I plowed it
rwá! ndáákí!yává	when I dug it

rwá!wáává!mígá	when you strangled them
rwá! ndáává!váríza	when I counted them
rwá! ndáákóseka	when I laughed at you
vwahá !yáákí!góríza	who sold it
vwahá !yáává!váríza	who counted them
rwá !cháá!ndávágilla	when it boiled on us
rwá! ndáákí!górí!zá	when I sold it
rwá! ndááké!móró!má	when I spoke it
rwá! ndáákí!dóvó!rá	when I crushed it
rwá! ndáákó!váríza	when I counted you
ribóksi ryandáávavárízira°	box that I counted for them for them
rwá! ndáákó!rákóó!rá	when I released you
rwá! ndááké!séembella	when I weeded it

rwá! ndááké!nóó!rá	when I received it
rwá! ndáákó!rúú!mbá	when I pushed you
rwá! ndááké!ng'óó!dá	when I wrote it
rwá! ndáákóráá!ngá	when I called you
rwá! ndáává!chóó!rá	when I drew them
rwá! ndááké!sóó!má	when I read it
vwahá !yáá!kó!róonda	who followed you

H

rwá! ndáává!tyá	when I feared them
rwá! ndáákínwa	when I drank it
umóúndo yáákóvega	the person who shaved us
rwá! ndáávátega	when I trapped them
rwá! ndáávávega	when I shaved them
ribóksi ryandáávahinolla	box that I lifted for them
rwá! ndáákóroma	when I bit you
vwahá !yáá!kí!tóríza	who removed it
vwahá !yáávábomora	who destroyed them
rwá! ndáákíkaraga	when I sliced it
rwá! ndáákéabomora	when I destroyed it
rwá! ndáávásuguma	when I pushed them
rwá! ndáákívogilla	when I received it
rwá! ndáákíturiza	when I removed it
rwá! ndáávákaraga	when I judged them
rwá! ndáávávodong'ana	when I went around them

umóúndo wáákodéékera	the person who cooked for us
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rwá! ndáákó!sóóvira	when I believed you
rwá! ndáávó!ráágira	when I ate it

rwá! ndááké!déé!ká	when I cooked it
vwahá !yáákí!táága	who planted it

{here are the rest of the EM examples:

ɪnáma yandáá!vadáékera	the meat which I cooked for them
ɪnáma yandáávádeckera	the meat which I cooked for them
ɪnáma yandáávagólízira	the meat which I sold for them
rwá !kwáákí!gávoranya	when we divided it up
rwá !kwáákí!vóróganya	when we stirred it up
rwá !yáákó!déékera	when he cooked for us
rwá! ndáákí!nǎá!nǎ	when I chewed it
rwá! ndáákíkaraanga	when I fried it
rwá! ndáákíkaraanga	when I fried it
rwá! ndáákívogilla	when I received it
rwá! ndáákó!góyáá!nyá	when I confused you
rwá! ndáákóvohoolla	when I untied you
rwá! ndáákó!rákóóra	when I released you
rwá! ndáákósuguma	when I pushed you
rwá! ndáákótivora	when I answered you
rwá! ndáává!dóó!rá	when I picked them us
rwá! ndáávásiróhariza	when I made them stupid
rwá! ndáávávodong'ana	when I went around them
rwá! ndááví!táá!gá	when I planted them
omóóndo wáámbohoollera	the person who untied for me
omóóndo wandáávárakoolla	the person who I released for them
omóóndo yáákí!rákóóra	the person who released it
omóóndo yáákízogaanya°	the person who mixed it up
omóóndo yáándakóora	the person who released me
omóóndo yáángaraanira	the person who fried for me
vwahá !yáá!kírakóóra	who released it
vwahá !yáá!kódéékera	who cooked for us
vwahá !yáá!kógééndiza	who made you walk
vwahá !yáá!várakóóra	who released them
vwahá !yáákíkaraanga	who fried it
vwahá !yáámbohoollera	who untied for me
rwá! ndáává!bíndóka	when I turned them
rwá! ndáákíshaagara	when I sharpened it
rwá! ndáákócheeriza	when I greeted you
rwá! ndáákéseembella	when I weeded it
omóóndo yáákó!véézegella vwaangu	the person who belched on us quickly
omóóndo yáákó!véézegella gáráha	the person who belched on us slowly
rwá! ndáává!róóngíkiza	when I straightened them
omóóndo yáákó!véézegella°	the person who belched on us
rwá! ndáává!rííndúlla	when I waited on them
omóóndo yááváhaanzókra	the person who shouted at them

omóúndo yáává!háanzookira	the person shouted at them
omóúndo yááváhaanzookira	the person who shouted at them
rwá! ndááchéé!yá	when I swept it
rwá! ndáávííta	when I killed them
móúndo yáá!ndéékera	the person who cooked for me
omóúndo wáá!ndéékera	the person who cooked for me
rwá! ndáávíívilla	when I forgot them
rwá! ndááchuŋgira	when I entered it
rwá! ndáácháambuka	when I crossed it
rwá! ndáákwíígalla	when I obstructed you
rwá! ndáávíímilla	when I led them
rwá! ndááchuomija	when I dried it
rwá! ndáákwíígiza	when I taught you
rwá! ndááchóómbaka	when I built it
rwá! ndáávaáŋgohiza	when I sped them up
rwá! ndáákwáágaana	when I met you
vwahá !yáambaandiikira	who wrote for me
rwá! ndáámkorolla	when I coughed on him
rwá kwáámvodong'ana	when we went around him
rwá !kwáámmorómera	when we spoke to him
rwá! ndáám!sáámouora	when I slapped him
omóúndo wandááávoóhoorella	the person who I untied for them

}

{these are ML examples which are similar looking

rwáá!yáá!mbómólla	when he destroyed for me	CVVCVCVCV
rwáá!yáá!mbínágira	when he stirred for me	CVVCVCVCVCV
rwáá!yáá!mínagira	when he stirred for me	CVVCVCVCVCV
rwáá!yáá!mbégá	when he shaved me	CVVCVCV
		CVVCVCV
rwáá!yáá!ngóóna	when he helped me	CVVCVVCV
rwáá!yáá!póóra	when he found me	CVVCVVCV
rwáá!yáá!ndákóóra	when he released me	CVVCVCVVCV
rwáá!yáá!mbóhóólla	when he untied me	CVVCVCVVCV
rwáá!yáá!súúndolla	when he poured on me	CVVCVVCVCV
rwáá!yáá!mbódóng'anira	when he went around me	CVVCVCVCVCVCV
rwáá!yáá!mbííndora	when he turned me	CVVCVVCVCV
rwáá!yáá!ngírong'anya	when he turned me	CVVCVCVCVCV
		CVVCVCV
rwá!váákí!sóoma	when they read it	CVVCVCVVCV
rwá!váákó!róónda	when they followed us	CVVCVCVVCV
rwá!váám!béga	when they shaved him	CVVCVCV
rwá!váákó!véga	when they shaved you	CVVCVCVCV

rwá!váákí!rímá	when they plowed it	CVVCVCVCV
rwá!váágánywa	when they drank it	CVVCVCV
rwá!váágásya	when they ground it	CVVCVCV
rwá!váákótya	when they feared us	CVVCVCV
		CVVCVCVCV
rwá!wáává!hóllá	when you heard them	CVVCVCVCV
rwá!wáákó!tómá	when you sent us	CVVCVCVCV
rwá!wáákí!vóóra	when you said it	CVVCVCVVCV
rwá!wááí!tára	when you said it	CVVCVCVCV
rwá!wáákí!góríza	when you sold it	CVVCVCVCVCV
rwá!wáává!váríza	when you counted them	CVVCVCVCVCV
rwá!wáákó!végéra	when you shaved for us	CVVCVCVCVCV
rwá!váákó!hínóra	when you lifted us up	CVVCVCVCVCV
rwá!váá!nóómba	when you pushed me	CVVCVCV
rwá!váá!súgúma	when you pushed me	CVVCVCVCV
rwá!váákí!vóroganya	when you mixed it up	CVVCVCVCVCVCV
rwá!váám!rákóóra	when they released them	CVVCVCVCVCV
rwá!ndáává!hómóóra	when I massaged them	CVVCVCVCVCV
rwá!ndáává!káraángira	when I fried for them	CVVCVCVCVCVCV
rwá!ndáává!káraángiríza dáave	when I didn't fried for them	CVVCVCVCVCVCVCV
rwá !váákó!végá	when they shaved us	CVVCVCVCV
rwá !váákírya	when they ate it	CVVCVCV
rwá !váákó!déékera	when they cooked for us	CVVCVCVCVCVCV
rwá !váákó!móromira	when they spoke to us	CVVCVCVCVCVCV
rwá !vááké!bómóra	when they destroyed it	CVVCVCVCVCV
rwá !váákó!vódóng'anira	when they went around us	CVVCVCVCVCVCVCV
rwá !váákó!véézegella	when they belched on us	CVVCVCVCVCVCVCV
rwá !váá!ngánáganya	when they thought of me	CVVCVCVCVCV
rwá !váám!gávóraníra	when they divided for him	CVVCVCVCVCVCVCV
rwá !váákíwíranyira	when they returned for us	CVVCVCVCVCVCV
rwá !váákó!gíróng'anyira	when they	CVVCVCVCVCVCVCV
rwá !váám!rákóóra	when they released him	CVVCVCVCVCV
manyi mkáána yaakórimda	I know the girl who watched you	CVVCVCVCVCV
imbwá ya ndáákó!gorízira	the dog that I sold to you	CVVCVCVCVCVCV
inyóómba ya váákúómbakira	the house that then built for you	CVVCVCVCVCVCV
ziséendi zya váákó!tóonga	the money which they paid us	CVVCVCVCVCV
ziséendi zya váákíwíra	the money which they stole from us	CVVCVCVCVCV
zing'óombe zya kwáává!vóhéra	the cows that we tied for them	CVVCVCVCVCV

}

rwá! ndáákísha	'when I ground it'
rwá! ndáává!tyá	'when I feared them'
rwá! ndáákínwa	'when I drank it'
omóóndo yáákó!rógá	'the person who bewitched us'
omóóndo yáákóvega	'the person who shaved us'

omóóndo yáákó!rógá vwaangu	‘the person who bewitched us quickly’
omóóndo yáákóvega vwaangu	‘the person who shaved us quickly’
rwá! ndáákí!górá	‘when I bought it’
rwá! ndáávátega	‘when I trapped them’
vwahá !yáákí!kítórizá	‘who removed it’
vwahá !yáákí!górízá	‘who sold it’
vwahá !yáává!várízá	‘who counted them’
vwahá !yáávábomora	‘who destroyed them’
rwá! ndáákíkaraga	‘when I sliced it’
rwá! ndáákí!dóvó!rá	‘when I crushed it’
rwá! ndáávásuguma	‘when I pushed them’
rwá! ndáákívogilla	‘when I received it’
rwá! ndáákíturiza	‘when I removed it’
rwá! ndááké!móró!má	‘when I spoke it’
rwá! ndáávákaraga	‘when I judged them’
rwá !kwáákí!vóróganya	‘when we stirred it up’
rwá! ndáávávodong’ana	‘when I went around them’
rwá! ndáávásirohariza	‘when I made them stupid’
omóóndo yáákí!rákóóra	‘the person who released it’
vwahá !yáákíkaraanga	‘who fried it’
omóóndo yáángaraanira	‘the person who fried for me’
omóóndo wáámbohoollera	‘the person who untied for me’
vwahá !yáámbohoollera	‘who untied for me’
vwahá !yáá!kógééndiza	‘who made you walk’
rwá! ndáámkorolla	‘when I coughed on him’
rwá kwáámvodong’ana	‘when we went around him’
rwá !kwáámmorómera	‘when we spoke to him’

‘rwá! ndááké!déé!ká’	‘when I cooked it’
‘rwá! ndáákí!kwéé!sá’	‘when I pulled it’
‘rwá! ndáává!chóó!rá’	‘when I drew them’
‘rwá! ndááké!sóó!má’	‘when I read it’
‘rwá! ndáákí!jáá!já’	‘when I chewed it’
‘rwá! ndááví!táá!gá’	‘when I planted them’
‘rwá! ndáává!dóó!rá’	‘when I picked them us’

‘rwá! ndááké!ng’óó!dá’	‘‘when I wrote it’’
‘rwá! ndáákóráá!ngá’	‘‘when I called you’’
‘rwá! ndáává!rúú!mbá’	‘‘when I pushed them’’
‘rwá! ndááké!nóó!rá’	‘‘when I received it’’

<this contradicts the general trend: but these are long-initial so it’s okay>

‘vwahá !yáá!kódéékera’	‘who cooked for us’
‘omóóndu wáakodéékera’	‘the person who cooked for us’
‘omóóndo yáakodéékera’	‘the person who cooked for us’
‘rwá !yáákó!déékera’	‘when he cooked for us’
‘rwá! ndááké!séembella’	‘when I weeded it’
‘rwá! ndáákó!súóvira’	‘when I believed you’
‘rwá! ndáávó!ráágira’	‘when I ate it’
‘rwá! ndáává!bíínduka’	‘when I turned them’
‘rwá! ndáákíshaagara’	‘when I sharpened it’
‘rwá! ndáákócheeriza’	‘when I greeted you’
‘rwá! ndáákéseembella’	‘when I weeded it’

rwá! ndááchéé!yá	‘when I swept it’
rwá! ndáávííta	‘when I killed them’
rwá! ndáávíívilla	‘when I forgot them’
rwá! ndááchingira	‘when I entered it’
rwá! ndáácháámboka	‘when I crossed it’
rwá! ndáákwiígalla	‘when I obstructed you’
rwá! ndáávíímilla	‘when I led them’
rwá! ndááchomija	‘when I dried it’
rwá! ndáákwiígiza	‘when I taught you’
rwá! ndááchóómbaka	‘when I built it’
rwá! ndááváángohiza	‘when I sped them up’
rwá! ndáákwáágaana	‘when I met you’

5.1.5. NEGATIVE

There is a prior issue to solve. The form seems to be sp-ta-a-Mstem with the remote tone pattern (root-initial). But rel-neg of -ku- was similar in form and some (few!) tokens

below with L verbs had only proclitic tone (rótaarima). So perhaps there is a tone-melody minimal pair. Thus, check this stuff.

ML data is substantially different so it needs independent treatment.

Reload of data:

{

sr[n]	EM180422 094532.119	omóónd-atáágwa	the person who didn't fall
sr[n]	EM180422 094532.120	avááandu vataánwa	the people who didn't drink
sr[n]	EM180422 094532.121	omwáán-atááríra	the child who didn't cry
sr[n]	EM180422 094532.122	omóónd-atáávéga	the person who didn't shave
sr[n]	EM180422 094532.123	omwíísokor-atáámóroma	the grandchild who didn't speak
sr[n]	EM180422 094532.124	omóónd-atááróka	the person who didn't vomit
sr[n]	EM180422 094532.131	omóónd-atááyéénga	the person who didn't brew
sr[n]	EM180422 094532.132	omóónd-atáaráama	the person who didn't curse
sr[n]	EM180422 094532.134	omóónd-atááyáara	the person who didn't sue
sr[n]	EM180506 093828.055	omóónd-atáádééka	the person who didn't cook
sr[n]	EM180506 093828.056	avááandu vataádééka	the people who didn't cook
sr[n]	EM180506 093828.057	avááandu vataárya	the people who didn't eat
sr[n]	EM180506 093828.058	avááandu vataápnáána	the people who didn't eat
sr[n]	EM180506 093828.059	omóónd-atáápnáána	the person who didn't eat
sr[n]	EM180506 093828.060	omóónd-atáárya	the person who didn't eat
sr[n]	EM180506 093828.061	yiv-ótáádééka	you who didn't cook
sr[n]	EM180506 093828.062	konyí kótáádééka	we who didn't cook
sr[n]	EM180506 093828.064	ñzí !ndatáádééka	I who didn't cook
or[n]	EM180506 093828.065	omóóndu wataákóóna	the person who he didn't help
or[n]	EM180506 093828.066	omóóndu wa ndatááróra	the person who I didn't see
or[n]	EM180506 093828.067	omóóndu w-otáátóónga	the person who you didn't pay
or[n]	EM180506 093828.068	omóóndu wa kwatááhólla	the person that we didn't hear

or[n[	EM180506 093828.069	omóóndu wa vataáyáánza	the person who they didn't like
or[n[	EM180506 093828.070	omóóndu wa yataávégá	the person who he didn't shave
t[n[	EM180513 085449.004	rwá kwaataárya	when we didn't eat
sr[n[	EM180513 085449.005	omóónd-atááríma	the man who didn't plow
or[n[	EM180513 085449.008	inyóúmba yotééya	the house that you didn't sweep
or[n[	EM180513 085449.009	ovochíma vwotóónoonya	the ugali that you didn't mess up
or[n[	EM180513 085449.010	omóóndu wandataákóópa	the person who I didn't help
or[n[	EM180513 085449.011	avááandu vavataádóya	the people who they didn't hit
or[n[	EM180513 085449.012	eléésoni ya mtáásóóma	the lesson that you pl didn't learn
or[n[	EM180513 085449.013	ligázéti lya mtáásóóma	the newspaper that you pl didn't read
or[n[	EM180513 085449.014	omwáána wandataákóópa	the child that I didn't help
or[n[	EM180513 085449.015	wá!ndataákóópa	the one that I didn't help
or[n[	EM180513 085449.016	avá !ndaáróra	the ones that I saw
or[n[	EM180513 085449.018	owá !ndaáróra	the one that I saw
t[n[	EM180513 085449.019	orwá !ndataádeéka	when I didn't cook
sr[n[	EM180610 101037.011	otáádeéka	the one who didn't cook
sr[n[	EM180610 101037.012	omwáá!n-otáádeéka	the child who didn't cook
sr[n[	EM180610 101037.095	ínz-otáádeéka	I who didn't cook
sr[n[	EM180610 101037.096	yív-otáádeéka	you who didn't cook
sr[n[	EM180610 101037.097	kónyí kótáádeéka	we who didn't cook
sr[n[	EM180610 101037.098	mónyí mótáádeéka	2p who didn't cook
sr[n[	EM180708 093648.035	otáávégá	the one who didn't shave
or[n[	EM180708 093648.059	omóóndu wa kwataáróra	the person who we didn't see
or[n[	EM180708 093648.060	omóóndu wa kotááróra	the person who we didn't see
or[n[	EM180708 093648.061	omóóndu wa ndataáróra	the person who I didn't see
or[n[	EM180708 093648.062	eng'óómbe yotáágóra	the cow that you didn't buy

or[n[	EM180708 093648.063	izíng'óómbé zyamotáákúónga	the cows thay 2p didn't chase
t[n[	EM180708 093648.064	rwá!vátáárya	when they didn't eat
t[n[	EM180708 093648.065	rwá!ndátáárya	when I didn't eat
t[n[	EM180708 093648.066	rwátáárya	when he didn't eat
t[n[	EM180708 093648.067	rwó!táárya	when you didn't eat
t[n[	EM180708 093648.068	rwá!m'táárya	when 2p didn't eat
t[n[	EM180708 093648.069	rwá!vátáárima	when they didn't plow
t[n[	EM180708 093648.070	rwá!vátáágwa	when they didn't fall
t[n[	EM180708 093648.071	rwá!vátááróka	when they didn't vomit
t[n[	EM180708 093648.072	rwá!vátááróma	when they didn't bite
t[n[	EM180708 093648.073	rwá!vátáárirá	when they didn't cry
t[n[	EM180708 093648.074	rwá!vátáánwa	when they didn't drink
t[n[	EM180708 093648.075	rwá!vátááraánga	when they didn't call
t[n[	EM180708 093648.076	rwá!vátáátáága	when they didn't plant
t[n[	EM180708 093648.077	rwá!vátáámóroma	when they didn't speak
t[n[	EM180708 093648.078	rwá!vátáákáraanga	when they didn't fry
t[n[	EM180708 093648.079	rwá!vátáágírong'ana	when they didn't invert
t[n[	EM180708 093648.080	rwá!vátáárákoora	when they didn't release
t[n[	EM180708 093648.083	rwá!vátáávógaana	when they didn't meet
t[n[	EM180708 093648.084	rwá!vátááhómoora	when they didn't massage
sr[n[	EM180722 094039.011	omóúnd-atáávéga	the person who didn't shave
sr[n[	EM180722 094039.012	aváándo vataánwa	the people who didn't drink
sr[n[	EM180722 094039.013	omwáán-atáákáraanga	the child who didn't cry
sr[n[	EM180722 094039.014	voh-á!tááváriza	who didn't count
sr[n[	EM180722 094039.015	vwah- á!táávódong'ana	who didn't go around
sr[n[	EM180722 094039.016	omoundo kí !átáávódong'ana	which person didn't go around
sr[n[	EM180722 094039.017	omoundo k- á!táávódong'ana	which person didn't go around
sr[n[	EM180826 103255.062	utaaíza	the one who didn't come

sr[n[	EM180826 103255.063	otááza	the one who didn't come
t[n[	EM2111131 50111.113	r-ótaarima	when you have not plowed
sr[n[	EM211224 143134.064	otáávéga	the one who didn't shave
sr[n[	ML180108 123735.002	óyó !m!ndó yí !yáátá!déé!ká mbá	this is the person who didn't cook
sr[n[	ML180128 115526.166	mweene yá!táámóróma	the one who didn't speak
sr[n[	ML180128 115526.167	veene vátaakóója	the ones who didn't help
sr[n[	ML180128 115526.168	veene vá!tíimba	the ones who didn't sing
sr[n[	ML180128 115526.169	veene vá!tóombaka	the ones who didn't build
sr[n[	ML180128 115526.170	veene vá!tóóma	the ones who weren't dry
sr[n[	ML180128 115526.171	veene vá!táávórá	the ones who didn't take down
sr[n[	ML180128 115526.172	veene vá!táámbaya	the ones who didn't hang
or[n[	ML180304 163606.040	vósyi vwa ndáátásyá	the flour that I didn't grind
t[n[	ML180304 163606.052	rwá !yáátágóra	when they didn't buy
t[n[	ML180304 163606.053	rwá !yáátágór-ɪnama	when they didn't buy meat
sr[n[	ML180304 163606.060	móúndo yáátá!rímá	the man who didn't plow
or[n[	ML180304 163606.061	kɪgúti chandáátátima	the field that I didn't plow
t[n[	ML180318 110243.061	rwá!yáátá!rórá	when he didn't see
t[n[	ML180318 110243.062	rwá!yáátá!séká	when he didn't laugh
t[n[	ML180318 110243.063	rwá!yáátá!véga	when he didn't shave
t[n[	ML180318 110243.064	rwá!yáátá!hólla	when he didn't hear
t[n[	ML180318 110243.065	rwá!yáátátora	when he didn't leave
t[n[	ML180318 110243.066	rwá!yáátákɪna	when he didn't play
t[n[	ML180318 110243.067	rwá!yáátáraga	when he didn't promise
t[n[	ML180318 110243.068	rwá!yáátárima	when he didn't plow
t[n[	ML180318 110243.069	rwá!yáátároga	when he didn't bewitch
t[n[	ML180318 110243.070	rwá!yáátá!géenda	when he didn't walk
t[n[	ML180318 110243.071	rwá!yáátá!dééká	when he didn't cook
t[n[	ML180318 110243.072	rwá!yáátá!réétá	when he didn't bring
t[n[	ML180318 110243.073	rwá!yáátá!róonda	when he didn't follow

t[n[	ML180318 110243.074	rwá!yáátá!góríza	when he didn't sell
t[n[	ML180318 110243.075	rwá!yáátá!kárágízà	when he didn't judge
t[n[	ML180318 110243.076	rwá!yáátá!náána	when he didn't chew
t[n[	ML180318 110243.077	rwá!yáátá!hégéjá	when he didn't sob
t[n[	ML180318 110243.078	rwá!yáátá!bómórá	when he didn't destroy
t[n[	ML180318 110243.079	rwá!yáátábomora ddíjji	when he didn't destroy a wall
t[n[	ML180318 110243.080	rwá!yáátágoríz- eng'oombe	when he didn't sell a cow
t[n[	ML180318 110243.081	rwá!yáátágoríza eng'oombe	when he didn't sell a cow
t[n[	ML180318 110243.082	rwá!yáátámoróma ná marova	when he didn't speak with Marova
t[n[	ML180318 110243.083	rwá!yáátádeeka vwaangu	when he didn't cook quickly
t[n[	ML180318 110243.084	rwá!yáátá!géénda vwaangu	when he didn't walk quickly
t[n[	ML180318 110243.085	rwá!yáátárákuura	when he didn't release
t[n[	ML180318 110243.086	rwá!yáátákaraanga	when he didn't fry
t[n[	ML180318 110243.087	rwá!yáátávodong'ana	when he didn't go around
t[n[	ML180318 110243.088	rwá!váátávarizana	when they didn't count e.o
t[n[	ML180318 110243.089	rwá!váátásaamboraga nya	when they didn't demolish
t[n[	ML180318 110243.090	rwá!váátáganagana	when they didn't think
t[n[	ML180318 110243.091	rwá!váátáruongikiza	when they didn't straighten
t[n[	ML180318 110243.092	rwá!váátáruongikiza vwaangu	when they didn't straighten quickly
t[n[	ML180318 110243.093	rwá!váátáruongaminy a vwaangu	when they didn't invert quickly
t[n[	ML180318 110243.094	rwá!váátáruongaminy a gáraha	when they didn't invert slowly
t[n[	ML180318 110243.095	rwá!váátáruongikiza vwaangu	when they didn't straighten quickly
t[n[	ML180318 110243.096	rwá!váátáruongikiza gáraha	when they didn't straighten slowly
t[n[	ML180318 110243.097	rwá!váátágrong'anya	when they didn't invert
sr[n[	ML180415 112841.092	omóóndo yáátá!ryá	the person who didn't eat
sr[n[	ML180415 112841.093	omóóndo yáátá!véga	the person who didn't shave

sr[n[	ML180415 112841.094	omóóndo yáátá!syá	the person who didn't grind
sr[n[	ML180415 112841.095	omóóndo yáátá!rírá	the person who didn't cry
sr[n[	ML180415 112841.096	omóóndo yáátá!kíná	the person who didn't play
sr[n[	ML180415 112841.097	omóóndo yáátá!górá	the person who didn't buy
sr[n[	ML180415 112841.098	omóóndo yáátá!tómá	the person who didn't send
sr[n[	ML180415 112841.099	omóóndo yáátá!gwá	the person who didn't fall
sr[n[	ML180415 112841.100	omóóndo yáátá!nywá	the person who didn't drink
sr[n[	ML180415 112841.101	omóóndo yáátá!syá	the person who didn't grind
sr[n[	ML180415 112841.102	omóóndo yáátá!tyá	the person who didn't fear
sr[n[	ML180415 112841.103	omóóndo yáátá!yógá	the person who didn't talk
sr[n[	ML180415 112841.104	omóóndo yáátá!végá	the person who didn't shave
sr[n[	ML180415 112841.105	omóóndo yáátá!hóllá	the person who didn't hear
sr[n[	ML180415 115538.001	omóóndo yáátá!chóóra	the person who didn't draw
sr[n[	ML180415 115538.002	omóóndo yáátá!dééka	the person who didn't cook
sr[n[	ML180415 115538.003	omóóndo yáátá!taága	the person who didn't plant
sr[n[	ML180415 115538.004	omóóndo yáátá!róonda	the person who didn't follow
sr[n[	ML180415 115538.005	omóóndo yáátá!gávóra	the person who didn't divide
sr[n[	ML180415 115538.006	omóóndo yáátá!kára	the person who didn't judge
sr[n[	ML180415 115538.007	omóóndo yáátá!hégéna	the person who didn't sob
sr[n[	ML180415 115538.008	omóóndo yáátá!móroma	the person who didn't speak
sr[n[	ML180415 115538.009	omóóndo yáátá!rákúóra	the person who didn't release
sr[n[	ML180415 115538.010	omóóndo yáátá!káraánga	the person who didn't fry
sr[n[	ML180415 115538.011	omóóndo yáátá!háámbiza	the person who didn't light
sr[n[	ML180415 115538.012	omóóndo yáátá!yíinzira	the person who didn't work
sr[n[	ML180415 115538.013	omóóndo yáátá!vodóng'ana	the person who didn't go around

sr[n[	ML180415 115538.014	omóóndu yáátá!gánáganya	the person who didn't think
sr[n[	ML180415 115538.019	omóóndu yáátá!bómóra	the person who didn't destroy
sr[n[	ML180415 115538.050	mánđu yáátárya	the man who didn't eat
sr[n[	ML180415 115538.051	mánđu yáátáseka	the man who didn't laugh
sr[n[	ML180415 115538.052	mánđu yáátávega	the man who didn't shave
sr[n[	ML180415 115538.053	mánđu yáátádeeka	the man who didn't cook
sr[n[	ML180415 115538.054	mánđu yáátávoha	the man who didn't tie
sr[n[	ML180415 115538.055	mánđu yáátányoora	the man who didn't find
sr[n[	ML180415 115538.056	mánđu yáátáveeha	the man who didn't lie
sr[n[	ML180415 115538.057	mánđu yáátámoroma	the man who didn't speak
sr[n[	ML180415 115538.058	mánđu yáátágavuranya	the man who didn't divide
sr[n	ML180415 121125.019	mánđu yáátádeeka ^o	the man who didn't cook
sr[n	ML180415 121125.020	mánđu yáátárya ^o	the man who didn't eat
sr[n	ML180415 121125.029	mánđu yáátá!górízá íbúri	the man who didn't sell a goat
sr[n	ML180415 121125.030	mánđu yáátá!vórógányá mádúshi	the man who didn't stir up mud
sr[n	ML180415 121125.031	mánđu yáátávodong'ana gáraha	the man who didn't go around slowly
sr[n	ML180415 121125.032	mánđu yáátávodong'ana vwaangũ	the man who didn't go around quickly
sr[n[	ML180520 095442.048	mánđu yáátíimba	the man who didn't sing
or[n[	ML180520 095442.057	váána va ndaatákoopa	the children who I didn't help
or[n[	ML180520 095442.059	imbúri ya ndaatá!góriza	goat which I didn't sell
or[n[	ML180520 095442.061	zing'óómbe zya vaatároonda	cows which I didn't follow
sr[n[	ML180702 094001.056	váándu váátávega	the people who didn't shave
sr[n[	ML180702 094001.057	váándu váátákaraanga	the people who didn't fry
sr[n[	ML180702 094001.058	mwáána yáátávodong'ana	the child who didn't go around
sr[n[	ML180702 094001.059	váána	the children who didn't

		váátáveenzegella	belch
sr[n]	ML180702 094001.060	mndo yáátá!ríinda	the person who didn't wait
sr[n]	ML180702 094001.061	mwí!gízi !yáátáyoga	the teacher who didn't speak
sr[n]	ML180702 094001.062	omórimi yáátárima	the farmer who didn't plow
sr[n]	ML180702 094001.063	mndo yáátávega	the person who didn't shave
sr[n]	ML180702 094001.064	mwáána yáátágwa	the child who didn't fall
sr[n]	ML180702 094001.065	mwáána yáátáhaandiika	the child who didn't write
sr[n]	ML180702 094001.066	mwáána yáátáraanga	the child who didn't call
sr[n]	ML180702 094001.067	mwáána yáátádeeka	the child who didn't cook
sr[n]	ML180702 094001.068	mrími yáátátuonga	the farmer who didn't pay
sr[n]	ML180702 094001.069	mrími yáátákooŋa	the farmer who didn't help
sr[n]	ML180702 094001.070	mndo yáátárákuora	the person who didn't release
sr[n]	ML180702 094001.071	váána váátávohoola	the children who didn't untie
t[n]	ML180702 094001.080	rú !yáátíimba	when he didn't sing
t[n]	ML180702 094001.082	rwá !yáátákaraanga	when he didn't fry

Neg Rel OP

This seems to parallel the general remote with OP pattern

sr[n]	EM18042209 4532.125	omóúnd-atáánuma	the person who didn't bite me
sr[n]	EM18042209 4532.126	omóúnd-atáávároma	the person who didn't bite them
sr[n]	EM18042209 4532.127	omóúnd-atáá!ndórá	the person who didn't see me
sr[n]	EM18042209 4532.128	omóúnd-atáává!rórá	the person who didn't see them
sr[n]	EM18042209 4532.129	omóúnd-atáá!náanga	the person who didn't call me
sr[n]	EM18042209 4532.130	omóúnd-atáákí!táaga	the person who didn't plant it
sr[n]	EM18042209 4532.133	omóúnd-atáákú!ráama	the person who didn't curse us
sr[n]	EM18042209 4532.135	omóúnd-atáákú!yáara	the person who didn't sue us
sr[n]	EM18042209 4532.136	omóúnd-atáándakúóra	the person who didn't release me
sr[n]	EM18042209	omóúnd-atáángaraangira	the person who didn't fry for

	4532.137		me
sr[n]	EM18042209 4532.138	omóúnd-atáákóvóhoolla	the person who didn't untie us
sr[n]	EM18042209 4532.139	omóúnd-atááváhomoorá	the person who didn't massage them
sr[n]	EM18070809 3648.036	otáákóvega	the one who didn't shave us
sr[n]	EM18070809 3648.037	otáákwééna	the one who didn't want us
sr[n]	EM18070809 3648.038	otáákó!rórá	the one who didn't see us
sr[n]	EM18070809 3648.039	otáákwíimbira	the one who didn't sing for us
sr[n]	EM18070809 3648.040	otáákwííta	the one who didn't kill us
sr[n]	EM18070809 3648.041	otáákóholla	the one who didn't hear us
sr[n]	EM18070809 3648.042	otáákétega	the one who didn't trap it
sr[n]	EM18070809 3648.043	otáákó!rógá	the one who didn't bewitch us
sr[n]	EM18070809 3648.044	otáámó!rórá	the one who didn't see him
sr[n]	EM18070809 3648.045	otáákétema	the one who didn't chop it
sr[n]	EM18070809 3648.046	otááchéé!yá	the one who didn't sweep it
sr[n]	EM18070809 3648.047	otááchííva	the one who didn't steal it
sr[n]	EM18070809 3648.048	otááchéé!já	the one who didn't want it
sr[n]	EM18070809 3648.049	otááké!déeka	the one who didn't cook it
sr[n]	EM18070809 3648.050	otáákó!róonda	the one who didn't follow us
sr[n]	EM18070809 3648.051	otáákí!dóvó!rá	the one who didn't crush it
sr[n]	EM18070809 3648.052	otáákí!nágira	the one who didn't catch it
sr[n]	EM18070809 3648.053	otáákí!góriza	the one who didn't sell it
sr[n]	EM18070809 3648.054	otáákó!jíbá	the one who didn't answer us
sr[n]	EM18070809 3648.055	otáákó!tívora	the one who didn't answer us
sr[n]	EM18070809 3648.056	otááké!bómora	the one who didn't destroy it
sr[n]	EM18070809 3648.057	otáákí!vágára	the one who didn't hang it up
t[n]	EM18070809 3648.081	rwá!vátáákó!rákóóra	when they didn't release us
t[n]	EM18070809 3648.082	rwá!vátáákóvohoola	when they didn't untie us
t[n]	EM18070809 3648.085	rwá!vátáá!mbómóóra	when they didn't massage me
t[n]	EM18070809 3648.086	rwá!vátáámbó!móóra	when they didn't massage me
t[n]	EM18070809 3648.087	rwá!vátáámbomoorá	when they didn't massage me
t[n]	EM18070809 3648.088	rwá!vátáámbó!móóra	when they didn't massage me
t[n]	EM18070809 3648.089	rwá!vátáándá!kóóra	when they didn't release me
t[n]	EM18070809 3648.090	rwá!vátáá!mígá	when they didn't strangle me
t[n]	EM18070809 3648.091	rwá!vátáí!mígá	when they didn't strangle me

t[n]	EM18070809 3648.092	rwá!vátáá!jóóra	when they didn't find me
t[n]	ML18031811 0243.059	rwá!ndaátavakaraangriz a	when I didn't fried for them
t[n]	ML18031811 0243.098	rwá!váátákigirong'anya	when they didn't invert it
t[n]	ML18031811 0243.099	rwá!váátákivodong'anira	when they didn't go around it
t[n]	ML18031811 0243.100	rwá!váátákoveenzegella	when they didn't belch on us
t[n]	ML18031811 0243.101	rwá!váátákorakoura	when they didn't release us
t[n]	ML18031811 0243.102	rwá!váátákorakoura gáraha	when they didn't release us slowly
sr[n]	ML18041511 5538.015	omóóndu yáátá!kóhógilla	the person who didn't respond to us
sr[n]	ML18041511 5538.016	omóóndu yáátá!hógira	the person who didn't respond
sr[n]	ML18041511 5538.017	omóóndu yáátáá!mbógilla	the person who didn't respond to me
sr[n]	ML18041511 5538.018	omóóndu yáátááambariza	the person who didn't count me
sr[n]	ML18041511 5538.020	omóóndu yáátákibomora	the person who didn't destroy it
sr[n]	ML18041511 5538.021	omóóndu yáátákokoopa	the person who didn't help us
sr[n]	ML18041511 5538.022	omóóndu yáátáandora	the person who didn't see me
sr[n]	ML18041511 5538.023	omóóndu yáátáganywa	the person who didn't drink it
sr[n]	ML18041511 5538.024	omóóndu yáátákevega	the person who didn't shave us
sr[n]	ML18041511 5538.025	omóóndu yáátáásiingiriza	the person who didn't stop me
sr[n]	ML18041511 5538.026	omóóndu yáátákigoriza	the person who didn't sell it
sr[n]	ML18041511 5538.027	omóóndu yáátákovodong'anira	the person who didn't go around us
sr[n]	ML18041511 5538.028	omóóndu yáátákeveenzegella	the person who didn't belch on us
t[n]	ML18041512 1125.001	rwá !váátáandora	when they didn't see me
t[n]	ML18041512 1125.002	rwá !váátáágásya	when they didn't grind it
t[n]	ML18041512 1125.003	rwá !váátáá!mbégá	when they didn't shave me
t[n]	ML18041512 1125.004	rwá !váátámoholla	when they didn't hear him
t[n]	ML18041512 1125.005	rwá !váátáanguunda	when they didn't defeat me
t[n]	ML18041512 1125.006	rwá !váátáandega	when they didn't defeat me
t[n]	ML18041512 1125.007	rwá !váátámoroga	when they didn't bewitch him
t[n]	ML18041512 1125.008	rwá !vátáákoseka	when they didn't laugh at us
t[n]	ML18041512 1125.009	rwá !váátákibuma	when they didn't measure it
t[n]	ML18041512	rwá !váátákideeka	when they didn't cook it

	1125.010		
t[n]	ML18041512 1125.011	rwá !váátákiguriza	when they didn't sell it
t[n]	ML18041512 1125.012	rwá !váátámkaragizira	when they didn't judge him
t[n]	ML18041512 1125.013	rwá !váátákorakoorá	when they didn't release us
t[n]	ML18041512 1125.014	rwá !váátákikaraangiza	when they didn't fry it
t[n]	ML18041512 1125.015	rwá !váátááninzilla	when they didn't work for me
t[n]	ML18041512 1125.016	rwá !váátákitaandora	when they didn't tear it up
t[n]	ML18041512 1125.017	rwá !váátákovodong'anira	when they didn't do around us
t[n]	ML18041512 1125.018	rwá !váátákigavoranya	when they didn't divide it up
sr[n]	ML18041512 1125.021	mndu yáátákodeekera	the man who didn't cook for us
sr[n]	ML18041512 1125.022	mndu yáátákorakoorá	the man who didn't release us
sr[n]	ML18041512 1125.023	mndu yáátákovohoola	the man who didn't untie us
sr[n]	ML18041512 1125.024	mndu yáátákuuminagira	the man who didn't make porridge for us
sr[n]	ML18041512 1125.025	mndu yáátákuuminagira vosera	the man who didn't make porridge for us
sr[n]	ML18041512 1125.026	mndu yáátákorugira	the man who didn't make ugali for us
sr[n]	ML18041512 1125.027	mndu yáátákorugira vochíma	the man who didn't make ugali for us
sr[n]	ML18041512 1125.028	mndu yáátákodeeker- ipama	the man who didn't cook us meat
sr[n]	ML18070209 4001.072	váána váátákovohoola	the children who didn't untie us
sr[n]	ML18070209 4001.073	váándu váátákokaraangiriza	the people who didn't fry for us
sr[n]	ML18070209 4001.074	mndu yáátám bodong'ana	the person who didn't go around him
sr[n]	ML18070209 4001.075	mndu yáátáásaameeha	the person who didn't forgive me
sr[n]	ML18070209 4001.076	mwáána yáátágasya	
sr[n]	ML18070209 4001.077	mndu yáátákooha	the person who didn't give you
sr[n]	ML18070209 4001.078	mwáána yáátácheeya	the child who didn't sweep it
sr[n]	ML18070209 4001.079	ímbwá yáátáchiita	the dog who didn't kill it
t[n]	ML18070209 4001.081	rú !yáátákwiimbira	when he didn't sing for us
t[n]	ML18070209 4001.083	rwá !yáátákikaraangiza	when he didn't fry it
t[n]	ML18070209 4001.084	rwá !ndáátákovodong'ana	when I didn't go around you

}

Negative relatives likewise generally employ the same root-initial H pattern **seriously too few exx**

With L verbs the H falls on the root initial syllable, except if that syllable is word-final in which case the H stands on the pre-stem syllable (*taa*, the fusion of the negative prefix *a-* and the past prefix *-a-*).

omóónd-atáágwa	‘the person who didn’t fall’
rwá!vátáágwa	‘when they didn’t fall’
omóóndu wa ndatááróra	‘the person who I didn’t see’
omwáán-atááríra	‘the child who didn’t cry’
omóóndu wa kwatááróra	‘the person who we didn’t see’
aváándo vavatáádóya	‘the people who they didn’t hit’

omóóndu wa kutááróra	‘the person who we didn’t see’
omóóndu wa ndatááróra	‘the person who I didn’t see’
eng’óómbe yotáágóra	‘the cow that you didn’t buy’
rwá!vátááríma	‘when they didn’t plow’
rwá!vátááríra	‘when they didn’t cry’
omóóndu w-otáátóónga	‘the person who you didn’t pay’
omóónd-atááráama	‘the person who didn’t curse’
rwá!vátááráanga	‘when they didn’t call’
omwíísokur-atáámóroma	‘the grandchild who didn’t speak’
rwá!vátáámóroma	‘when they didn’t speak’
rwá!vátáárákúora	‘when they didn’t release’
myóómba yotééya	‘the house that you didn’t sweep’

rwá! mtáárya	‘when 2p didn’t eat’
omóónd-atáávéga	‘the person who didn’t shave’
orwá !ndatáádééka	‘when I didn’t cook’
wá! ndatáákóópa	‘the one that I didn’t help’
rwá! vátáávógaana	‘when they didn’t meet’
rwá! vátáákáraanga	‘when they didn’t fry’
rwá! vátáágírong’ana	‘when they didn’t invert’
omoundo k-á!táávódong’ana	which person didn’t go around

ovuchíma vw-otóónoonya	‘the ugali that you didn’t mess up’
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neg rel with OP

omóónd-ataánuma	‘the person who didn’t bite me’
omóónd-ataá!ndórá	‘the person who didn’t see me’
omóónd-ataáváruma	‘the person who didn’t bite them’
omóónd-ataává!rórá	‘the person who didn’t see them’
otáákóvega	‘the one who didn’t shave us’
otáákó!rórá	‘the one who didn’t see us’
otáákóholla	‘the one who didn’t hear us’
otáákétega	‘the one who didn’t trap it’
otáákó!rógá	‘the one who didn’t bewitch us’
otáámó!rórá	‘the one who didn’t see him’
otáákétema	‘the one who didn’t chop it’
otáákó!jibá	‘the one who didn’t answer us’
otáákí!dóvó!rá	‘the one who didn’t crush it’
otáákí!nágira	‘the one who didn’t catch it’
otáákí!góriza	‘the one who didn’t sell it’
otáákó!tívora	‘the one who didn’t answer us’
otááké!bómora	‘the one who didn’t destroy it’
otáákí!vágára	‘the one who didn’t hang it up’
omóónd-ataákóvóhoola	‘the person who didn’t untie us’
omóónd-ataáváhomooora	‘the person who didn’t massage them’
omóónd-ataákí!táaga	‘the person who didn’t plant it’
omóónd-ataákó!ráama	‘the person who didn’t curse us’
omóónd-ataákó!yáara	‘the person who didn’t sue us’
omóónd-ataándakóóra	‘the person who didn’t release me’
otááké!dééka	‘the one who didn’t cook it’
otáákó!róonda	‘the one who didn’t follow us’
omóónd-ataángaraangira	‘the person who didn’t fry for me’
omóónd-ataá!náanga	‘the person who didn’t call me’
otáákwééja	‘the one who didn’t want us’
otáákwíita	‘the one who didn’t kill us’
otááchéé!yá	‘the one who didn’t sweep it’
otááchíiva	‘the one who didn’t steal it’
otááchéé!já	‘the one who didn’t want it’
otáákwíimbira	‘the one who didn’t sing for us’
rwá!vátáá!mígá	‘when they didn’t strangle me’

rwá!vátái!mígá	‘when they didn’t strangle me’
rwá!vátáákó!rákóóra	‘when they didn’t release us’
rwá!vátáákóvohoola	‘when they didn’t untie us’
rwá!vátáá!mbómóóra	‘when they didn’t massage me’
rwá!vátáámbó!móóra	‘when they didn’t massage me’
rwá!vátáámbomoora	‘when they didn’t massage me’
rwá!vátáámbó!móóra	‘when they didn’t massage me’
rwá!vátáándá!kóóra	‘when they didn’t release me’
rwá!vátáá!ńóóra	‘when they didn’t find me’

omóónd-ataá!náanga	the person who didn’t call me
omóónd-ataáki!táaga	the person who didn’t plant it
omóónd-ataáki!ráama	the person who didn’t curse us
omóónd-ataáki!yáara	the person who didn’t sue us
omóónd-ataándakóóra	the person who didn’t release me
omóónd-ataánoma	the person who didn’t bite me
omóónd-ataáváruma	the person who didn’t bite them
omóónd-ataángaraangira	the person who didn’t fry for me
omóónd-ataáváhomooora	the person who didn’t massage them
omóónd-ataáki!náána	the person who didn’t untie us
omóónd-ataá!ndórá	the person who didn’t see me
omóónd-ataává!rórá	the person who didn’t see them

NB ML has a different pattern for rel negative

1: H* only H roots unless CVCV

2: H* prepausal only

Conclusion: data needs serious recheck

#		h	t[n]	ML180318 110243.077	rwá!yáátá!hégéná	when he didn’t sob
#		h	t[n]	ML180318 110243.075	rwá!yáátá!kárágízá	when he didn’t judge
#		h	t[n]	ML180318 110243.076	rwá!yáátá!ńáána	when he didn’t chew
#		h	t[n]	ML180318 110243.078	rwá!yáátá!bómórá	when he didn’t destroy
#		h	sr[n]	ML180128 115526.171	veene vá!táávórá	the ones who didn’t take down
#		h	sr[n]	ML1804 1511284 1.096	omóóndu yáátá!kíná	the person who didn’t play
#		h	sr[n]	ML1804 1511284 1.098	omóóndu yáátá!tómá	the person who didn’t send

#		h	sr[n]	ML1804 1511284 1.104	omóóndo yáátá!véga	the person who didn't shave
#		h	sr[n]	ML180 415115 538.003	omóóndo yáátá!táaga	the person who didn't plant
#		h	sr[n]	ML1804 1511284 1.092	omóóndo yáátá!ryá	the person who didn't eat
#		h	sr[n]	ML1804 1511284 1.093	omóóndo yáátá!véga	the person who didn't shave
#		h	sr[n]	ML1804 1511284 1.100	omóóndo yáátá!nywá	the person who didn't drink
#		h	sr[n]	ML1804 1511284 1.102	omóóndo yáátá!tyá	the person who didn't fear
#		h	sr[n]	ML1804 1511284 1.105	omóóndo yáátá!hóllá	the person who didn't hear
#		h	t[n]	ML180318 110243.063	rwá!yáátá!véga	when he didn't shave
#		h	t[n]	ML180318 110243.071	rwá!yáátá!dééka	when he didn't cook
#		h	t[n]	ML180318 110243.072	rwá!yáátá!rééta	when he didn't bring
#		l	sr[n]	ML1804 1511284 1.103	omóóndo yáátá!yógá	the person who didn't talk
#		l	sr[n]	ML180304 163606.060	móóndo yáátá!rímá	the man who didn't plow
#		l	sr[n]	ML1804 1511284 1.094	omóóndo yáátá!syá	the person who didn't grind
#		l	sr[n]	ML1804 1511284 1.095	omóóndo yáátá!rírá	the person who didn't cry
#		l	sr[n]	ML1804 1511284 1.097	omóóndo yáátá!góra	the person who didn't buy
#		l	sr[n]	ML1804 1511284 1.099	omóóndo yáátá!gwá	the person who didn't fall
#		l	sr[n]	ML1804 1511284 1.101	omóóndo yáátá!syá	the person who didn't grind
#		l	t[n]	ML180318 110243.061	rwá!yáátá!rórá	when he didn't see
#		l	t[n]	ML180318 110243.062	rwá!yáátá!séka	when he didn't laugh
?		h	t[n]	ML180318 110243.064	rwá!yáátá!hólla	when he didn't hear
?		l	t[n]	ML180304 163606.052	rwá !yáátágóra	when they didn't buy
?	+	l	t[n]	ML180304 163606.053	rwá !yáátágór-ɪnama	when they didn't buy meat
0		h	sr[n]	ML180 415115 538.056	mndo yáátáveeha	the man who didn't lie
0		h	t[n]	ML180318 110243.065	rwá!yáátátora	when he didn't leave
0		h	t[n]	ML180318 110243.066	rwá!yáátákina	when he didn't play
0		h	sr[n]	ML180 415115 538.050	mndo yáátárya	the man who didn't eat
0		h	sr[n]	ML180 415115 538.052	mndo yáátávega	the man who didn't shave
0		h	sr[n]	ML180 415115	mndo yáátádeeka	the man who didn't cook

				538.053		
0		h	sr[n]	ML180 415115 538.054	m̄ndu yáátávoha	the man who didn't tie
0		h	t[n]	ML180318 110243.086	rwá!yáátákaraanga	when he didn't fry
0		h	t[n]	ML180318 110243.087	rwá!yáátávodong'ana	when he didn't go around
0		h	t[n]	ML180318 110243.097	rwá!váátágrong'anya	when they didn't invert
0		l	t[n]	ML180318 110243.067	rwá!yáátáraga	when he didn't promise
0		l	t[n]	ML180318 110243.089	rwá!váátásaamboraganya	when they didn't demolish
0		l	t[n]	ML180318 110243.090	rwá!váátáganagana	when they didn't think
0		l	t[n]	ML180318 110243.091	rwá!váátáruongikiza	when they didn't straighten
0		l	sr[n]	ML180304 163606.040	vósyi vwa ndáátásyá	the flour that I didn't grind
0		l	sr[n]	ML180 415115 538.055	m̄ndu yáátányoora	the man who didn't find
0		l	sr[n]	ML180 415115 538.058	m̄ndu yáátágavoranya	the man who didn't divide
0		l	sr[n]	ML180304 163606.061	kigúti chandáátárima	the field that I didn't plow
0		l	sr[n]	ML180 415115 538.051	m̄ndu yáátáseka	the man who didn't laugh
0		l	sr[n]	ML180 415115 538.057	m̄ndu yáátámoroma	the man who didn't speak
0		l	t[n]	ML180318 110243.068	rwá!yáátárima	when he didn't plow
0		l	t[n]	ML180318 110243.069	rwá!yáátároga	when he didn't bewitch
0		l	t[n]	ML180318 110243.085	rwá!yáátárákoura	when he didn't release
0		l	t[n]	ML180318 110243.088	rwá!váátávarizana	when they didn't count e.o
0	+	h	t[n]	ML180318 110243.079	rwá!yáátábomora ddiiji	when he didn't destroy a wall
0	+	h	t[n]	ML180318 110243.083	rwá!yáátádeeka vwaangu	when he didn't cook quickly
0	+	h	t[n]	ML180318 110243.093	rwá!váátátuongaminya vwaangu	when they didn't invert quickly
0	+	h	t[n]	ML180318 110243.094	rwá!váátátuongaminya gáráha	when they didn't invert slowly
0	+	l	t[n]	ML180318 110243.092	rwá!váátáruongikiza vwaangu	when they didn't straighten quickly
0	+	l	t[n]	ML180318 110243.095	rwá!váátáruongikiza vwaangu	when they didn't straighten quickly
0	+	l	t[n]	ML180318 110243.096	rwá!váátáruongikiza gáráha	when they didn't straighten slowly
2		h	sr[n]	ML180 415115 538.007	omóóndu yáátá!hégéna	the person who didn't sob
2		h	sr[n]	ML180 415115 538.006	omóóndu yáátá!kárága	the person who didn't judge
2		h	sr[n]	ML180 415115 538.010	omóóndu yáátá!káráanga	the person who didn't fry
2		h	sr[n]	ML180	omóóndu	the person who didn't go

				415115 538.013	yáátá!vódóng'ana	around
2		h	sr[n]	ML180 415115 538.019	omóóndo yáátá!bómóra	the person who didn't destroy
2		l	sr[n]	ML180 415115 538.014	omóóndo yáátá!gánáganya	the person who didn't think
2		l	sr[n]	ML180128 115526.166	mweene yá!táámóróma	the one who didn't speak
2		l	sr[n]	ML180 415115 538.005	omóóndo yáátá!gávóra	the person who didn't divide
2		l	sr[n]	ML180 415115 538.008	omóóndo yáátá!móróma	the person who didn't speak
2		l	sr[n]	ML180 415115 538.009	omóóndo yáátá!rákóóra	the person who didn't release
2		l	t[n]	ML180318 110243.074	rwá!yáátá!góriza	when he didn't sell
2	+	l	t[n]	ML180318 110243.080	rwá!yáátágoríz- eng'oombe	when he didn't sell a cow
2	+	l	t[n]	ML180318 110243.081	rwá!yáátágoriza eng'oombe	when he didn't sell a cow
2	+	l	t[n]	ML180318 110243.082	rwá!yáátáamoróma ná marova	when he didn't speak with Marova
q		h	sr[n]	ML180128 115526.170	veene vá!tóóma	the ones who weren't dry
q		h	sr[n]	ML180128 115526.172	veene vá!táámbyaya	the ones who didn't hang
q		h	sr[n]	ML180 415115 538.011	omóóndo yáátá!háámbiza	the person who didn't light
q		h	sr[n]	ML180 415115 538.002	omóóndo yáátá!dééka	the person who didn't cook
q		l	sr[n]	ML180 415115 538.001	omóóndo yáátá!chóóra	the person who didn't draw
q		l	sr[n]	ML180128 115526.167	veene vátaakóóna	the ones who didn't help
q		l	sr[n]	ML180128 115526.168	veene vá!tíímbya	the ones who didn't sing
q		l	sr[n]	ML180128 115526.169	veene vá!tóómbaka	the ones who didn't build
q		l	sr[n]	ML180 415115 538.004	omóóndo yáátá!róónda	the person who didn't follow
q		l	sr[n]	ML180 415115 538.012	omóóndo yáátá!yíinzira	the person who didn't work
q		l	sr[n]	ML18 05200 95442. 048	rńndo yáátíímbya	the man who didn't sing
q		l	t[n]	ML180318 110243.070	rwá!yáátá!géénda	when he didn't walk
q		l	t[n]	ML180318 110243.073	rwá!yáátá!róónda	when he didn't follow
q	+	l	t[n]	ML180318 110243.084	rwá!yáátá!géénda vwaangũ	when he didn't walk quickly

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<should do past hab next since it is the same as prec minus fv issue

- (1) a. máá !kó[góraa] 'we usually buy'
máá !kó[górizaa] 'we usually sell'
máá !kó[háandiikaa] 'we usually write'
b. máá !kó[végaa] 'we usually shave'
máá !kó[déékaa] 'we usually cook'
máá !kó[káraangaa] 'we usually fry'

5.2. Future consecutive:

The consecutive future (ma SP-stem-a 'then SUBJ Verbs') mostly follows the pattern of the remote past, except with CV roots, therefore H is assigned to the root-initial syllable (then splits into a H!H sequence if word-final). The main divergence from the pattern of the remote past is that H is assigned to the final vowel in this tense in the case of CV stems, unlike the remote tense.

L verbs

m-óó!tá	'then you bury'
má vá!shá	'then they grind'
m-áá!zyá	'then he goes'
máá níma	'then I plow'
máá ngóra	'then I buy'
m-óóróga	'then you bewitch'
m-áágóta	'then he is lost'
m-ááyénga	'then he brews'
m-óórééva	'then you are drunk'
má kóváriza	'then we count'
má kómóroma	'then we speak'
maa ndákuora	'then I release'
má kógóyaana	'then we are disarranged'
m-óóháábika	'then you are drunk'
má kúsóóvira	'then we believe'
má kótáángaaza	'then we announce'
máá síníkiza	'then he annoys'

máá mbéézegera	‘then I belch’
maa vaháángarizana	‘then they argue’
máá nzéya	‘then I sweep’
má yúúnga	‘then he joins’
ma váávoka	‘then they branch off’
ma kwáámboka	‘then we cross’
ma wáámbagilla	‘then you reach towards’

H verbs

m-íí!shá	‘then it is cooked’
m-áá!kwá	‘then he pays dowry’
m-úú!nwá	‘then you drink’
máá nóma	‘then I bite’
má kóróma	‘then we bite’
m-úúkúza	‘then you die’
má vávéga	‘then they shave’
m-óótéma	‘then you chop’
máá sóúva	‘then I throw out’
máá ndáága	‘then I plant’
má kórééta	‘then we bring’
m-úúchéreva	‘then you be late’
máá mbúguma	‘then I hum’
máá njéreva	‘then I am late’
m-áákáraanga	‘then she fries’
m-áávóhoola	‘then he unties’
má njúókanya	‘then I mix up’
má kótáángaaaza	‘then we announce’
má váchiring’ana	‘then they are quiet’
má váhónonoka	‘then they escape’
má kwááha	‘then we pick leaves’
má vííga	‘then they learn’
ma wíímba	‘then you sing’
ma kwááyura	‘then we shout’
má kwóúmbaka	‘then we build’
má wíízuriza	‘then you fill’
máá núbmbaka	‘then I build’
ma kwóónoonya	‘then we mess up’
má váávoranya	‘then they cut up’
maa nzágoroka	‘then I fall down’

The pattern with an OP is the same as that of the remote tense. With L verbs, there is H on the OP (or SP if the OP merges syllabically with the SP syllable) and H on the second stem vowel: except, there is no root-initial H with CV roots.

L verbs

má kókísha	‘then we grind it’
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m-áákísha	‘then he grinds it’
máá ngó!rógá	‘then I bewitch you’
m-áákí!górá	‘then he buys it’
m-áákó!sémá	‘then he insults us’
máá ngó!rímá	‘then I plow it’
má kóké!sóóma	‘then we read it’
má kókó!róónda	‘then we follow you’
máá !m’kíínga	‘then I protect him’
maa ngí!súng’úsa	‘then I shake it’
maa ngí!góríza	‘then I sell it’
m-áá!ndígíjpa	‘then he tickles me’
ma kokó!yíínzilla	‘then we work for you’
m-áá!ñíínzilla	‘then he works for me’
máá ngó!kúúmbeella	‘then I hug you’
ngó!mórómera	‘then I speak to you’
m-áá!símógokiza	‘then he revives me’
m-áá!náándizilla	‘then he spreads for me’
maa mbá!símógokiza	‘then I revive them’

With vowel-initial L stems, there is only a single root-initial H

m-ááchééya	‘then he sweeps’
máá mwéépa	‘then I want him’
ma vachóóha	‘then they scatter it’
ngwíígalla	then I obstruct you
mbíínamijpa	then I turn them upside down
kómwáámbakana	then we refuse him
vákwíízoriza	then they remember us

BUT! 1s OP

m-áá!ñámbagilla	‘then she reaches to me’
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H verbs have H only on the OP, and no H within the stem

<need another collection of H verbs CVV-initial: is no-stem-H option length-related?>

H verbs

má kókínwa	‘then we drink it’
m-áágánwa	‘then she drinks it’
máá mbátya	‘then I fear them’
máá ngóroma	‘then I bite you’
má váámbega	‘then they shave me’
ma váángella	‘then they milk for me’
m-áákóvega	‘then he shaves us’
m-áákékora	‘then he does it’
má kókédeeka	‘then we cook it’
máá ngékoroga	‘then I stir it’

má kókívogora 'then we take it'
 maa mbákaraga 'then I judge them'
 ma kóvívohoolla 'then we untie them'

vákítaangaaza	then they announce it
ngísuondorapa	then I over-pour it
áágíkaraanga	then she fries it
ngíjookapa	then I mix it up

maa ngévodong'ana 'then I go around it'
 maa ngéhononoka 'then I escape it'
 má kúvágirung'anya 'then we turn them around'

vákísaamborogapa	then they dismantle it
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m-áákwiíta 'then he kills us'
 máá njíga 'then I learn it'
 máá njáaga 'then I scratch it'
 má kókwígiza 'then we teach you'
 má váchiíngira 'then they enter it'
 m-úúvóónoonya 'then you mess them up'

kóchúómbaka	then we build it
vácháátapa	then they break it
áákwáávokapa	then he separates us

má kóké!déeka	'then we cook it'
m-áákí!táaga	'then he plants it'
m-áá!kísóóva	'then he throws out it'
m-áákí!ríinga	'then she folds it'
máá m!gúóta	'then I defeat him'
m-áá!njóóra	'then she draws me'

Retention option only CVVCV roots?

6. Imperative

The bare imperative has a unique tone pattern. L verbs are all-L.

gwa 'fall!'
 sha 'grind!'

gora	‘buy!’
yiza	‘come!’
seka	‘laugh!’
yimba	‘sing!’
sheeva	‘dance!’
choori	‘draw-pl!’
yinama	‘bend over!’
borochi	‘fly!’
yivilla	‘forget!’
yigora	‘open!’
moroma	‘talk!’
dugoda	‘write!’
rakuora	‘release!’
taandori	‘tear to pieces!’
seembera	‘weed!’
huunduulla	‘stare!’
haanzooka	‘talk loudly!’
haanduka	‘write!’
sinyikiza	‘annoy!’
gavuranya	‘dole out!’
yanigira	‘go up!’
yambakana	‘refuse!’
saamburuganya	‘dismantle!’
moromerani	‘speak for e.o!’
saamburuganyirana	‘dismantle for e.o!’

H verbs with more than three moras have final H, which typically spreads to the left. Some speakers have a tendency to not spread H to the first root syllable

nwa	‘drink!’
tya	‘fear!’
tema	‘chop!’
vegwa	‘get shave!’
yiva	‘steal!’
reetá	‘bring!’
deeká	‘cook!’
koopá, kóopá	‘help!’
trvóra	‘answer!’
yombáká, yómbáká	‘build!’
koróra	‘cough!’
bomóra	‘demolish!’
yiníká	‘ferment!’
nagóra	‘run!’
vohóóllá, vóhóóllá	‘untie!’
yónóónyá	‘make a mess!’
yagááná	‘meet!’

cheerizá	‘greet!’
jookányá	‘mix!’
kuuniká	‘cover!’
taangáází	‘announce!’
saangáára	‘be happy!’
haambáána	‘join up!’
yooyóomá	‘run slow!’
yagóroká	‘come down!’
fóroványá	‘eat gluttonously!’
vodóng'ána, vódóng'ána	‘go around!’
gíróng'ányá	‘invert’
yarámíjána	‘open!’
deekérání	‘cook for e.o!’
goongómányá	‘roll!’
tuong'amínyá	‘turn!’
gárángátána	‘fall and roll over!’
karáángirání	‘fry for e.o!’

Object prefixes do not appear in this verb form, nor are there any clause-type variants.

7. Negative Imperative (placeholder)

Looks like this is same as negative subjunctive, minus the SP

M2 with a quirk. Relatively little data lacking the negator. Those exx are here:

L verbs a straightforward M2

	tagwá	don't fall
	tarímí	don't plow pl.
	tasóósa	don't relax
	tadííra	don't touch
	taráánji	don't call pl.
	taváríza	don't count
	tamóróma	don't speak
	tadígíjána	don't tickle
	taváríza	don't count
	tavárízi	don't count pl.
	tarakóóra	don't release
	tahóóroka	don't relax
	taséémbella	don't weed
	tahíírnta	don't snore
	tazáázaama	don't taste
	taháánzooka	don't shout

	tasáám̄boroganya	don't dismantle
	teeyá	don't sweep
	taambóka	don't cross
	taayóra	don't shout

H verbs either toneless or final H, mostly toneless

	tanwa	don't drink
	tavega	don't shave
	takuza	don't die
	takubi	don't beat pl.
	taveji	don't shave pl.
	tadeeka	don't cook
	tadeeká	don't cook
	tadeeká	don't cook sg
	tadeechí	don't cook pl.
	tadeeka	don't cook sg
	tadeechi	don't cook pl.
	tadeechi	don't cook pl.
	tadeechi	don't cook pl.
	takarájí	don't judge pl.
	taṅagura	don't run
	takaraanga	don't fry
	takaraanji	don't fry pl.
	tavodong'áná	don't go around
	tavodong'ání	don't go around pl.
	tatuungamíná	don't taste
	tiigízá	don't teach

with OP (need more)

1	takíshá	don't grind it
1	taashá	don't grind me
2	tam'díira	don't touch him
2	taandíira	don't touch me
2	tíidóyá	don't hit yourself
3	tavarákóóra	don't release them
3	tíiváríza	don't count yourself
3	taambáríza	don't count me
4	taamóromera	don't speak for me

1	tákíryá	don't eat it
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2	tarwíimba	don't sing it
2	tíkóba	don't beat yourself
2	tínywééka	don't cane yourself
2	taambéga	don't shave me
2	takovéga	don't shave us
2	takínpáápa	don't eat it
2	taandééka	don't cook me
3	takokáraga	don't judge us
5	takisáámboroganya	don't disassemble it

Then with following negator (maybe shift to sandhi section depending on whether this reveals anything):

c	CVCV	2	1	tanwa dá'	don't drink
c	CVCVCV	3	2	tavega mbá	don't shave
c	CVCVCV	3	2	tayata mbá	don't surgery
c	CVCVCV	3	2	tayavá !mbá	don't dig!
c	CVCVCV	3	2	tayéyá !mbá	don't sweep!
c	CVCVCV	3	2	tayimba mbá	don't sing!
c	CVCVCV	3	2	tayógá !mbá	don't talk!
c	CVCVCV	3	2	tayona mbá	don't sin
c	CVCVVCV	3	2	tagéénda mbá	don't walk
c	CVCVVCV	3	2	takwuonga dáave	don't chase!
c	CVCVVCV	3	2	tayáá!nzá mbá	don't love!
c	CVCVVCV	3	2	tayíí!ngá mbá	don't be foolish!
c	CVCVVCV	3	2	tayóó!yá mbá	don't scoop!
c	CVCVVCV	3	2	tísóó!ndá dáave	don't move!
c	CVCVCVCV	4	3	tabóróka dá'	don't fly
c	CVCVCVCV	4	3	tagóri!zá dáave	don't sell!
c	CVCVCVCV	4	3	tagóriza dáave	don't sell
c	CVCVCVCV	4	3	takaraanga dáave	don't fry!
c	CVCVCVCV	4	3	tamóroma dáave	don't speak
c	CVCVCVCV	4	3	tapagura dáave	don't run
c	CVCVCVCV	4	3	tapagora dáave	don't run
c	CVCVCVCV	4	3	tapagora dá?	don't run
c	CVCVCVCV	4	3	tayambó!ká mbá	don't cross
c	CVCVCVCV	4	3	tayavora mbá	don't take down!
c	CVCVCVCV	4	3	tayombaka mbá	don't build!
c	CVCVCVCV	4	3	tayombaka mbá	don't build
c	CVCVCVVCV	4	3	takaraanga dá'	don't fry
c	CVCVCVVCV	4	3	takaraanga dáave	don't fry!
c	CVCVCVVCV	4	3	takaraanga dáave	don't fry
c	CVCVCVVCV	4	3	takaraanga dáave	don't fry
c	CVCVCVVCV	4	3	takaraanga mbá	don't fry
c	CVCVCVVCV	4	3	tarákóó!rá dáave	don't release!
c	CVCVCVVCV	4	3	tayonoonya dáave	don't mess up!

c	CVCVVCVVCV	4	3	taháá!ndíká dá	don't write
c	CVCVVCVVCV	4	3	tahaambaana dáave	don't join
c	CVCVVCVVCV	4	3	tayóó!mbóóra mbá	don't overpour!
c	CVCVCVCVCV	5	4	tavóróganya dáave	don't stir
c	CVCVVCVCVCV	5	4	tatoongaminya dáave	don't turn
c	CVCVVCVCVCV	5	4	tavéénzegera dáave	don't belch
c	CVCVVCVCVCV	5	4	tavéénzegera mba ^o	don't belch
	CVVCV	2	2	taaná !dáave	don't moo!
	CVVCV	2	2	taana dáave	don't moo
	CVVCV	2	2	taara dáave	don't spread
	CVVCV	2	2	taata dáave	don't surgery!
	CVVCV	2	2	taata dáave	don't surgery
	CVVCV	2	2	taata mbá	don't surgery
	CVVCV	2	2	taazá !dáave	don't come
	CVVCV	2	2	taita mbá	don't kill!
	CVVCV	2	2	teepá !dáave	don't want!
	CVVCV	2	2	teeyá !dáave	don't sweep
	CVVCV	2	2	teeyá !mbá	don't sweep!
	CVVCV	2	2	teeyá daave	don't sweep!
	CVVCV	2	2	teeyá daave	don't sweep!
	CVVCV	2	2	tiihá !dáave	don't extract!
	CVVCV	2	2	timba dáave	don't sing!
	CVVCV	2	2	timba dáave	don't sing!
	CVVCV	2	2	timba dáave	don't sing!
	CVVCV	2	2	timba dáave	don't sing!
	CVVCV	2	2	timba mbá	don't sing!
	CVVCV	2	2	tiita dáave	don't kill!
	CVVCV	2	2	tiita dáave	don't kill
	CVVCV	2	2	tiita dáave	don't kill!
	CVVCV	2	2	tiita mbá	don't kill!
	CVVCV	2	2	tiiva dáave	don't steal!
	CVVCV	2	2	toona dáave	don't sin!
	CVVCV	2	2	toona mbá	don't sin
	CVVCV	2	2	tooma dáave	don't be dry!
	CVVCV	2	2	tuongá !dáave	don't join!
	CVVCV	2	2	tuonga dáave	don't join!
	CVVCV	2	2	tuonga dáave	don't join!
	CVVCVCV	3	3	taambá!yá dáave	don't swing!
	CVVCVCV	3	3	taambó!ká dáave	don't cross!
	CVVCVCV	3	3	taambó!ká mbá	don't cross
	CVVCVCV	3	3	taambóka dá'	don't cross
	CVVCVCV	3	3	taambóka dáave	don't cross
	CVVCVCV	3	3	taambóka dáave	don't cross
	CVVCVCV	3	3	taambóka dáave	don't cross!
	CVVCVCV	3	3	taavora dáave	don't take off line
	CVVCVCV	3	3	taavora mbá	don't take down!
	CVVCVCV	3	3	teelléka dáave	don't go downhill!
	CVVCVCV	3	3	teerémá !dáave	don't float!
	CVVCVCV	3	3	teerémá !dáave	don't float!
	CVVCVCV	3	3	teerema dáave	don't float

CVVCVCV	3	3	teerema dáave	don't float
CVVCVCV	3	3	teerema dáave	don't float
CVVCVCV	3	3	teeréma dáave	don't float
CVVCVCV	3	3	teeté!gá dáave	don't squat!
CVVCVCV	3	3	teeté!gá dáave	don't squat!
CVVCVCV	3	3	teeté!gá dáave	don't squat!
CVVCVCV	3	3	tiigá!llá dáave	don't obstruct!
CVVCVCV	3	3	tiigiza dáave	don't teach!
CVVCVCV	3	3	tiigiza dáave	don't teach
CVVCVCV	3	3	tiigiza dáave	don't teach!
CVVCVCV	3	3	tiigiza dáave	don't teach!
CVVCVCV	3	3	tiigizá dáave	don't teach!
CVVCVCV	3	3	tiigó!rá dáave	don't open!
CVVCVCV	3	3	tiigóra dáave	don't open
CVVCVCV	3	3	tiigóra dáave	don't open!
CVVCVCV	3	3	tiigota dáave	don't be satisfied!
CVVCVCV	3	3	tiiká!rá dáave	don't sit!
CVVCVCV	3	3	tiimana dáave	don't be selfish!
CVVCVCV	3	3	tumí!llá dáave	don't lead!
CVVCVCV	3	3	tíngirá dáave	don't enter
CVVCVCV	3	3	tiiroka dáave	don't flee
CVVCVCV	3	3	tiitani dáave	don't kill e.o
CVVCVCV	3	3	tiitó!llá dáave	don't pour!
CVVCVCV	3	3	tiitolla dáave	don't pour!
CVVCVCV	3	3	tiiví!llá dáave	don't forget!
CVVCVCV	3	3	tiivílla dáave	don't forget
CVVCVCV	3	3	toononya dáave	don't mess up!
CVVCVCV	3	3	toombaka dáave	don't build!
CVVCVCV	3	3	toombaka dáave	don't build!
CVVCVCV	3	3	toombaka mbá	don't build!
CVVCVCV	3	3	toombaka mbá	don't build
CVVCVCV	3	3	toomija dáave	don't dry!
CVVCVCV	3	3	toomija dáave	don't dry!
CVVCVVCV	3	3	teegóomba dáave	don't wish!
CVVCVVCV	3	3	tiitá!ngá dáave	don't come first!
CVVCVVCV	3	3	tiivá!mbá dáave	don't dress up!
CVVCVVCV	3	3	toononya dáave	don't mess up!
CVVCVVCV	3	3	toongáanya dáave	don't join!
CVVCVCVCV	4	4	taaramija dáave	don't open
CVVCVCVCV	4	4	taaramija dáave	don't open!
CVVCVCVCV	4	4	tiikivoka dáave	don't turn the head!
CVVCVCVCV	4	4	tiiná!míná dáave	don't turn upside down!
CVVCVCVCV	4	4	tiizoriza dáave	don't fill!
CVVCVCVCV	4	4	tiizórizá dáave	don't remember!
CVVCVCVCV	4	4	tiizórizá dáave	don't remember

8. Double-H patterns

In the double-H patterns, lexical tone contrasts are neutralized, and there are two H tones on relatively long stems, the first on the second stem syllable and the second H on the final vowel, with leftward spreading of both H tones. When the stem has three or fewer syllables, the number of Hs or the positioning of the Hs differs. When the stem has 1 or 2 syllables, there is a single H, on the final syllable. Trisyllabic stems are more variable, but generally there is a H on the second syllable, and possibly a final H. If the penult has a long vowel, it is more likely that the second H will be present, and if the penult is short, it is most likely that the second H will not be present. There is token and speaker variability on this point. **Let's see if this is still true at the end**

<check recent additions to see if anything changes, feb 2020>

8.1. Imperative with OP

There are three segmental morphological patterns for the imperative with OP, but one tone pattern. A plural imperative is marked with final *-i*; the final vowel is *-a* in case the OP is 1sg; otherwise the final vowel is *-I* (lowered to [e] after mid vowels, see X).

L verbs

kishé	'grind it!'
kororé	'see us!'
gigorí	'buy _{-pl} it. ₉ !'
yirómí	'bite yourself!'
ngollá	'buy for me!'
vátéévé	'ask them!'
kuchooré	'draw us!'
ndeevá	'ask me!'
koríndí	'watch _{-pl} us!'
gayooyé	'scoop it. ₆ !'
vaválízi	'count them!'
yiválízi	'count yourself!'
nzavíra	'bury me!'
nímíra	'plow for me!'
varakóóri	'release them!'
ndakóóra	'release me!'
vasovíri	'believe them!'
koyeengéeri	'brew _{-pl} for us!'
nzeengéra	'brew for me!'
kohuundó!ólí	'stare at us!'
yihuundó!ólí	'stare at yourself!'
kíhaandí!íkí	'write it. ₇ !'
mboró!kírá	'fly for me!'
komoró!méré	'speak to us!'
koganá!gáné	'think of us!'
ngorí!zírí	'sell _{-pl} for me!'

koveezé!gélle
vahaandí!hírí
mbaanzóó!kírá

'belch for us!'
'write to them!'
'shout at me!'

jenyá
veenyé
nzivílla
viigólli
nzambá!káné
yiyambó!kírí
yiyóngáá!nyírí
nzongáá!nyírá
yiyóúngáá!nyírí
mwaambó!kírí

'look for me!'
'look for them!'
'forget me!'
'open for them!'
'refuse me!'
'cross for self!'
'join for yourself!'
'join for me!'
'join for yourself!'
'cross for him!'

<i>yügó!llí</i>	<i>buy for yourself!</i>
<i>yügó!llí</i>	<i>buy for yourself!</i>

<hmmm maybe a pattern?
also tokens like:

<i>yítuumí!rí</i>	<i>jump for self!</i>
koseembé!llé	weed for us
<i>vagávó!llí</i>	<i>dole out to them!</i>
<i>kísong'ó!sí</i>	<i>shake it</i>
mbòundó!ólá	stare at me!

<aha, any with long penult and only s2 H?

H verbs:

yeté
vatí
ganwí
numá
vikobí
mòromí
mbegá
kokuurí
vakoopé
ngooóná
ndrvólla
vadígínyi
jìkará!ángé
mbohó!óllá
vadeeké!ré

'bury yourself!'
'bury-pl them!'
'drink it-6!'
'bite me!'
'beat them-s!'
'bite him!'
'shave me!'
'extract-pl us!'
'help them!'
'help me!'
'answer me!'
'tickle-pl them!'
'fry it-9!'
'untie me!'
'cook for them!'

kodeekére	‘cook for us!’
vasaalízi	‘injure them!’
ndeekéra	‘cook for me!’
kízaazá!ámé	‘taste it!’
saangá!állá	‘be happy for me!’
nguumbé!é!á	‘hug me!’
ngiró!ng’á!ná	‘invert me!’
kevodó!ng’áné	‘go around it!’
vakará!ngírí	‘fry for them!’
ngará!ángírá	‘fry for me!’
kíkará!ngírání	‘fry it for e.o!’
nzatá	‘do surgery on me!’
nzitá	‘kill me!’
kwaaté	‘do surgery on us!’
nzimílla	‘go ahead of me!’
nzirú!úllá	‘winnow for me!’
viigízi	‘teach them!’
kwiirú!úllí	‘winnow for us!’
kweéré!méri	‘float _{-pl} for us!’
vumíll!ízi	‘make them go ahead !’

koṅagóllí	run for us!
<i>koṅagó!llí</i>	<i>run for us!</i>

kedéé!kérání	cook it for e.o
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<em: this could be a thing, i.e H roots are actually different

8.2. Immediate imperative

8.2.1. STEM WITHOUT OP

There is speaker variation in the pattern of the immediate imperative (ka-STEM-1). For ML, the pattern is simply a final H for H and L roots, which can spread to the left

kasyí	‘now grind!’
kagoné	‘now sleep!’
karímí	‘now plow!’
kaseké	‘now laugh!’
kageendé	‘now walk!’
keeyé	‘now sweep!’
kamoromé	‘now talk!’
kahaandikí	‘now write!’
karúndání	‘now wait for e.o!’

kaseembéré	‘now weed!’
kayɪnzírí	‘now work!’
kaveenzégéré, kaveenzegéré	‘now belch!’

karyí	‘now eat!’
karómí	‘now bite!’
kadeechí	‘now cook-pl!’
kiití	‘now kill!’
kaveganí	‘now shave e.o!’
kakaraangé	‘now fry!’
kavohóóllé	‘now untie!’
káchéérízí	‘now greet!’
kagírɔŋ’ané	‘now turn!’
kaveganerí	‘now shave for e.o!’
katɔŋgamínyí, katɔŋgamínyí	‘now invert!’

Speakers EM and PM have a more complex pattern, which depends on the number of syllables in the stem and the length of the penult syllable. With monosyllabic and disyllabic stems, there is a single H on the final vowel.

L

kagwí	‘now fall!’
kageendé	‘now walk!’
kagorí	‘now buy’
keepé	‘now want!’
kaazé	‘now come!’

H

kanwí	‘now drink!’
kavegé	‘now shave!’
kadeeké, kádééké	‘now cook!’
kaahé	‘now pluck!’

Skipping ahead to stems with 4+ syllables, longer stems have H on the second syllable and the final vowel, where the latter H spreads to the left. However, expected final HH may appear as H!H, which is a characteristic of double-H patterns. H and L verbs behave the same.

L

kasimó!gókí	‘now be revived!’
kagavó!rányí	‘now dole out!’
kasíní!kízí	‘now annoy!’
kaveezé!géré	‘now belch!’
kazeengé!llání	‘now stare at e.o!’
kang’oodá!ng’óódé	‘now write over and over!’

kaseembé!lláséembéllé	‘now weed over and over!’
kuungá!ányí	‘now join!’
kaaní!gírí	‘now go up!’

H	
kavegé!rání	‘now shave for e.o!’
kavodó!ngáné	‘now go around!’
kavodó!ng’á!né	‘now go around!’
kang’eré!ng’áné	‘now be shiny!’
katong’á!mínyí	‘now turn!’
kasuondó!rányé	‘now overpour!’
katuungá!míní	‘now invert!’
katuungá!mí!ní	‘now invert!’
kakaráángí!rízí	‘now fry over and over!’

Trisyllabic stems, where the two H tones would be in adjacent syllables, have some variation.³¹ When the penult has a long vowel, the is H on the penult and final vowels, and the penult has a H!H falling tone since the final H meets the σ 2 H within that long syllable.

karákó!óri	‘now release!’
kahaandí!íkí	‘now write!’
kausuondó!óllí	‘now stare!’
kayoombó!óré	‘now pour a lot!’
kakará!ángé	‘now fry!’
kakará!á!ngé	‘now fry!’

kavohó!ólé	‘now untie!’
kasogá!ányí	‘now mix!’
kahaangá!aré	‘now argue!’
kataangá!ázé	‘now announce!’

With a short penult, there is variation between the pattern H!H and HL, including both patterns for different tokens of the same verb from the same speaker (e.g. *kamoró!mé* ~ *kamoróme* ‘now speak!’, *kiigí!zí* ~ *kiigízi* ‘now teach!’ from EM).

kagurí!zí	‘now sell!’
kakoró!ré	‘now cough!’
kavagá!ré	‘now spread out!’
kaseembéll!é	‘now weed!’

³¹ There is much less data from PM on this subset of stems, so it is unclear whether his system for trisyllables is more uniform, as opposed to the variation being unattested in the corpus, so the speaker-internal vs. cross-speaker nature of the variation will be set aside.

kiirá!né ‘now come back!’

More common from EM, and the only pattern attested for PM, is that only the penult has a H.

kaṇagóri	‘now run!’
kabomóre	‘now demolish!’
kaboróki	‘now fly!’
kagurízi	‘now sell!’
kasogómi	‘now push!’
kaseembére	‘now weed!’
kataandóri	‘now tear to pieces!’
kacheerízi	‘now greet!’
kayıınzırı	‘now work!’
kiiróki	‘now flee!’
kaambóki	‘now cross!’
kuumínyı	‘now dry!’

8.2.2. WITH OP

There is also speaker variation between EM and PM³² in the pattern for stems with an OP in this tense. We will start with the pattern from PM first (there being fewer forms available). The overall pattern is similar to that of the OPless form, with final H and H towards the left. With CV roots, there is a single H on the final vowel, but all available examples involve a lexically H root.

kakotyí	‘now fear us!’
kavaté	‘now bury them!’
kayeté	‘now bury yourself!’
kayıtyí	‘now fear yourself!’
kaandé	‘now bury me!’
kaandyí	‘now fear me!’

With longer verb stems, the difference between H roots and L roots is preserved, so that the initial H is only on σ_1 with H roots but is on σ_2 (and spreads left to σ_1) with L roots

L	
kavadóyí	‘now hit them!’
kavagóri	‘now buy them!’
kayeyéne	‘now look for yourself!’
kaandóyí	‘now hit me!’
kaaneéne	‘now look for me!’

³² I have no data from ML for OP+Stem behavior.

kaangóri	‘now buy me!’
keeyéjé	‘now look for yourself!’

H	
kakoró!mí	‘now bite us!’
kaanó!mí	‘now bite me!’
kaanzí!tí	‘now kill me!’
kɪyí!tí	‘now kill yourself!’
kɪrú!mí	‘now bite yourself!’

An apparent exception is that VCV stems preceded by a CV OP neutralize the root tone difference.

kakwiití	‘now kill us!’
kaveejé	‘now look for them!’

This not an exception, it is a now-familiar complications: when the initial syllable is long and a CV object prefix precedes, the tone pattern of H and L roots is the same. Thus the H root *kóoŋ-* and the L root *choor-* have the same pattern when an OP is present:

kaanjó!óré	‘now draw me!’
keekó!ónyé	‘now help yourself!’
kɪrchó!óré	‘now draw yourself!’

Although CVCV H stems and L stems have distinct tone patterns in this tense (in the presence of an OP), VCV stems do not, because they act phonologically like (C)VVCV stems – though there are no underlyingly /VVCV stems/.

Longer stems that have an initial short syllable also maintain lexically-distinct tonal behavior, where H roots have H on the first syllable and L roots have H on the first two syllables (as well as on the final syllable).

kɪrváli!zí	‘now count yourself!’
kavaváli!zí	‘now count them!’
kakurákó!órí	‘now release us!’
kaambáli!zí	‘now count me!’
kaandákó!órí	‘now release me!’
kɪrrákó!órí	‘now release yourself!’
kamogíró!ng'ányí	‘now invert him!’

kɪntí!vóllí	‘now answer yourself!’
kamotí!vóllí	‘now answer him!’
kavavó!hóóllé	‘now untie them!’
kaandí!vóllí	‘now answer me!’
kaambó!hóóllé	‘now untie me!’
keevó!hóóllé	‘now untie yourself!’
kavaká!ráángírí	‘now fry for them!’

kaangá!ráángírí
kíká!ráángírí

‘now fry for me!’
‘now fry for yourself!’

In case the initial root vowel is long, the tone pattern is neutralized: the first and last syllables have H.

kaasóó!vírí
kavasóó!vírí
kúsóó!vírí
kaambóó!ndóóllí
kakohóó!ndóóllí
kíhóó!ndóóllí

‘now believe me!’
‘now believe them!’
‘now believe yourself!’
‘now stare at me!’
‘now stare at us!’
‘now stare at yourself!’

kaandíí!hízí
kakoríí!hízí
kíríí!hízí
kaangóó!mbéélé
kavakóó!mbéélé
kíkóó!mbéélé

‘now feed me!’
‘now feed us!’
‘now feed yourself!’
‘now hug me!’
‘now hug them!’
‘now hug yourself!’

The pattern of the data from EM (which is more extensive) has more variation, but the overall pattern is a two-H pattern with initial and final Hs. In CV stems, there is just a final H.

L
kavoshí

‘now grind it!’

H
kaganwí
kaganwé
kakiryí

‘now drink it’
‘now drink it (water)!’
‘now eat it!’

CVCV stems usually have final H

L
kakenógé
kakígórí
kazisaví
kaasoné
kaapejé
kaking'osí
kavaroré
kavarogé
*kavaróge

‘now pick it!’
‘now buy it!’
‘now borrow it (money)!’
‘now point at me!’
‘now look for me!’
‘now pull it’
‘go see them!’
‘now bewitch them!’

H
kakmí

‘now play!’

kaanomí	‘now bite me!’
kavavegé	‘now shave them’
kavaromí	‘go bite them!’
kakínavé	‘now sew it!’
kakírasé	‘now throw it!’
kavaromí	‘now bite them!’
kamtegé	‘now trap him!’
kaangallé	‘now cut for me!’

H verbs may also have H on the first vowel.

kagíkáre	‘now cut it (meat)!’
kakínáví	‘now sew it!’
kaashírí	‘now drive me!’
kavavége	‘go shave them!’
kakírásé	‘now throw it!’

CVVCV stems generally have two tonal possibilities, final H, and a double-H pattern where the downstep is internal to the long vowel (there is non-significant variation in whether there is a second downstep after the penult, but there seems to be no contrast between the two tone profiles). The double-H pattern is somewhat more frequent than the final-only pattern.

L

kaangiingí	‘now protect me!’
kakoroondé	‘now follow us’
kavachooré	‘go draw them!’
kavariindí	‘go guard them!’
kakókíingí	‘now protect us!’
kagúkwé!ésé	‘now pull it!’
kakeng’ó!ódé	‘now write it!’
kakíbí!ímí	‘now measure it!’
kakoró!óndé	‘now follow us!’
kavaté!évé	‘now ask them!’
kakíró!ómbí	‘now push it’
kavaró!óndé	‘now follow them’
kavaró!ó!mbí	‘now push them!’
kakísú!ú!ví	‘now throw away it!’
kakíyé!é!ngé	‘now brew it!’
kaaná!ánjí	‘now call me!’

H

kakokoopné	‘how help us’
kakedeeké	‘now cook it’
kavaguutí	‘go defeat them!’

kavaheenzé	‘go look for them!’
kagedé!éké	‘now cook it!’
kakitá!ájí	‘now plant it!’
kakokí!íngí	‘now protect us!’
kakiré!é!tí	‘now bring it!’
kavágúú!tí	‘now defeat them!’
kaangó!ójé	‘now help me!’

V-initial have the same tonal distribution as do CVVCV stems.

L

kacheeyé	‘now sweep it!’
kachóuhí	‘now scatter it!’
kaveepé	‘now want them!’
kacheeyé	‘now sweep it!’
kakweepé	‘now look for us!’

H

kakwaatí	‘now do surgery us!’
kakwá!átí	‘now do surgery us!’
kavwaahí	‘now pluck them!’
kavwááhi	‘now pluck them!’
kachiiví	‘now steal it!’
kakwí!ítí	‘now kill us!’
kavwá!áhé	‘now pluck them!’
kavwá!áhi	‘now pluck them (plural)!’
karwí!ímbí	‘now sing it!’
kavwá!áhi	‘now pluck them!’
kachí!íví	‘now steal it!’

When the root-initial vowel is not lengthened (after the OPs –N-, -I-), the options vacillate between final H and penult H for H roots

<non-lengthened>

L

<i>kaanzáji</i>	‘now scratch me!’
kaanzéyé	‘now sweep me!’
kaapéné	‘now look for me!’
kaanzagé	‘now scratch me!’
keeyé!né	‘now look for self!’

H

kɪɪyáte	‘now do surgery on self!’
kaanzáte	‘now do surgery on me!’
kaanzítì	‘now kill me!’
kɪɪyá!té	‘now do surgery on self!’

The main pattern with longer stems is that there are two Hs. It does not appear that the distribution of these patterns correlates with the lexical tone of the root. The most common pattern is for there to be a downstep after the second syllable (when short), or within the syllable (when long) in a trisyllabic stem.

kaandákó!órí	‘now release me!’
kakorakó!órí	‘now release us!’
kakɪgaró!kízì	‘now return it!’
kavasong’ó!sí	‘now shake them’
kavasínì!kízì	‘now annoy them!’
kakítavá!gírízì	‘now boil-pl it’
kamsímó!gókízì	‘now revive him!’
kagɪganá!gání	‘now think about it’
kavaganá!gáné	‘now think of them’
kakɪganá!gání	‘now think-pl about it’
kaɪnyávó!góllì	‘now unbury him!’

While the preceding examples resemble the M2 pattern since $\sigma_2=V_2$, examples with long root initial vowels also show H in s2, whereas in M2 tenses, a root-initial long vowel induces a H on σ_1 .

kakesembé!llé	‘now weed it’
kaanɪndí!íllì	‘now wait for me!’
kakɪhaandí!íkì	‘now write it’
kavarɪndí!í!llì	‘now wait for them!’
kakeyoombó!óré	‘now pour it!’
kakɪrɔungí!kízì	‘now straighten it’
kakɪrɔungí!kízírání	‘now straighten it for e.o’

The second possibility is that the downstep appears after the first syllable

kavámó!rómé	‘now speak them!’
kavómì!nágé	‘now stir it!’
kagígó!rízì	‘now sell it!’
kavakó!ró!rí	‘now drag them!’
kavakú!rúrí	‘now drag them!’
kaambá!rízì	‘now count me!’
kakígá!vórání	‘now dole out it!’
kakɪyá!vógórì	‘now dig up it!’
kakígá!rókízì	‘now return it!’

kakítá!vágírízí	‘now boil it’
kavasí!mókókízí	‘now revive them!’
kugá!vóránírí	‘now dole out for self!’
kaandá!kóórí	‘now release me!’
akeyóó!mbóré	‘now pour it!’
kakítáá!ndórí	‘now tear up it!’
kagoséé!mbéllé	‘now weed it!’
kaambóó!ndóllí	‘now stare at me!’
kaasóó!vírí	‘now believe me!’
kaapí!nzíllí	‘now work for me!’
kaṁvéé!zégéré	‘now belch him!’
kakihóó!ndóóllí	‘now stare at it!’
kakízáá!záámí	‘now taste it!’

With H verbs, we likewise find that the second H may be after s1 or at/after s2. The following are examples with the drop within or after the second syllable

kagıkará!ángé	‘now fry it’
akevohó!óllé	‘now untie it!’
kakıkamó!ó!rí	‘now wring out it!’
kakıkará!ángé	‘now fry it’
kakıkamó!ó!rí	‘now wring out it!’
kavakaráá!ngírí	‘now fry for them!’
kakıtuungá!mínyí	‘now invert it!’
kakotoongá!mínírí	‘now invert for us’
kakızaazá!ámí	‘now taste it!’
kaṁcheerí!zí	‘now greet-pl him’
kaambodó!ngáné	‘now go around me!’
kaṁvódó!ng’ání	‘now go around him!’
kaangoumbé!éré	‘now hug me!’

One also finds the drop after the first syllable

kaanjéé!rí!zí	‘now greet me!’
kakisó!gómí	‘now push it’
kavapá!góllí	‘now run for them!’
kakıká!má!té	‘now catch it!’
kavatí!vó!rí	‘now answer them!’
kakesé!rée!zé	‘now winnow it!’
kakıká!ráanjí	‘now fry it!’
kakızó!gáányí	‘now mix it!’
kakıká!móórí	‘now wring out it!’
kakıkúú!ní!kí	‘now cover it!’
kavaráá!gírí	‘now eat it!’
kakızáá!záámí	‘now taste it!’
kakokúú!mbééré	‘now hug us!’

kaambó!dóngané	‘now go around me!’
kɪgí!róng’ání	‘now invert yourself!’
kaangá!ráángírí	‘now fry for me!’
kavavó!dóng’ání	‘now go around them!’
kakogí!róng’á!ní	‘now invert us!’
kakitúú!ngámínyí	‘now invert it!’
kavasáá!mbórógányí	‘now dismantle them!’

A single-H pattern is also attested, less frequently. With both L and H verbs, that H appears on the second syllable of the root.

L

kaambarízi	‘now count me!’
kavasúng’úsi	‘now shake them!’
kavomínáge	‘now stir it!’
kagadóvóri	‘now smash it (beans)!’
kavamóróme	‘now speak to them!’
kakígávóranyi	‘now dole out it!’
kagoseembéle	‘now weed it!’
kamzeengéle	‘now stare at him!’
kaasovírí	‘now believe me!’

H

kaapagólli	‘now run for me!’
kaandívóri	‘now answer me!’
kagavúróji	‘now mix it!’
kakikamáte	‘now catch it!’
kavatrívóri	‘now answer them!’
kagushaagári	‘now sharpen it!’
kakucheerízi	‘now greet us!’
kavacheerízi	‘now greet them!’
kavoraagírí	‘now eat it!’

Vowel-initial roots have a similar distribution of tone, allowing two-H and single-H patterns

L

kachiiró!ó!rí	‘now winnow it!’
kaanizó!rízi	‘now remember me!’
kaanizó!rízi	‘now fill me!’
kachiizór!ízi	‘now fill it!’
kakwiizó!rí!zí	‘now remember us!’
kaṅambá!káné	‘now refuse me!’
kaṅambó!kírí	‘now cross for me!’
kamwaambó!kírí	‘now cross for him!’
kakwiizó!rízi	‘now remember us!’

kakwaambá!káné
kaanzéré!méré

‘now refuse us!’
‘now float for me!’

kaaná!mbágíllí
keeyé!yéé
kɪyí!zórízí
keyéé!yéé
kɪyí!ví!llí
kaanzí!víllí
kaaná!mbágíllí
kanza!mbóká!né
kaanzí!zórí!zí

‘now stretch me!’
‘now sweep for self!’
‘now remember self!’
‘now sweep for self!’
‘now forget yourself!’
‘now forget me!’
‘now stretch me!’
‘now cross me!’
‘now remember me!’

H

kachiizó!rízí
kachoonó!ónyé
kaanziró!óllí
kachiizó!rízí

‘now fill it!’
‘now mess up it!’
‘now winnow for me!’
‘now fill it!’

kaanzí!gízí
kɪyí!mbírí
kɪyó!mínyí
keeyó!nóónyírí
kɪyí!zórízírí
kagóó!mbákí
kakwír!óóllí
kaanzá!vóllí
kɪyí!gízí
kańó!mbákí!rí
kanzí!zórízírí

‘now teach me!’
‘now sing for self!’
‘now dry self!’
‘now mess up for self!’
‘now fill for self!’
‘now build it (house)!’
‘now winnow for us!’
‘now split for me!’
‘now teach yourself!’
‘now build for me!’
‘now fill for me!’

The single-H pattern is much less common

L

kaanzivíllí
kachaambókí
kachiigóri
kaanzohírí
kaanzigóllí

‘now forget me!’
‘now cross it!’
‘now open it!’
‘now scatter for me!’
‘now open for me!’

H

kaanzigízí
kachoumbáke
kazyaaavóri
kaviigízí

‘now teach me!’
‘now build it!’
‘now split them!’
‘now teach them!’

8.3. Immediate past -aka-

The tone pattern for the “non-completive-focused” variant of the immediate past with -aka-, when not M1, is best described as a double-H pattern with the first H being the same as M2 with an OP, and the second being a H assigned to the final vowel. As with the M2 pattern, there is a tendency for L roots to behave like H roots, especially when the root is trisyllabic or longer. The distinction between H and L roots is particularly weak under this pattern: for any stem shape, H and L tones usually converge on the same pattern, and are only optionally distinguishable.

There is a formally distinct variant of this tense which follows the scheme SP-aka-Verbperf, for example *kwaakavó!dóng'ání* ‘we have gone around’. This form is treated in a subsection following this.

8.3.1. No OP

CV roots have a final H.

L

waakázyá	‘you went’
vaakágwá	‘they fell’
vaakáshá	‘they ground’

H

vaakánwá	‘they drank’
vaakákwá	‘they paid dowry’
yaakáryá	‘he ate’

As a regular phonetic option, final H may be realized as a flat non-falling pitch pattern across the utterance (from any preceding phonological H).

avágéní vaakagwa°	‘the guests fell’
yaakagwa°	‘he fell’
umódótó yaakanwa°	‘the infant drank’

Another option (not a general phonetic principle, see discussion in X) is that the final two syllables can have the pattern H!H.

L

yaaká!gwá	‘he fell’
yaaká!zyá	‘he went’
vaaká!shá	‘they ground’

H

kwaaká!kwá	‘we paid dowry’
chaaká!fá	‘it came to an end’
vaaká!tyá	‘they feared’

CVCV stems provide a more robust distinction between H and L roots. L roots may have the pattern HH.

yáákárimá	‘he plowed’
ndaakágórá	‘I just bought’
vaakárágá	‘they just promised’
vaakaséká	‘they just laughed’
yaakárágá	‘he just promised’
vaakáyógá	‘they just talked’

This may be realized phonetically as the level lowered pitch pattern

yaakarora°	‘he saw’
chaakarara°	‘it went sour’
kwaakahama°	‘we moved’
yaakaheja°	‘he exposed the teeth’
yaakavida°	‘he sprinkled’

H verbs may have the pattern HL.

lyaakákúza	‘it died’
ndaakátéga	‘I trapped’
vaakákína	‘they played’
vaakárása	‘he threw’
vaakaróma	‘they bit’
vaakátóma	‘they sent’
yaakahóna	‘he healed’
yaakávéga	‘he shaved’

H verbs may also appear as H!H

kwaakáré!gá	‘we won’
kwaakáró!má	‘we bit’
kwaakaté!gá	‘we trapped’
kwaakávé!gá	‘we shaped’
vaakárá!sá	‘he just threw’
vaakaró!má	‘they just bit’
yaakahó!nyá	‘he healed’
yaakáví!sá	‘he just hid’

Furthermore, L verbs may appear with the pattern H!H, however, this is not a common pattern.

ikiráátó chaakágó!tá	‘the shoe disappeared’
yaakájí!bá	‘he answered’

waakádí!já	‘you got stuck’
yaakárí!má	‘he plowed’
yaakásó!ná	‘he pointed at’
yaakáhé!já	‘he exposed the teeth’

L roots do not have the pattern HL.

In CVVCV roots, there is one infrequent pattern limited to lexically L stems: final H which spreads to the left.

vaakáchóórá	‘they just drew’
vaakásóómá	‘they just read’
waakájáágá	‘you started’
kwaakágééndá	‘we walked’

Otherwise, there are two patterns, not correlated with lexical tone. The most common is the H!H pattern, followed by the HL pattern (1/3 the rate of the H!H pattern). A single root can be found in either of these patterns.

L

vaakáyéénga	vaakáyéé!ngá	‘they brewed’
vaakaráánga	yaakaráá!ngá	‘they, he called’
yaakáróonda	yaakáróó!ndá	‘he followed’
	vaakátáá!gá	‘they planted’
	yaakábíí!má	‘he measured’

H

waakataánga	waakataá!ngá	‘you began’
vaakádééka	vaakádéé!ká	‘they cooked’
vaakaríínga	vaakaríí!ngá	‘they folded’
vaakajáánga	vaakajáá!ná	‘they ate’
	ndaakakóó!já	‘I helped’

With VCV stems, the attested patterns are H!H, HH and HL, the same as CVCV stems. HH only appears in L roots

ndaakééyá	‘I just swept’
kwaakééjá	‘we wanted’
yaakáázá	‘he just came’
vaakáará	‘they just spread’
vaakóóngá	‘they just joined’

HL (which is rare) only appears in H roots.

yaakííva	‘he stole’
vaakííta	‘they killed’
vaakíimba	‘they sang’

Both H and L roots can have the H!H pattern

L

ndaakéé!yá	‘I swept’
yaakáá!zá	‘he just came’
vaakéé!já	‘they wanted’
zyaakáá!ná	‘they mooded’

H

kwaakáá!tá	‘we did surgery’
avarógoori vaakíí!mbá	‘the Logooris just sang’
yaakíí!vá	‘he stole’
yaakíí!tá	‘he killed’
zyaakáá!yá	‘they grazed’

The pattern for longer stems having an initial short vowel is less clear, owing to greater variation. Attested patterns cross-cutting lexical tone class are H!H* (general) and H!H*!H (less common), plus HHL*, HH!H* and H* found with L verbs. The pattern with no final H is rarely encountered, but is frequent enough that it is not simple error.

L

yaakasínika	‘he got angry’
avíígízi !váákáváríza	‘the teachers just counted’
ovósérá vwáákátávágíra	‘the porridge just boiled’
aváána vaakávóróganya	‘the children just stirred up’
kwaakagánágana	‘we thought’

L

vaakagávórá	‘they divided’
ndaakágáróká	‘I returned’
chaakásáramá	‘it boiled’
chaakámóriká	‘it lit’
váákávárízá	‘they counted’
vaakádúvúrá	‘they crushed’
chaakazírilla°	‘it continued’
ndaakarekera°	‘I stopped’

The most widely-employed strategy is that H and L roots alike have the tone pattern H!H*, and except for tokens with two downsteps, this is the only pattern attested for H verbs. That is, the above H* and HHL patterns do not arise with H verbs.

L

vaakágó!lláná	‘they bought for e.o’
vaakává!rízá	‘they counted’
vaakagá!vórá	‘they divided’
chaakámó!riká	‘it lit’

umgóyé gwaakáká!dóká	‘the rope snapped’
yaakamó!ró má	‘he spoke’
vaakáyó!gérá	‘they talked for’
yaakágá!nágáná	‘he thought’
chaakátá!vagírá	‘it just boiled’
vaakágá!vóránýá	‘they just doled out’
vaakáyó!gánírá	‘they just talked for e.o’
vaakáyá!vógóllá	‘they just unburied’

H	
vaakátí!vórá	‘they answered’
vaakású!gúmá	‘they drove’
vaakáká!rágá	‘they sliced’
kwaakáché!révá	‘we were late’
yaakávó!hóllá	‘he tied’
waakákó!rórá	‘you coughed’
chaakávó!níká	‘it broke’
vaakávó!rógánýá	‘they just stirred’
vaakágí!róng’ányá	‘they just inverted’
vaakávó!dóng’áná	‘they just went around’
vaakávé!géráná	‘they just shaved for e.o’
vaakachí!rín’áná	‘they went quiet’
waakáfú!nírízá	‘you sniffed’

A variant of the above patterns is that the final H is downstepped. L verbs (and not H verbs) split into two subsets, one which behave the same as H verbs, having the pattern H!H!H, and a second one having the pattern HH!H.³³

L: HH plus !H	
chaakámórí!ká	‘it just lit’
kwaakagórí!zá	‘we sold’
vaakádúvú!rá	‘they just crushed’
vaakagávó!rá	‘they just divided’
chaakásará!má	‘it just boiled’
vaakámóró!má	‘they spoke’
vaakarórá!ná	‘they just saw e.o’
yaakábóró!ká	‘he just flew’
yaakásíní!ká	‘he got angry’

L: H!H plus !H	
kwaakamó!ró!má	‘we spoke’
vaakágó!llá!ná	‘they bought for e.o’

³³ Theoretically, HH!HH might also arise, but since simple V2 for L roots is uncommon, final !H is less common, CVCVCVCV stems are uncommon, and the phonetic distinction between final H!H and HL is not always clear, the lack of clear examples of HH!HH is unsurprising.

chaakábó!ró!ká	‘it flew’
yaakasú!ng’ú!sá	‘he shook’
ndaakágá!ró!ká	‘I returned’

H: H!H plus !H	
vaakatí!vó!rá	‘they answered’
kwaakásí!gá!má	‘we knelt’
vaakadí!gí!ná	‘they tickled’
yaakásí!mógó!ká	‘he revived’
yaakáyá!vógó!llá	‘he dug up’
chaakáng’é!réngá!ná	‘it shone’
vaakavú!rógá!nyá	‘they stirred up’
waakágá!rókí!zá	‘you returned’
vaakachí!ring’á!ná	‘they went quiet’
vaakávé!gání!rá	‘they shaved for each other’
yaakáyá!vógó!llá	‘he dug up’

Stems with initial CVCVV... have an analogous range of realizations. With lexically L stems, we observe H!H*, H*, HHL and HH!H.

vaakará!kóóra	‘they released’
kwaakágóyáána	‘we got disoriented’
yaakarákóóra	‘he released’
vaakágóyáána	‘they got disarranged’
kwaakágóyáá!ná	‘we just got disoriented’
kwaakarákóó!rá	‘we just released’

H roots either have H!H* or H!H*!H.

yaakávó!hóóllá	‘he untied’
yaakaká!ráángá	‘he fried’
ndaakávó!gííllá	‘I agreed’
kwaakasí!nyáára	‘we sneered’
kwaakavú!náána	‘we snapped’
ndaakású!gáányá	‘I mixed’

kwaakavú!náá!ná	‘we snapped’
kwaakasí!nyáá!rá	‘we sneered’
ndaakávó!gíí!llá	‘I agreed’
waakáfú!níírí!zá	‘you sniffed’

Trisyllabic and longer stems with an initial long vowel overwhelmingly have the pattern H!H* for both H and L roots.

L	
chaakáháá!nzóóká	‘it yelled’
kwaakavéé!zégérá	‘we belched’

vaakáríí!ndíllá	‘they waited on’
vaakáséé!mbéllá	‘they weeded’
vaakátáá!ndórá	‘they shredded’
vaakayóó!mbóórá	‘they poured’
waakahíí!rítá	‘you snored’
yaakahóó!róóká	‘he relaxed’
yaakásáá!mbórógányá	‘he dismantled’

H

kwaakáchéé!rízá	‘we greeted’
kwaakaráá!gírá	‘we ate ugali’
kwaakásáá!ngáára	‘we were happy’
kwaakasúú!ngórá	‘we unhooked’
ndaakatáá!ngáázá	‘I announced’
ndaakatúú!ngámíná	‘I turned’
vaakáháá!mbízá	‘they started a fire’
vaakákúú!mbéllá	‘they hugged’
vaakákóó!níká	‘they covered’
vaakásáá!sógórá	‘they scattered’
yaakápíí!ndóká	‘he turned’
yaakasáá!móórá	‘he slapped’

A variant of this pattern where the final H is downstepped is also encountered.

L

vaakáyíí!nzí!rá	‘they worked’
ndaakáséégé!rá	‘I limped’
chaakázíí!rí!llá	‘it continued’
kwaakavéé!zégé!rá	‘we belched’
chaakavéé!réri!zá	‘it got sad’
ndaakásáá!mbórá!nyá	‘I dismantled’
waakayóó!mbóó!rá	‘you poured’
waakáháá!ngáá!rá	‘you disagreed’
yaakasáá!móó!rá	‘he slapped’
kwaakáhóó!róó!ká	‘we took a break’

H

chaakápíí!ndó!ká	‘it turned around’
vaakávóó!kí!zá	‘they woke up’
kwaakasúú!ngó!rá	‘we unhooked’
ndaakatúú!ngámí!ná	‘I turned’
yaakatáá!ngáá!zá	‘he announced’

L verbs allow a wider range of options, including single H throughout the stem, H on the first two syllables plus final !H, or H just on the first syllable.

L: H*	
yaakávéezégérá	‘he just belched’
ndaakásáámboóránýá	‘I dismantled ’
vaakáííndíllá	‘they waited’

L: H*!H	
vaakáyíínzí!rá	‘they worked’
vaakazíírí!llá	‘they continued’
ndaakáséémbé!llá	‘I weeded’
waakáhíírí!tá	‘you snored’
chaakáháánzóó!ká	‘it yelled’

L: HL*	
chaakasáámbika	‘it caught on fire’
ndaakáséégera	‘I limped’
chaakasáámbika	‘it caught on fire’
yaakávéezegera	‘he belched’
yaakávéezegera	‘he just belched’
kwaakáhúúrooka	‘we took a break’
waakayóóomboora	‘you poured’

Polysyllabic vowel-initial stems, which are not extensively attested in the data, either have a single final H for L stems or the H!H pattern for any stem

L	
vaakáámbóká	‘they just crossed’
kwaakíígórá	‘we opened’
váákáánígírá	‘they went up’
vaakáá!nígírá	‘they just went up’

H	
vaakíí!gízá	‘they just taught’
vaakóó!mbáká	‘they just built’
vaakáá!góróká	‘they fell down ’
vaakáá!gáróká	‘they just parted ways’
ndaakáá!mbááyá	‘I swung’

The variation includes H!H*!H, with downstepped H on the final vowel.

L	
vaakóó!mbá!ká	‘they built’

H	
kwaakíígó!rá	‘we opened’
vaakáá!mbó!ká	‘they crossed’
vaakáá!góro!ká	‘they fell down’

8.3.2. WITH OP

With the addition of an OP, the tone pattern of this tense generally has H on the OP and a separate H throughout the stem, optionally separated by downstep from the final H. That is, the pattern is similar to the OPless pattern, primarily differing in where the first H resides. The tonal neutralization of H and L roots other than CVCV is a general property of certain melodic patterns in the presence of an OP. This pattern differs from that tendency in that neutralization seems to be universally encountered.

CV stems have H on the OP and either L or !H on the stem. Because there is only one L CV root allowing an OP, and not a vast number of tokens available, no conclusions will be drawn about the correlation between these patterns and lexical tone for CV roots.

vaakákísha	‘they just ground it’
akakírya	‘I ate it’
vaakákínwa	‘they just drank it’
vaakákótya	‘they feared us’
vaakágá!nwá	‘they just drank it’
yaakákí!tyá	‘he feared it’
yaakakí!shá	‘he ground it’

When the OP is 1sg N-, the expected prefixal H is realized on the lengthened syllable -kaa- /-kɪɪ-.

yaakáá!shá	‘he ground me’
yaakáásha	‘he ground me’
ndaakíílya	‘I ate myself’
vaakáándya	‘they feared me’
yaakáá!ndyá	‘he feared me’

The dominant pattern for CVCV stems is H on the OP and !HH in the stem, regardless of lexical tone.

L

yaakákó!rórá	‘he just saw us’
yaakákí!góra	‘he bought it’
yaakákí!rímá	‘he plowed it’
yaakáké!sóná	‘he pointed at it’
kwaakává!rógá	‘we bewitched them’

H

yaakává!vóhá	‘he tied them’
waakavá!végá	‘you shaved them’
yaakáké!téga	‘he trapped it’
vaakámó!rómá	‘they just bit him’

In the case of 1s and reflexive OPs, the pre-stem syllabis has a long vowel with a level H.

vaakáá!séka	‘they laughed at me’
kwaakéé!rógá	‘we bewitched ourselves’
chaakáá!ndórá	‘it saw me’
waakáá!ndégá	‘you trapped me’
vaakíí!vítá	‘they passed themselves’

The final H may also be downstepped.

L	
yaakáké!nó!gá	‘he picked it’
kwaakám!kó!yá	‘we beat him’
yaakakó!jí!bá	‘he answered us’
yaakákó!ró!rá	‘he saw us’
chaakáá!ndó!rá	‘it saw me’
ndaakákí!sá!vá	‘I borrowed it’

H	
yaakakó!vé!gá	‘he shaved us’
yaakákó!ró!má	‘he bit us’
yaakakó!tú!rá	‘he left us’

Disyllabic stems with an initial long vowel likewise have the stem patterns C[́]V[́]C[́]V[́] or C[́]V[́]!C[́]V[́].

L	
kwaakaké!sóómá	‘we read it’
vaakáá!nángá	‘they called me’
kwaakavá!ríndá	‘we watched them’
vaakáká!yééngá	‘they brewed it’
ndaakamó!rúúmbá	‘I pushed him’
kwaakíí!ríndá	‘we watched ourselves’
vaakáá!njóórá	‘they drew me’
vaakágó!fóóngá	‘they just closed it’
yaakákí!chóórá	‘he drew it’
yaakákí!bíímá	‘he measured it’

H	
vaakaké!dééka	‘they just cooked it’
kwaakarí!táágá	‘we planted it’
waakákí!rííngá	‘you folded it’
waakáké!nóórá	‘you got it’
kwaakavá!gúútá	‘we defeated them’
vaakíí!sííngá	‘they have bathed self’
vaakavá!kóójná	‘they helped them’
vaakákó!sóórá	‘they just refused us’

yaakáá!ngúúngá ‘he chased me’

Alternatively, the final H may be downstepped.

L

yaakakó!chóó!rá ‘he drew us’
yaakakó!héé!nzá ‘he looked for us’
vaakakí!kúú!tá ‘they scraped it’
waakavá!chóó!rá ‘you drew them’
vaakakó!téé!vá ‘they asked us’
ndaakákí!rúú!mbá ‘I pushed it’
yaakakó!núú!rá ‘he robbed us’
ndaakakí!sáá!mbá ‘I burned it’

H

yaakaké!jóó!rá ‘he got it’
ndaakéé!réétá ‘I brought myself’
yaakakó!gúú!tá ‘he defeated us’

In the case of VCV roots, the surface realization of the tone melody is C[́]V[́]!C[́]V covering the OP plus following stem.

With VCV roots, the CV syllable of the OP merges with that of the root so the root vowel terminates the prefixal H span, leaving just one purely-stem syllable, and the surface result is a H!H pattern on the last two syllables

L

vaakácháá!rá ‘they just spread it’
vaakávóó!ngá ‘they just joined them’
yaakáchéé!já ‘he wanted it’
yaakáchéé!yá ‘he just swept it’

H

ndaakáchíí!tá ‘I killed it’
ndaakárwíí!mbá ‘I sang it’
kwaakáváá!tá ‘we did surgery on them’
ndaakáchíí!vá ‘I stole it’

The first H is also on the merged prefix syllable with the prefixes /N, ɪ/, but the root-initial vowel is not part of that syllable, thus the stem has two parsable syllables, allowing both HH and H!H patterns.

L

vaakáá!jéjá ‘they wanted me’
yaakáá!nzágá ‘he scratched me’
vaakáá!nzará ‘they spread me’
yaakáá!nzé!yá ‘he swept me’

vaakáá!jńó!ngá 'they joined me'

H

waakáá!nzátá 'you did surgery on me'

waakáá!nzívá 'you stole me'

chaakáá!nzí!tá 'it killed me'

In longer stems with a short initial vowel, the patterns are H-!H* and H-!H*!H. The following are examples without final downstepped H.

L

yaakákí!górízá 'he just sold it'

ndaakakí!kńvńrń 'I peeled it'

vaakáá!sékérń 'they just laughed for me'

waakakí!dńvńrń 'you crushed it'

waakakí!gńmírń 'you caught it'

vaakávń!mínńgń 'they just stirred it'

yaakíí!vńrízń 'he just counted self'

yaakávń!vńrízírń 'he counted for them'

waakakí!gńvńrńnyń 'you doled it out'

vaakáá!ngńrízírń 'they sold for me'

vaakákí!yávńgńllń 'they just unburied it'

vaakákń!véézégéllń 'they just belched on us'

vaakákń!rńkńńrń 'they released us'

H

yaakákń!hérékń 'he escorted us'

yaakaké!bńmńrń 'he demolished it'

yaakákí!kńrńgń 'he sliced it'

vaakakń!chńńrń 'they combed you'

vaakáá!mbégérń 'they just shaved for me'

vaakakń!chńgńrń 'they chose us'

vaakávń!tívńrń 'they just answered them'

vaakákń!vńdńng'ńń 'they just went around us'

vaakáá!ngńrńgírń 'they just sliced for me'

yaakákí!kńrńńgń 'he fried it'

kwaakam!bńhńńllń 'we untied her'

kwaakávń!hńmńńrń 'we just massaged them'

These examples have the pattern with final downstepped H.

L

ndaakákí!yáví!rń 'I buried it'

kwaakakí!gńvń!rń 'we divided it'

waakakí!gńmí!rń 'you caught it'

vaakákí!kńrń!rń 'they dragged it'

waakagí!gávórá!nyá	‘you doled it out’
H	
waakaám!súgú!má	‘you pushed her’
kwaakaké!kóró!gá	‘we stirred it’
vaakakó!chágó!rá	‘they chose us’
vaakakó!chánó!rá	‘they combed you’
yaakákí!kára!gá	‘he sliced it’
vaakakí!vúru!gá	‘they mixed it’
yaakaké!bómó!rá	‘he demolished it’
yaakakó!vódóng’á!ná	‘he went around us’
ndaakakí!káraá!ngá	‘I fried it’
yaakakí!kámóó!rá	‘they wrung it out’
vaakakí!káraángí!zá	‘they fried it over and over’

Stems with an initial long vowel have the same tone patterns. Below are examples of H-!H*.

L	
yaakákí!sáámboóra	‘he just unroofed it’
ndaakakó!sóúvira	‘I believed you’
vaakakó!véézégéllá	‘they just belched on us’
vaakakó!róúngíkizá	‘they untangled us’
yaakakó!rííndííllá	‘he waited on us’
waakakó!paátáána	‘you hired us’

H	
yaakakó!gáásizá	‘he blessed us’
yaakakí!ráágírá	‘he ate it’
vaakakó!vóókizá	‘they woke you up’
vaakakí!sháágára	‘they sharpened it’
kwaakakí!túúngámíjá	‘we inverted it’
yaakakó!kóómbééllá	‘he just hugged us’

Here are samples of parallel examples of H-!H*!H.

L	
ndaakává!súúví!rá	‘I believed them’
ndaakaké!séémbé!llá	‘I weeded it’
yaakakó!hóúndóó!llá	‘he stared at us’
ndaakakí!háá!ndíí!ká	‘I wrote it’
kwaakakí!záázáá!má	‘we tasted it’
waakakó!paátáá!ná	‘you hired us’

H	
kwaakakí!taándó!rá	‘we tore it to pieces’

yaakakí!ráágí!rá	‘he ate it’
waakakó!kúúní!ká	‘you covered us’

Longer V-initial are not well-attested in the data, but at least have the H!H* pattern.

L	
yaakágwáá!mbóká	‘he just crossed it’
vaakákwáá!yórá	‘they just shouted at us’
vaakáváá!mbáyízá	‘they just made them swing’

H	
waaká!cháá!górá	‘you just plucked it’

8.3.3. RELATIVES

Relative clause forms of this tense present the same tone pattern as found in main clauses. Thus, CV roots have final H!H (the first H being realized on the tense prefix *-ka-*), or just final H. Here are examples of the former pattern,

L	
omóóndo yaaká!gwá	‘the person who just fell’
vwahá yaaká!gwá	‘who fell?’
rwá kwaaká!shá	‘when we ground’
H	
omóóndo yaaká!nwá	‘the person who just drank’
rwá kwaaká!ryá	‘when we ate’
amárwá ga ndaaká!nwá	‘the water that I just drank’
aváándo vaaká!tyá	‘the people who feared’

The single-H pattern, including “flattened” variants, is seen in these examples.

L	
vwahá !yáákágwá	‘who has fallen’
risháámgó!má lyáákágwá	‘the gecko that just fell’
owáá!kágwá	‘the one who has fallen’
kindíkí !chá váákáshá	‘what have they now ground’
omóó!ndó yáákágwá	‘the person who has fallen’
rwá marová yaakagwa°	‘when Marova fell’
H	
vwahá !yáákánwá	‘who has now drunk’
mzí ndáá!kárýá	‘I who have eaten’
aváá!ndó váákárýá	‘the people who ate’
kindíkí !chá yáákánwá	‘what has he drunk’
omwáá!ná yáákánwá	‘the child who has drunk’

omóóndu yaakarya° ‘the person who just ate’

CVCV stems usually have the pattern H!H.

L

ikígóóti cha ndaakárá!má ‘the field that I just plowed’
zisééndi gandaakásá!vá ‘the money which I just borrowed’
aváándo vandaakasé!ká ‘the people that I just laughed at’
omóóndu yaakárá!gá ‘the person who has promised’
omóóndu yaakarí!rá ‘the person who just cried’
omóó!ndó yáakárá!gá ‘the person who promised’

H

rwá !kwáákávé!gá ‘when we shaved’
zisééndi gandaakáví!sá ‘the money that I just hid’
kíndi kí cha yaakaká!rá ‘what has he cut’
vwahá yaakákú!zá ‘who has now died’
omóóndu wa yaakáró!má ‘the person who has now bit’
omóóndu yaakaté!gá ‘the man who just trapped’

The pattern HL is attested, but only in H verbs.

risháámgóma lyaakákúza ‘the gecko that just died’
mndu yáá!kávéga ‘the person who has just shaved’
rwá !msóóréri !yáákákárwa ‘when the boy was cut’
rwá marová !yáákákúza ‘when Marova died’
risháámgó!má lyáákákúza ‘the gecko that just died’
aváándo vandaakáhólla ‘the people that I just heard’
rwá!ndáákávéga ‘when I didn’t shave’
omóóndu yaakákúza ‘the person who died’
vwahá yaakavéga ‘who shaved’
omóóndu yaakávéga ‘the person who has just shaved’
izisééndi zya ndaakávísa ‘the money that I hid’

The final-only pattern only exists for L verbs.

avíi!sókóró vaakarórwá ‘the grandchildren who just got seen’
rwá !kwáákárorá ‘when we saw’
rwá !marova yaakahana° ‘when Marova closed the door’
rw-ómlyáángó !gwáákáhánwá ‘when the door was closed’
ómlyáángo gwaakahánwá ‘the door that was just closed’
omóó!ndó yáákádóyá ‘the person who has hit’
omóóndu wa ndaakarórá ‘the person that I just saw’
omóóndu yaakara° ‘the person who has promised’
omóóndu yaakaseka° ‘the person who has laughed’
vwahá !wá yáákádóyá ‘who has he now hit’

vwahá !yáákádóyá	‘who has now hit’
vwahá yaakajiba°	‘who has answered’
vwahá yaakaseka°	‘who laughed’

Roots of the shape CVVCV usually have the pattern CV́V́!CV́.

L

vwahá vyaakaróó!ndá	‘who has he now followed’
mwígizí wa ndaakáchóó!rá	‘the teacher that I just drew’
rwá ndaakáng’óó!dá	‘when I wrote’
rwá ndaakáríí!ndá	‘when I guarded’
amárwá gandaakáyéé!ngá	‘the alcohol that I just brewed’
aváándo vaakagéé!ndá	‘the people who just walked’

H

ombáno gwa ndaakáréé!tá	‘the knife which I just brought’
aváándo vaakadéé!ká	‘the people who cooked’
konyí kwáá!kádúú!ká	‘we who just arrived’
kindíkí yaakapáá!já	‘what has he eaten’
omrími yaakátáá!gá	‘farmer who just planted’
omwáána yaakavéé!há	‘the child who just lied’

A single-H pattern with one H on all stem vowel is found with L verbs.

rwá !kwáákáchóóra	‘when we drew’
rwá ndaakageenda°	‘when I walked’
vwahá yaakang’ooda°	‘who has now written’

A variant with H only on the penult is found in H verbs.

rwá varógoori vaakadóóka	‘when the Logooris arrived’
omóóndo waakadééka	‘person who cooked’

VCV verbs usually have the pattern H!H

L

izisééndi zya Márová yaakéé!já	‘the money that Marova wanted’
myúúmba ya ndaakéé!yá	‘the house that I swept’
igánisa y-aváándo vaakóó!ngá	‘the church that the people joined’
rwá kwaakóó!há	‘when we scattered’
rwá ndaakáá!rá	‘when I spread’

H

kindí kí chayaakíí!vá	‘who has now stolen’
kindíkí cha yaakáá!tá	‘what did he bury?’
izí!ngókó zya ndaakíí!tá	‘the chickens that I killed’

izingóvu zyaakóó!má
navizara yaakáá!há
ovoró vwaakáá!má

‘the clothes that got dry’
‘the daughter in law who plucked’
‘the millet that sprouted’

L verbs may have just final H.

avá!yááyí vaakeeyá

‘the boys who just swept’

H verbs may have just penult H.

imbwá yaakííta
ɪnáma ya ndaakííva
urwímbu rwa ndaakíimba
rwá zyaakááya

‘the dog which just killed’
‘the meat that I stole’
‘the song which I sang’
‘when they grazed’

Polysyllabic CV-initial stems most commonly have H on the root-initial syllable followed by downstep and H on the remaining vowels. There may be a downstep between the final and penult syllables.

L

é!gókó ya ndaakágó!rízá
voséra vwa ndaakámí!nágá
umóóndu waakavá!gárá
eng’óómbe ya ndaakará!kóórá
avásóóréri va kwakáíí!ndíí!llá
navizara yaakahóó!ndóóllá
avíísókóró vaakáhíí!ríítá
aváándo vaakavéé!zégérá
háí ha vaakájáá!gírá

‘the chicken which I just sold’
‘the porridge which I just stirred’
‘the man who hung up’
‘the cow which I released’
‘the boys that we waited for’
‘the daughter in law that stared’
‘the grandchildren that snored’
‘the people who belched’
‘where did they start’

rwá !kwáákágá!vórányá
rwá vaakavá!rízáná
umbáno gwa ndaakátó!míkírá

‘when we divided’
‘when they counted each other’
‘the knife that I used’

vwahá yakáadá!ngóó!yá
rwá Márová yaakáyóó!mbóó!rá
vwahá yakáadá!vángá!nyá
rwá módávadí yakáróó!ngíkí!zá
aváándo vaakavéé!zégé!rá
vwahá yaakásáá!mbórágá!nyá

‘who staggered’
‘when Marova over-poured’
‘who made poorly’
‘when Mudavadi untangled’
‘the people who belched’
‘who demolished?’

H

mɔnyí mwáá!kákó!rógá
ekéési ya ndaakáká!rágá
módogá gwa ndaakású!gúmá

‘you who just stirred’
‘the case that I judged’
‘the car that I just pushed’

umwáána yaakájá!górá
 omóóndu yaakási!gámá
 vwahá yaakatí!vórá
 avakári v-aajinéta yaakákóó!mbééllá
 amágína ga kwaakávó!dóng'áná
 rw-á!váándú vaakáchí!rín'áná
 omóóndu waakasá!míihá
 vwahá yaakáká!ráángá
 omóóndu yaakávó!hóóllá
 rwá ndaakaká!ráángírízá
 omwáána yaakávíi!hírírwá
 rvííndo vya ndaakásá!sógórá
 amaazi ga kwaakásóó!ndóránýá
 vwahá yaakáfóó!róvánýá
 rw-á!váándú vaakáháá!ngárízáná

'the child who just ran'
 'the person who just knelt'
 'who has answered'
 'the women that Ajineda hugged'
 'the stones that we went around'
 'when the people were quiet'
 'the man who forgave'
 'who fried'
 'the person who just untied'
 'when I fried up'
 'the child that was depressed'
 'the things that I scattered'
 'the water that we spilled'
 'who ate glutinously'
 'when the people argued'

omóóndu yaakatáá!ngáá!zá
 vwahá !yáákáfóó!mbéé!llá
 rwá kwaakáháá!ngáá!rá
 imídógá ja ndaakáng'é!réng'á!nyá
 izing'óómbe zyaakáhó!nónó!ká
 avarógoori vaakási!rígó!má
 rwá !ndáákágí!róng'á!nyá
 vwahá yaakádúú!dúv!nyá
 avíígízí vaakádéé!kérá!ná
 rwá vóó!fisá vaakási!hírí!zá
 avísúká va kwakátóó!ngámínyí!rá
 rvííndo vya kwaakásáá!mbórógá!nyá

'the person that announced'
 'who made a fire burn'
 'when we argued'
 'the cars that I shined'
 'the cows that escaped danger'
 'the Logoris that rolled down'
 'when I inverted'
 'who made clumsily'
 'the teachers that cooked for each other'
 'when the officers dry-fried'
 'the Isukas that we turned upside down for'
 'the things that we took apart'

L verbs may have just a final H, or a H*!H pattern (downstep on the final H)

rwá !kwáákávárízá
 omwáá!ná yáákágávórá
 kindi kí cha yaakaguriza°
 vwahá yaakamoroma°
 kindi kí chaakatavagira°
 omóóndu yaakagavuranya°
 vwahá yaakarakuora°

'when we counted'
 'the child who divided'
 'what has he sold'
 'who has spoken'
 'what boiled'
 'the person who just doled out'
 'who has released'

aváándo va ndaakárákóó!rá
 mzí ndáá!kámóró!má
 aváándo vaakágómí!rwá
 aváándo vaakagórí!zá
 avávógúsó vaakámóró!má

'the people who I just released'
 'I who just spoke'
 'the people that just got arrested'
 'the people who just sold'
 'the Bukusus who just spoke'

Longer V-initial stems
<too sparse

h	kɪndɪ kɪ ʧa vaakáá!tányá	what have they now smashed
h	haɪ ha vaakiiká!rá	where are they sitting
h	morihá mwa vaakiító!llá	what did they pour into
h	vwahá yaakáá!vórá	who has now plucked
h	morihá mwa vaakiikara°	what are they sitting in
h	korihá kwa vaakiikara°	what are they sitting on
h	omóóndo yaakáá!vókányá	the man who has now separated
h	vwahá yaakáámbááyá	who has now swung
h	vwahá yaakíí!sháágá	who has now split
h	morihá mwa vaakíí!kára	what are they sitting in?
h	kɪndɪ kɪ ʧa vaakáá!tányá	what did they smash?
h	morihá mwa vaakiító!llá	what did they pour into?
h	vwahá yaakáá!vórá	who plucked?
h	omóóndo yaakáá!vórányá	the man who separated
h	vwahá yaakáá!mbááyá	who swung?
l	kɪndɪ kɪ ʧa vaakiivilla°	what have they now forgotten
l	vwahá yaakaamboka°	who has forded
l	omóóndo yaakaanigira°	the man who has now gone up
l	kɪndɪ kɪ ʧa vaakííví!llá	what did they forget?
l	vwahá yaakáá!mbóká	who forded?

OP

The pattern of relative verbs in this tense with OP is likewise the same as found in main clauses. The first H is always on the OP, though may shift to the prefix -ka- in the case of the 1s and reflexive OPs. There is almost always a second H, on the final vowel, except in certain short stems where there might be two adjacent Hs as a result (which is not impossible). CV roots either have final L or final !H.

L

rwá ndaakakí!shá	‘when I ground it’
omóóndo yaakávúsha	‘the person who ground it’
rwá ndaakákísha	‘when I ground it’

H

omóóndo yaakakí!nwá	‘the man who has now drunk it’
omóóndo yaakákínwa	‘the man who drank it’
rwá vaakákírya	‘when they ate it’

With CVCV stems, the pattern is either H!HH or H!H!H.

L

omóóndo yaakakó!rórá
rwá kwaakákí!góra
vwahá yaakakó!séká
omorími yaakakí!rímá
omóóndo yaakakó!ró!rá
vwahá yaakakó!ró!gá
rw-áá!rúru yaakáá!ndóyá

‘the man who has now seen us’
‘when we bought it’
‘who laughed at us?’
‘the farmer who plowed it’
‘the man who saw us’
‘who bewitched you?’
‘when Alulu hit me’

H

rwá ndaakakó!rómá
rwá !kwáákákó!véga
avarími yaakáké!dóná
omóóndo yaakakí!té!má
rwá kwaakákó!vé!gá

‘when I bit you’
‘when we shaved you’
‘the farmers who made it into pieces’
‘the person who chopped it’
‘when we shaved you’

Likewise with CVVCV stems, both H!HH and H!H!H are encountered

L

rwá ndaakaké!ng’óódá
omóóndo yaakákí!ríindá
rwá vaakákó!ráámá
rw-ávárógoori vakáké!jónórá
rwá vaakáá!ngíingá
omóóndo yaakakí!kwéé!sá
rwá ndaakakí!ríí!ndá

‘when I wrote it’
‘the person who guarded it’
‘when they cursed you’
‘when the Logooris got it’
‘when they protected me’
‘the person who pulled it’
‘when I guarded it’

H

rwá ndaakakí!táágá
vwahá yaakáké!dééká
aváándo vaakákó!kóó!já
avavógosó vaakákó!héé!nzá

‘when I planted it’
‘who cooked it?’
‘the people who helped you’
‘the Bukusus who looked for us’

Vowel-initial disyllables have the pattern H!H, if the OP is of the form CV.

L

vwahá yaakáchéé!já
omósóoréerí yaakáchéé!yá
izing’óómbe zyaakákwéé!já
vwahá yaakáchóó!há
rwá vaakakwáá!llá
rwá ndaakáchéé!yá
rwá vaakákwóó!ngá
rwá Máróvá yaakákwáá!gá

‘who has now wanted it’
‘the boy who swept it’
‘the cows that wanted us’
‘who scattered it?’
‘when they spread a bed for us’
‘when I swept it’
‘when they joined us’
‘when Marova scratched us’

H

rwá ndaakámwíí!tá	‘when I killed him’
vwahá yaakáchíí!gá	‘who has now learned it’
gúugá yaakakwáá!tá	‘the grandfather who did surgery on us’
vwahá yaakáchíí!gá	‘who learned it?’
omóóndo yaakárwíí!mbá	‘the person who sang it’
eng’óómbe yaakámwíí!tá	‘the cow that killed him’
rwá !ndaákámwííta	‘when I killed him’
rwá ndaakámwííta	‘when I killed him’

With the 1s OP, the first H is exclusively on /ka/, followed by a downstep: there may be a single H on the two following syllables, or there may be the sequence H!H.

L	
omóóndo yaakáá!jéjǎ	‘the person who wanted me’
omóóndo yaakáá!jǎngá	‘the person who joined me’
rw-avíísokoro yaakáá!nzágá	‘when the grandchildren scratched me’
rwá vaakáá!nzéyá	‘when they swept me’
vwahá yaakáá!nzállá	‘who spread for me?’
rwá vaakáá!jéjǎ	‘when they wanted me’
omwíídako yaakáá!nzá!llá	‘the Idakho who spread a bed for me’
rwá waakáá!nzé!yá	‘when you swept me’
aváándo vataakáá!jǎ!ngá	‘the people who didn’t join me’

H	
<sparsish>	
rwá vakáá!nzátá	‘when they did surgery on me’
omóóndo yaakáá!nzítá	‘the person who killed me’

Longer C-initial stems likewise have the patterns H!H* and H!H*H.

L	
aváána vaakákó!gávóllá	‘the child who divided for us’
vwahá yaakákí!gǎrízǎ	‘who has now sold it’
rwá vaakakó!kúrúrá	‘when they dragged you’
vwahá yaakávǎ!rákóórá	‘who has now released them’
rwá ndaakakó!séémbéllá	‘when I weeded for you’
vwahá yaakákí!gávórányǎ	‘who has now distributed it’
rwá vaakáá!mbárizǎ	‘when they counted me’
vwahá yaakákí!róóngíkízǎ	‘who has now straightened it’
vwahá yaakávǎ!rákóó!rá	‘who released them?’
imbwǎ ya vaakákó!yáví!llá	‘the dog that you buried for us’
vwahá yaakákí!gǎrízǎ	‘who sold it?’
vwahá yaakakí!gávórá!nyǎ	‘who distributed it?’
omkáána vaakákó!góyǎá!nyǎ	‘the girl who disarranged us’

H

vwahá yaakává!vóhóllá
 vwahá yaakákí!nágírá
 vwahá yaakákí!káraángá
 vwahá yaakákí!sháágára
 aváándo va ndaakakó!kóónérá
 vwahá yaakákí!vórógányá
 vwahá yaakákí!vórógá!nyá
 vwahá yaakákí!nágí!rá
 vwahá yaakává!vóhóó!llá
 omwíigizí yaakákí!káraá!ngá
 vwahá yaakákí!sháágá!rá
 vwahá yaakákó!páátááná
 ómóóndo yaakákí!túóngámíná

‘who has now untied them’
 ‘who has now caught it’
 ‘who fried it?’
 ‘who has now sharpened it’
 ‘people that I helped for you’
 ‘who has now stirred it’
 ‘who stirred it?’
 ‘who caught it?’
 ‘who untied them?’
 ‘the teacher who fried it’
 ‘who sharpened it?’
 ‘you hired us’
 ‘the person who inverted’

In longer V-initial stems, the first H is on the (long) syllable which fuses the OP and the root, and is followed by a downstep plus a sequence of Hs. There may be a downstep between the penult and final syllables.

L

rwá Máróvá yakakwéé!rémízá
 omóóndo yakámwáá!yóóllá
 guugá yaakáví!villá
 rwá áváándo vara vaakáví!zórízá

‘when Marova made you float’
 ‘the person who shouted for him’
 ‘the grandfather who forgot them’
 ‘when those people remembered them’

omóóndo yaakáchíí!gó!rá
 vwahá yaakákwáá!mbó!ká
 omwíidako yaakácháá!mbágí!llá
 omonákivara yaakáchíí!rókí!zá

‘the person who opened it’
 ‘who crossed us?’
 ‘the Idakho who stretched to it’
 ‘the non-Logooris who made it flee’

H

vwahá yaakácháá!tányá
 rwá ndaakáví!gízá
 vwahá yaakachóó!gíhízá
 rw-ómórójí yaakákpíí!gízá
 rvííndo vya vaakáváá!tányírá
 rw-á!váá!ná vára vaakávóó!nóónyérá

‘who split it?’
 ‘when I taught them’
 ‘who sharpened it?’
 ‘when the witch taught us’
 ‘the things that they broke on them’
 ‘when those children mess up on them’

omóóndo yakámwíí!vó!rá
 avakóónzakarí vaakávóó!mbá!ká
 rwá vaakakwáá!gó!llá
 vwahá yaakákwáá!nó!llá
 rwá vaakakwíí!gótí!zá
 rwá vaakákwáá!mbááyí!rá
 rwá vakákwáá!gúrókí!zá

‘the person who gave birth to him’
 ‘the widows who built them’
 ‘when the plucked for us’
 ‘who took clothes down for you’
 ‘when they satisfied us’
 ‘when they swung for us’
 ‘when they made us come down’

In the case that the OP is 1s -N-, the first H rests on the lengthened prefix /ka/, and there may be downstep between the penult and final syllables.

L

omwíidako yaakáá!námbugíllá	‘the Idakho who stretch to me’
ivííndo vya vaakáá!nzígóllá	‘the things that they opened for me’
omóóndu yaakáá!nzáyóllá	‘the person who shouted for me’
vwahá yaakáá!námbugóká	‘who crossed me?’
rw-aváándo vara vakáá!nzízórízá	‘when those people remembered me’

omnákivara yaakáá!nzírókí!zá	‘the non-Logooris who made me flee’
guugá yaakáá!nzíví!llá	‘the grandfather who forgot me’
avakóó!nzáká!vakáá!nómbákí!llá	‘the widows who built for me’
aváándo vaakáá!nzéremé!rá	‘the people who floated for me’

H

omóóndu yaakáá!nzívórá	‘the person who gave birth to me’
rwá vaakáá!nzágóllá	‘when the plucked for me’
rw-ó!múrójí yaakáá!nzígízá	‘when the witch taught me’
vwahá yaakáá!nánóllá	‘who took clothes down for me’
rwá vaakáá!nzígótízá	‘when they satisfied me’
rwá vaakáá!námbugáayírá	‘when they swung for me’
rwá vaakáá!nzágórókízá	‘when they made me come down’

ivííndo vya vaakáá!nzátányí!rá	‘the things that they broke on me’
rw-ál!váá!ná vára vaakáá!nyónóonyé!rá	‘when those children mess up on me’

8.3.4. NEGATIVE RELATIVE

The overall tone pattern for negative relatives is analogous to other forms of this tense, having an initial H and a final H (sometimes lacking). The main prosodic difference arises from small differences in the prosody of the SP and following syllable, but this has no effect on the span from -ka- through the stem. Thus CV roots have the pattern H!H, or sometimes just final H.

L

kindi kí chavataaká!shá	‘what have they not now ground’
vwah-átaaká!gwá	‘who has now not fallen’
vwah-átaaká!shá	‘who did not grind?’
omóónd-ataakagwa°	‘the person who didn’t fall’
vwah-átaakasha°	‘who has not now ground’

H

amarwá ga ndataaká!nwá	‘the alcohol that I didn’t drink’
rwá kotaaká!ryá	‘when we didn’t eat’
uvuchíma vwa ndataakarya°	‘the ugali that I didn’t eat’

ovóchíma vwa ndataakáryá

‘the ugali that I didn’t just eat’

CVCV stems usually have the pattern H!H, but L verbs may have just final H and H verbs may have just penult H.

L

izisééndi zya ndataakásá!vá
omóóndu wa ndataakará!gá
kigúúti cha kotaakárí!má
vwah-á!táákáró!gá
omóónd-ataakádó!yá
vwah-á!táákájí!bá
vwah-átaakaroga°
rw-ótaakárirá

‘the money which I didn’t borrow’
‘the person who I didn’t promise’
‘the field that we didn’t plow’
‘who did not bewitch?’
‘the person who didn’t hit’
‘who didn’t answer?’
‘who has now not bewitched’
‘when you didn’t cry’

H

aváána va ndataakavé!gá
kindi kí cha kotaakáká!rá
izisééndi zya ndataakáví!sá
r-ótaakavé!gá
rwá vataakákó!zá
ró!táákávéga
vwah-átaakátéga

‘the children who I didn’t shave’
‘what didn’t we cut?’
‘the money that I didn’t hide’
‘when you didn’t shave’
‘when they didn’t die’
‘when you didn’t shave’
‘who did not trap?’

CVVCV stems usually have H!H as their pattern, but penult-only patterns are also attested.

L

vwah-átaakagéén!dá
vwah-átaakasóó!má
vwah-átaakaróó!rá
omóónd-ataakáchóó!rá
ikitábu ch-otaakáng’óó!dá
vwah-átaakásóóma
rwávataakaráama

‘who has not now walked’
‘who has not now read’
‘who has not now found’
‘the person who didn’t draw’
‘the book that you didn’t write’
‘who did not read?’
‘when they didn’t curse’

H

aváándo vataakánpáá!ná
vwahá vataakádéé!ká
vwah-átaakaréé!tá
vwah-átaakatóó!ngá
vwah-átaakavéé!há
aváándo vataakádééka

‘the people who didn’t just eat’
‘who pl. didn’t cook’
‘who has not now brought’
‘who has not now paid’
‘who has not now lied’
‘the people who didn’t cook’

V-initial verbs have analogous variations: H!H, H# and HL.

L

<needs more>

myúúmba ya Máróv-átaakéé!yá
vwah-átaakeeya°

‘the house that Marova didn’t sweep’
‘who has now not swept’

H

omóónd-ataakóó!yá
omóóndo wa kutaakáá!tá
oríímbu rwa kutaakíí!mbá
vwah-átaakíí!vá
izing’óómbe zitaakáá!yá

‘the person who didn’t cry in pain’
‘the person who we didn’t slice up’
‘the song that we didn’t sing’
‘who has not now stolen’
‘the cows that did not graze’

rw-átaakááha
izing’óómbe zitaakáána

‘when he didn’t pluck’
‘the cows that didn’t moo’

Longer verbs generally have the pattern H!H with H on the root-initial syllable.

L

vwah-átaakamó!ró má
vwah-átaakavá!gára
vwah-átaakadú!vóká
amáázi gataakátá!vágírá
aváándo va ndataakará!kóóllá
eng’óómbe ya ndataakará!kóórá
vwah-átaakágó!yáána
vwah-átaakáyíí!nzírá

‘who has not now spoken’
‘who has not now hung out’
‘who has not now crushed’
‘the water which didn’t boil’
‘the people who I didn’t release’
‘the cow which I didn’t release’
‘who did not get disoriented?’
‘who did not work?’

H

vwah-átaakahí!nórá
vwah-átaakapá!górá
vwah-átaakasí!gámá
vwah-átaakávó!gííllá
aváándo va ndataakavó!hóóllá
ibárási ya kutaakású!gúmá
omórími w-omóónd- átaakáchéé!rízá

‘who has not now lifted up’
‘who has not now run’
‘who has not now knelt’
‘who did not agree?’
‘the people who I didn’t just untie’
‘the horse which we did not push’
‘the farmer who the person did not greet’

The sub-pattern with final downstep is also reasonably common

vwah-átaakará!kóó!rá
omódogá gwa ndataakávó!dóng’á!ná
vwah-átaakádó!vó!ká
vwah-átaakáhóó!móó!rá
vwah-átaakapá!gó!rá
vwah-átaakasí!gá!má

‘who did not release?’
‘the car that I didn’t go around’
‘who did not crush?’
‘who did not massage?’
‘who did not run?’
‘who did not kneel?’

zing'óombe zya vataakávó!hóó!llá 'the cows which they did not untie'

L verbs also exhibit final-only and HH!H patterns

vwah-átaakásémáná	'who has not now cursed'
aváána vataakabóróká	'the children who did not fly'
vwah-átaakagóyáá!ná	'who has not now gotten disoriented'
vwah-átaakásémá!ná	'who did not curse?'

and V-initia;

L

omolyáángo gwa ndataakíí!góra	'the door that I didn't open'
omkíkuy-átaakáá!yóra	'the Kikuyu who did not shout'
omogéra gw-ótaakáá!mbóká	'the river that you didn't cross'
r-ótaakáá!mbó!ká	'when you did not ford'
r-ótaakáá!ngó!há	'when you did not speed up'

H

ikítábo cha vataakíí!rányá	'the book that they did not return'
omorín-ataakíí!ngírá	'the friend who did not enter'
myúúmba itaakóó!mbákwá	'the house that was not built'
avakári vataakáá!ráamá	'the women who didn't sit legs apart'
rwá ndataakáá!tányá	'when I did not bust up'
aváándo vataakíí!syáámórá	'the people who didn't sneeze'

myúúmba ya kotakíí!ngí!rá	'the house that we didn't enter'
aváábaabá vataakáá!tá!nyá	'the fathers who did not bust up'
omorín-ataakíí!gí!zá	'the friend who did not teach'
rwá ndataachíí!gá!llá	'when I didn't obstruct'
rwá kitaakáá!dí!ká	'when it didn't burst'
r-ótaakíí!mí!llá	'when you did not lead'
aváána vataakóó!nóó!nyá	'the children who did not mess up'
ovoró vwa ndataakíí!rúú!rá	'the millet that I didn't winnow'

Negative relatives with an OP have the first H on the OP and a second H at the end, allowing for the possibility of a single H in short-enough stems that two H's might result

vwah-átaakámó!há	'who didn't give him?'
vwah-átaakakí!shá	'who has not now ground it'
vwah-átaakamó!há	'who has not now given him'

rwá vaatakákí!ryá ‘when they didn’t eat it’

CV stems may have just the prefix H, since the final vowel is the next syllable.

omóond-ataakákínwa ‘the man who didn’t drink it’
vwah-átaakákísha ‘who didn’t grind it?’

CVCV stems usually have the pattern H!H*, but also attest H!H*!H.

omórimi ataakákí!rímá ‘the farmer who didn’t plow it’
avarími vataakáké!dójná ‘the farmers who didn’t make it into pieces’
vwah-átaakákó!rógá ‘who didn’t bewitch you?’
rwá kotaakákí!górá ‘when we didn’t buy it’
vwah-átaakakó!séká ‘who has not now laughed at us’
rw-átaakákí!kwéésá ‘when he didn’t pull it’
vwah-átaakaké!sóómá ‘who didn’t read it?’
vwah-átaakakó!tóóngá ‘who has not now paid us’
rwá ndataákákí!ríí!ndá ‘when I didn’t guard it’
rwá vataakakó!ráá!má ‘when they didn’t curse you’
rwá ndataakáké!ng’óó!dá ‘when I didn’t write it’
rwá vataakáá!ngíí!ngá ‘when they didn’t protect me’

omóond-ataakákí!témá ‘the person who didn’t chop it’
rwá ndataakákó!rómá ‘when I didn’t bite you’
avavógosó vataakákó!héenzá ‘the Bukusus who didn’t look for us’
vwah-átaakaké!dééká ‘who didn’t cook it?’
aváándo vataakákó!kóónyá ‘the people who didn’t help you’
rwá kotaakáké!réétá ‘when we didn’t bring it’
rwá kotaakákó!vé!gá ‘when we didn’t shave you’

Vowel-initial stems have the H!H pattern with a CV OP

vwah-átaakáchéé!já ‘who didn’t want it?’
omsóóréri ataakáchéé!yá ‘the boy who didn’t sweep it’
vwah-átaakáchóó!há ‘who didn’t scatter it?’
rwá vataakákwáá!llá ‘when they didn’t spread a bed for us’
rwá vataakákóó!ngá ‘when they didn’t join us’
rwá ndataakáchéé!yá ‘when I didn’t sweep it’

ing’óómb-itaakamwíí!tá ‘the cow that didn’t kill him’
goug-átaakákwáá!tá ‘the grandfather who didn’t do surgery on us’
omóond-ataakárwíí!mbá ‘the person who didn’t sing it’
vwah-átaakáchíí!gá ‘who didn’t learn it?’

H!H and H!H!H are both found with VCV stems plus the 1s OP -N-.

rwa vakátáá!nzátá
omwíidak-ótaakáá!nzállá
omóónd-ataakáá!jé!já
rw-ótaakáá!nzé!yá

‘when they didn’t do surgery on me’
‘the Idakho who didn’t spread a bed for me’
‘the person who didn’t want me’
‘when you didn’t sweep me’

aváándo vataakáá!njóngá

‘the people who didn’t join me’

Polysyllabic stems usually have the pattern H!H*.

<lexical sudividing>

imbwá y-itaakákó!yávíllá
vwah-átaakakí!hínórá
vwah-átaakav!vágára
vwah-átaakakí!nágírá
omokáán-ataakákó!goyáányá
rwá vataakákó!kóróórá
vwah-átaakakó!rííndíllá
vwah-átaakavá!yíinzíllá
vwahá vataakáá!mbóhóóllá
rwá ndaatakakó!séémbéllá
vwah-átaakakí!vórógányá
vwah-átaakavá!véézégéllá
vwah-átaakakí!tóúngámíjné
vwah-átaakakí!róúngíkízá
vwah-átaakacháá!tányá
vwah-átaakáchóó!gíhízá
rwá vataakákóó!ngáányá
vwah-átaacháá!mbóká

‘the dog that you didn’t bury for us’
‘who didn’t lift it up?’
‘who has not now hung them out’
‘who didn’t catch it?’
‘the girl who didn’t disarrange us’
‘when they didn’t drag you’
‘who has not now waited for us’
‘who has not now worked for them’
‘who didn’t untie me’
‘when I didn’t weed for you’
‘who didn’t stirr it?’
‘who didn’t belch on them?’
‘who didn’t invert it?’
‘who didn’t straighten it?’
‘who has not now broken it’
‘who didn’t sharpen it?’
‘when they didn’t join us’
‘who has not now crossed it’

The pattern H!H*!H is also attested

omóónd-ataakáchíí!gó!rá
vwah-átaakácháá!mbó!ká
rwá vataakáá!mbáí!zá
aváána vataakakó!gávó!llá
vwah-átaakavá!rákóó!rá
vwah-átaakavá!yíínzí!llá
vwah-átaakakó!rííndíí!llá
vwah-átaakakí!gávórá!nyá
vwah-á!táá!kávívágá!rá
vwah-átaakakí!góri!zá

‘the person who didn’t open it’
‘who didn’t cross it?’
‘when they didn’t count me’
‘the child who didn’t divide for us’
‘who didn’t release them?’
‘who didn’t work for them?’
‘who didn’t wait for us?’
‘who didn’t distribute it?’
‘who didn’t hang them out?’
‘who didn’t sell it?’

rwá ndataakavíí!gí!zá

‘when I didn’t teach them’

vwah-átaakácháá!tá!nyá
 vwah-átaakakí!sháágá!rá
 omwíigizi atakakí!káráá!ngá
 vwah-átaakakí!káráá!ngá
 vwah-átaakavá!vóhóó!llá

‘who didn’t break it?’
 ‘who didn’t sharpen it?’
 ‘the teacher who didn’t fry it’
 ‘who didn’t fry it?’
 ‘who didn’t untie them?’

leftovers

omóónd-ataakakó!rórá	the man who didn’t see us		
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8.4. -aka- perfective

Double-H most freq esp long stems,

L verbs:

	yaakágwíi	‘she has fallen’
	vaakáshíi	‘they have ground’
	vaakashíi	‘they have ground’
	kwaakáshíi	‘we have ground’
	vaakééyí	‘they have swept’
	vaakéényí	‘they have wanted’
	vaakóónji	‘they have joined’
	vaakáájí	‘they have scratched’
	kwaakááhi	‘we have plucked’
	yaakííhi	‘she has become a bride’
	waakééyí	‘you have swept’
	vaakéényí	‘they have wanted’
	vakarájí	‘they have promised’
	ndaakanáví	‘I have sewn’
	yaakakéví	‘he has circumcised’
	yaakagósí	‘he has erred’
	yaakasémí	‘he has insulted’
	yaakágórí	‘he has bought’
	vaakáng’úsí	‘they have pulled’
	vaakarímí	‘they have plowed’
	kwaakagósí	‘we have lacked’
	waakarímí	‘you have plowed’
	yaakámóónyí	‘she has gossiped’
	vaakáháandí	‘they have gotten stuck’
	ndaakávárízi	‘I have counted’
	yaakáánígíí	‘he has gone up’

	kwaakagánágani	‘we have thought’
!	yáákágó!ní	‘he has slept’
!	kwaakasé!chí	‘we have laughed’
!	waakasé!mí	‘you have insulted’
!	vaakáchóó!rí	‘they have drawn’
!	waakámóó!nyí	‘you have gossiped’
!	yaakábíí!mí	‘he has measured’
!	kwaakáá!mbóchí	‘we have crossed’
!	vaakáá!mbóchí	‘they have crossed’
!	vaakíí!vǐllí	‘they have forgotten’
!	waakámó!rómí	‘you have spoken’
!	waakasóng’ó!sí	‘you have shaken’
!	ndaakávágá!rí	‘I have spread out’
!	ndaakábá!dóri	‘I have whipped’
!	ndaakámí!nájí	‘I have stirred’
!	vaakakó!rórí	‘they have dragged’
!	vaakará!kóórí	‘they have released’
!	waakágó!yáání	‘you have been disarranged’
!	kwaakásóó!vírí	‘we have believed’
!	yaakaráá!ndízí	‘she has spread’
!	yaakázáá!záámí	‘he has tasted’
!	vaakágá!vórányí	‘they have divided up’
!	yaakágá!vórányí	‘he has doled out’
!	waakávée!zégérí	‘you have belched’
!	yaakásíí!ngírízí	‘she has stopped an event’
!	yaakásí!mógókízí	‘he has revived’
!	vaakásí!níkízání	‘they have annoyed each other’
!	ndaakágá!rángátání	‘I have fallen and rolled’
!	vaakásáá!mbórógányí	‘they have dismantled’
!	vaakásáá!mbórógányí	‘they have dismantled’

H verbs

	ndaakánwí	‘I have drunk’
	wáákárí	‘you have eaten’
	chaakáshí	‘it has gotten cooked’
	vaakííshi	‘they have uprooted’
	yaakííshi	‘she has uprooted’
	chaakáámi	‘it has sprouted’
	yaakíívi	‘he has stolen’
	vaakáréji	‘they have defeated’
	vaakárómi	‘they have bitten’
	waakádáshi	‘you have drawn water’
	kwaakátémi	‘we have chopped’
	yaakádóóri	‘he has picked up’

	yaakákóónyi	‘she has helped’
	kwaakasóóvi	‘we have thrown out’
!	waaká!nwíí	‘you have drunk’
!	vaakáá!tí	‘they have done survery’
!	yaakí!tí	‘she has killed’
!	kwaakávé!jí	‘we have shaved’
!	vaakákú!zí	‘they have died’
!	kwaakávé!jí	‘we have shaved’
!	yaakáká!rí	‘he has sliced’
!	vaakákú!zí	‘they have died’
!	kwaakavé!jí	‘we have shaved’
!	kwaakáká!rí	‘we have sliced’
!	ndaakáhó!lí	‘I have heard’
!	kwaakadéé!chí	‘we have cooked’
!	vaakávó!chí	‘they have woken up’
!	kwaakású!ví	‘we have thrown away’
!	vaakádó!chí	‘they have reached’
!	yaakí!vóri	‘she has given birth’
!	ndaakáá!yóri	‘I have shouted’
!	yaakáá!yóri	‘she has shouted’
!	ndaakóó!nóonyí	‘I have messed up’
!	kwaakáká!rájí	‘we have decided’
!	waakáhó!gómí	‘you have hummed’
!	kwaakávó!rójí	‘we have mixed’
!	waakákó!rórí	‘you have coughed’
!	kwaakáká!rájí	‘we have judged’
!	yaakávó!hóóllí	‘he has untied’
!	ndaakáká!ráánjí	‘I have fried’
!	kwaakáchéé!rízí	‘we have greeted’
!	chaakásyáá!llóchí	‘it has melted’
!	ndaakáháá!mbíchí	‘I have gotten drunk’
!	waakásáá!llízí	‘you have injured’
!	waakáá!ráminyí	‘you have opened’
!	kwaakavó!dóng’ání	‘we have gone around’
!	kwaakáhó!nónóchí	‘we have escaped’
!	vaakáhó!nónóchí	‘they have escaped’
!	yaakágí!róng’ányí	‘he has turned around’
!	ndaakávó!dóng’ání	‘I have gone around’

8.5. Adjectives

A double-H pattern is selected for deverbal adjectives with the final vowels *-u* and *-i*, while those with final *-i* selects the M1 pattern. The adjective subpattern neutralizes the

lexical distinction between H and L roots. There are generally three tone patterns in free variation.

In the case of monosyllabic roots, there are two surface manifestations of the pattern. One is that there are separate H's on the preceding class prefix and the root, and the other is a single final H.

amá!shó	'cooked'
om!gwó	'fallen'
irí!chó	'risen'
íkí!fó	'come to an end'
íkí!kwó	'paid'
avá!tó	'buried'
íkígwí°	'fallen'
amá!dóó!má máshé	'ground maize'
omóóndú móhé	'given person'
amánó	'drink'
íkitó	'buried'

CVCV roots fall into three patterns in free variation: prefix H plus one high throughout the stem, root initial H and final H, and root-initial H only. The stem-internal H!H and penult-onlt patterns seem to be somewhat more frequent.

omwáán-omóró!mó	'bitten child'
imító !miká!ré	'cut mito'
amíí!n-ámáhé!nyó	'exposed teeth'
omkí!n-ómógá!yé	'forbidden game'
omóónd-ómkó!rú	'grown person'
ínám-ííndé!mó	'hacked meat'
amávé!r-ámávó!nú	'harvested millet'
éng'óómb-íímbí!só	'hidden cow'
omwíígizí umsé!mú	'insulted teacher'
íngá!yú	'prohibited'
omwáá!n-ómóró!ré	'seen child'
omwáán-omèbé!gwí	'shaved child'
ínám-ííngá!ré	'sliced meat'
rowááy-orodó!né	'snipped wire'
mgáá!n-ééjónó!ré	'stripped wheat'
ovó!t-óvvóhe	'tied bow'
avaró!kó	'vomitted'
ínyóónd-ííngó!ró	'worn out hammer'

ímígóyé míkáre	'cut ropes'
ekerége	'defeated'
ekekóro	'done'

omóóndó móhóne	'healed person'
ikivísi	'hidden'
ekeséme	'insulted'
ekégóte	'lost'
ekégóto	'lost'
emére	'malted'
aváhámó	'moved'
myóó!mbá ímbáke	'painted house'
ámánógó	'picked'
íkígúútí kírímí	'plowed field'
íngáye	'prohibited'
ikirágo	'promised'
ikíháke	'scorched'
máve	'sewn'
ikínávo	'sewn'
avavégo	'shaved'
éngó éng'óne	'sleeping leopard'
ambéé!r-ámbófu	'sour milk'
ímbónyí	'stinking'
ekevohe	'tied'
ikíba!g-íkíríhu	'tired cat'
avárúku	'vomitted'
ikí!ró mó	'bitten'
izí!sávó	'borrowed'
eké!kóró	'done'
omó!rímó	'plowed'
íkígúútí kírímí	'plowed field'
ikí!rágó	'promised'
éngó é!ngóné	'sleeping leopard'
amádúúm-amá!vónó	'picked maize'
omkón-omó!ró mó	'bitten arm'

In the overwhelming majority of instances, CVVCV stems have the prefix-H plus single stem-internal H pattern

í!mbáángé	'arranged'
ikí!báángó	'arranged'
orógág-oró!bíímí	'measured fence'
orógág-oró!bíímó	'measured fence'
ikí!chóóré	'drawn'
myóó!mb-éé!njóórú	'drawn house'
omýék-omó!chóóngí	'sifted sand'
icháá!-íí!njóóngó	'strained tea'
ínám-é!ndééké	'cooked meat'
ikí!dúúnyú	'sad-looking'

mbw-é!éng'ééndé	'walked dog'
omó!géényó	'uncertain'
omdog-ómó!háándé	'stuck car'
omdog-ómó!háándú	'stuck car'
íkí!míízí	'cast'
íkí!míízó	'cast (seeds)'
íkí!ráámé	'cursed'
íkí!ráámó	'cursed'
eké!sóómó	'read'
íkí!táágé	'planted'
ibú!s-éé!ñééngé	'brewed busa'
amarwá-!má!yééngú	'brewed alcohol'

In a small number of instances, there is a H on the final vowel and a separate stem-initial H, variably realized with downstep within the penult or, less often, after the penult.

íkírbá!ángó	'arranged'
aváánd-aváchó!óré	'drawn people'
íkíkó!óró	'extracted'
íkímí!ízó	'cast (seeds)'
avásá!áró	'prayed'
éng'óómb-íísí!ínzí	'slaughtered cow'
írísáv-írísó!órí	'refused request'
aváá!n-ávávó!óki	'woken children'
avavó!ókó	'awake'
íkíyó!óyó	'scooped'
íkíhí!mó	'hunted'
íkíhóó!mó	'scraped'
íkínwéé!kó	'beaten'
enéé!ngé	'brewed'

In the case of VCV stems, the primary pattern is a two-H pattern. When the stem has a CV class prefix, this means that there is a dowstep within the stem-initial syllable which merges the pre-stem prefix and the stem-initial root mora.

ámát-ámá!áhú	'plucked leaves'
íkítáánd-íchá!áru	'spread bed'
íchá!áté	'sliced up'
íchá!átó	'sliced up'
iché!éyé	'swept'
íchííkóóní ché!éyé	'swept kitchen'
iché!éyó	'swept'
íchí!ítí	'killed'
omwí!ítú	'killed'
íchí!ívó	'stolen'

Sometimes the downstep appears after the penultimate syllable

omwáán-omwéé!nyó	‘wanted child’
ichéé!nyó	‘wanted’
kɪfóó!y-íchíí!tí	‘killed rabbit’

In cl. 9-10 forms, the most common pattern is H on the root-initial vowel and a separate H on the final vowel, but the downstep may also be positioned between the prefix and stem.

ɪhááɪ-ɪnzá!hé	‘plucked tomato’
ɪsúúk-ɪnzá!ró	‘spread sheet’
myóómb-ɪnzé!yé	‘swept house’
myóómb-eenzé!yó	‘swept house’
ɪrúúmbw-eenzé!yó	‘swept room’
éng’óómb-íínzǐ!vwí	‘stolen cow’
ɪháá!ɪ-éé!ɪné	‘desired tomato’

There are also instances of the penult-only pattern.

myóómb-eeɲényu	‘wanted house’
é!ngó!k-íínzǐtɪ	‘killed chicken’

When the stem is trisyllabic or longer and C-initial, the only pattern is H!H with the first H on the first stem syllable and !H on syllables thereafter.

embó!móré	‘demolished (9)’
mjá!nórí	‘combed (9)’
omochá!nóró	‘combed’
mdí!gǐní	‘tickled (9)’
ɪkɪfó!níkó	‘covered’
ɪkɪgá!vórí	‘distributed’
myóómb-ɪngó!rízé	‘sold house’
kɪfóó!y-íkíká!máté	‘caught rabbit’
ɪkɪká!rágó	‘decided’
ɪdára!j-éémé!géké	‘snapped bridge’
avatí!vóró	‘answer’
ɪkító!míkí	‘used’
kɪfóó!y-íkíyá!vírí	‘buried rabbit’
kɪbága kɪchí!ríng’ánú	‘a quiet cat’
kesééro kíhá!rágáté	‘a scraped hide’
ɪmbú!r-íímá!ɪníkáné	‘famous goat’
ɪbáákóó!r-íéng’é!réng’ánó	‘shiny bowl’
ɪkító!míkíró	‘used’

ikivó!dóng'ánó	'turned'
ekegó!yáánó	'mixed up'
ingá!ráángé	'fried'
máinama ingá!ráángé	'fried meat-wards'
ikirá!kóórí	'released'
roháang-orodéé!ngéllú	'loose panga'
aváand-áváfóó!góyé	'crippled people'
ikifóó!ngóró	'open'
ikigúú!námó	'ripened'
ikikóó!róró	'dragged'
engóómb-íísáá!nórí	'combed cow'
mbw-í!í!nzí!ngírí	'working dog'
amá!gómýá magúú!námíjé	'fermented bananas'
ikiháá!ndííkí	'written'

Vowel-initial polysyllabic stems likewise have the first H on the first stem syllable (with downstep after that syllable): this is true whether or not the class prefix is CV of N.

amávé!r-ámíí!sháágé	'beated millet'
icháá!góró	'plucked'
omwáá!mbákánó	'refused'
mogér-ómwáá!mbókí	'crossed river'
icháá!nórí	'taken down'
icháá!vókó	'split up'
icháá!vórókánó	'cut up'
omwéé!vóyógó	'slow to act'
ichíí!gízí	'taught'
amá!dóó!m-ámíí!sháágé	'beated maize'
aváand-ávíí!víllí	'forgotten people'
kekóómb-ichíí!zórí	'full cop'
ichíí!zórízó	'filled'
ichóó!gíhízí	'sharpened'
inyí!ng-íinzá!díkí	'broken pot'
ɪhááɪ-ɪnzá!górí	'plucked tomato'
ɪnzír-ɪjá!mbókí	'crossed path'
ɪsók-ɪnzá!nókí	'sheet off the line'
zinyóómb-ɪzinyí!ngírí	'entered houses'
í!ngáá!n-ínzí!nící	'fermented wheat'
zínɡ'óómbé zínzí!víllí	'forgotten cows'
ɪjáá!g-ínzí!zórí	'full jug'
ɪnyóómb-ɪnzó!mbáké	'built house'

One additional pattern is attested in data from speaker FA, namely final H only.

máng'óó!ndó mávísú	'hidden money'
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kidári chaaré	‘a spread bed’
msáá!rá mwááté	‘a split tree’
vitábu vibaangé	‘sorted books’
vwóóma vuchaamé	‘a bent fork’
é!ngókó !ngárágé	‘a carved-up chicken’
enzó!ká !nzátányé	‘a dissected snake’
ɪnáma ngaraangé	‘chopped meat’
mogóye mwiiringú	‘twisted rope’

9. Stative

The stative has H only on the prefix -áá-, and the stem has no H tone, regardless of lexical tone.

L verbs	
chááshwa	‘it is ground’
cháágaywa	‘it is prohibited’
yáágepa	‘he is uncertain’
yáágoná	‘he is asleep’
zyáágota	‘it is scarce’
yááduuha	‘he is blunt’
yááhaanda	‘he is stuck’
chááyavirwa	‘it is buried’
yááfoogoya	‘he is old’
chááhaandiikwa	‘it is written’
vááng’ aavouka	‘they are legs-open’

H Verbs	
cháátwa	‘it is buried’
gwááhaka	‘it is withered’
ndááholla	‘I am in the state of hearing’
ndáákuza	‘I am dead’
kwááyoma	‘we are dry’
cháádeekwa	‘it is cooked’
vááduuka	‘they are arrived’
zyáágeeha	‘it is scarce’
yáágeriha	‘he is clever’
cháátimoka	‘it is untied’
vááchereva	‘they are late’
vááyavokanya	‘they are sorted’
cháákaraangwa	‘it is fried’
kwáácheerizwa	‘we are in the state of having been greeted’
yáásaangaara	‘he is happy’

váárwaara
 váá!kétéma
 váá!rítéma

they are sick
 they are in state of having chopped it
 they are in state of having chopped it

recent OP examples but beware possibility that some of these are remote

	ndáá!chááta	I am in the state of having surgeried it	fall vs H?
	ndáá!chéeya	I am in the state of having swept it	
	ndáá!vávéga	I am in the state of having shaved then	
	ndáá!yévooha	I am in the state of having tied self	
	ndáákorimira	I am in the state of having plowed for you	
	ndáávidóña	I am in the state of having made them small	
	ndááyeseke	I am in the state of having laughed at self	
	váá!jéeya	they are in the state of having swept it	
	vááimbéézegell a	they are in the state of having belched on me	
	váájeeva	they are in the state of having fenced it	
	váákovéézegell a	they are in the state of having belched on us	
	wááinimira	you are in the state of having plowed for me	
	yáá!chéeya	he is in the state of having swept it	
	yáá!chíiva	he is in the state of having stolen it	
	yáá!ímbólla	he is in the state of having heard me	
	yáá!kévodong'a na	he is in the state of having gone around it	
	yáá!rwíimba	he is in the state of having sung it	
	yáá!váhólla	he is in the state of having heard them	
	yáá!vávéga	he is in the state of having shaved then	
	yáácheeya	he is in the state of having swept it	
	yáájnəna	okay	
	yáájnəna	okay	
	yááingí!róng'an yá	he is in state of having turned me around	
	yááingírong'an ya	he is in state of having turned me around	probably the correct tone, we shall see
	yááinzáta	he is in state of having surgeried me	it may be that he is conflating stative and remote
	yááinzəna	okay	

	yááinzéna	okay	
	yááísáámburug anyira	he is in the state of having dismantled for me	
	yáákedeeeka	he is in state of having cooked it	h
	yáákedééka	he is in the state of having cooked it	
	yáákichoora	he is in state of having drawn it	l
	yáákigavoranya	he is in state of having doled it	
	yáákigura	he is in the state of having biught it	
	yáákigoriza	he is in the state of having sold it	
	yáákíkáraanga	he is in state of having fried it	
	yáákísaamburuganya	he is in the state of having dismantled it	
	yáákísháágara	he is in state of having sharpened it	
	yáákoroonda	he is in the state of having followed us	
	yáákoveezegella	he is instate of having belched on us	
	yáákukáraga	he is in the state of having judged us	
	yáákorakoura	he is in state of having released us	
	yáárwimba	he is in the state of having sung it	this may be a correction
	yáávarora	he is in the state of having seen them	
	yáávataandora	he is in stake of having shredded them	
	yáávavariza	he is in state of having counted them	

10. Hesternal Perfective

The tone of the hesternal perfective is highly variable, and clearly requires further study across speakers, to sort out the variant forms.

10.1. Main Clause

10.1.1. No OP

The pattern for EM is the simplest: H is assigned to the final vowel, and H can spread to the left as usual. The distinction between H and L verbs is eliminated, and there seems to be no trace of underlying H in terms of limiting leftward spread of the final H.

kwaanwí	we drank hest
kwáávéjí	we shaved
ndáákárí	I cut
vaatomí	they sent

kwaahollí	we heard
kwaadeechí	we cooked
wayómbáchí	you built
yáchéréví	he was late
yáásógómí	he pushed
kwáákáráánjí	we fried
ndaavóhóóléé	I untied
kwaakóójání	we helped e.o
kwááhóómóórí	we massaged
kwaafóroványí	we ate a lot
kwáávódóng'ányí	we went around
kwaayaramínyí	we opened
kwaavórógányí	we stirred up
kwáátúungámínyí	we inverted
kwaatáándórání	we shredded for e.o
kwaadéékánírání	we cooked for e.o

kwaashí	we ground
ndaang'úsí	I pulled
ndááyéyí	I swept
yaayá	he spread a bed
chaachóórwí	it was drawn
kwaaroodí	we followed
ndaaróondí	I followed
kwáábádóri	we whipped
kwaamórómí	we spoke
kwaarórání	we saw e.o
ndáágórizí	I sold
ndaasóng'úsí	I shook
kwaarakóórí	we released
kwááyáámbóchí	we crossed
vaayıınziri ^o	they worked
kwááhíííítí	we snored
ndaavórógányí	I stirred
kwáávéézégérí	we belched
kwáásáámbóróógányí	we dismantled
kwáágórí	we bought
kweeyí	we swept

The pattern found in RKs data is different and somewhat more complicated: H verbs have final H (the same as EM), and L verbs either have final H (like EM), or H on V2. H verbs are as follows.

ndaarí	I ate
ndaanwée	I drank
ndaavití	I passed

yaavití	he passed
ndaatomí	I sent
ndaakiní	I played
ndaavejí	I shaved
ndaamejí	I lived
ndaaviní	I danced
ndaakarí	I cut
ndaayatí	I performed surgery
ndaayití	I killed
ndaahiizí	I hunted
ndaareetí	I brought
ndaahorí	I heard
ndaahakízí	I scorched
ndaadeechí	I cooked
ndaanyagóo	I ran
ndaayumíní	I dried
chaayarámí	it gaped
ndaavohóolé	I untied
ndaasugúmí	I pushed
ndaayerémí	I floated
yaagegéiwe	he was shaved
ndaakaraanjí	I fried
kwaayagáání	we met
ndaayatányí	I broke
kwaayasyáájí	we split wood
kwaasaambúu	we demolished
kwaakuníchí	we covered
ndaatomíchí	I did service
kwaazaazámí	we tasted
ndaasaakóo	I got old
yaasaangáa	he was happy
yaasaangááyé	he was happy
ndaakuungúhí	I got old
vaadeekérániráánj□	they cooked cont. for e.o
vaayenyí	they wanted
ndaayatányí	I broke
vaayitání	they killed e.o

L verbs with the V2 pattern are here:³⁴

ndaasyée	I ground
ndaang'ós□	I pulled
vaayenyí	they wanted
ndaagorí	I bought

³⁴ CVCV stems are inherently ambiguous since final H and V2 in CVCV are the same.

ndaagóni	I slept
ndaasémí	I insulted
vaasáví	they borrowed
ndaakúúti	I scraped
ndaatúúmí	I jumped
ndaasóómí	I read
ndaanyóóye	I found
ndaabóróchi	I flew
ndaaválizi	I counted
kwaamórómi	we spoke
ndaavagáa	I spread out
kwaanyóórani	we found each other
kwaahéérani	we panted
kwaaséembe	we cultivated
ndaaséembe	I cultivated
kwaaháándiichi	we wrote
kwaahóóndoori	we stared
vaasíngii	they stopped
ndaaháánzoochi	we shouted
kwaavóróganyii	we stirred
vaaválizani	they counted e.o
kwaazízagilli	we continued

An infrequent alternative is that H is assigned to the final vowel of L verbs: this is attested only in imbricated stems.

ndaaséembée	I cultivated
kwaayoómbóo	we spilled
kwaayíinzíi	we worked
vaatáándóo	they tore

Data from ML is similar to that from EM with a complexity in that the H/L distinction is neutralized and the main pattern assigns H to the final vowel, in non-imbricated perfectives (with the suffix -i).

ndaatejí	I trapped
ndaanáví	I sewed
ndaahollí	I heard
ndaavéjí	I shaved
ndaadeechí	I cooked
ndaadoorí	I picked up
ndaátáájí	I planted
ndaachéréví	I was late
ndaapagórí	I ran
ndaákárájí	I sliced
waasigamí	you knelt

kwaafúgúmí we hummed
 ndaakaraanjí I fried
 ndaataandóri I poured
 ndaaríngóllí I unfolded
 ndaasiisóri I chopped weeds
 ndaatuungamínyí I inverted

ndaaróri I saw
 ndaayjí I learned
 ndaaríri I cried
 ndaagorí I bought
 ndaageendí I walked
 ndaagórizí I sold
 ndaabóróchí I flew
 ndaamoromí I spoke
 waayíróchí you ran away
 kwaagoyaní we got disoriented
 ndaaseembéri I weeded
 ndaazízágírí I continued

Imbricated perfectives, on the other hand, tend to have different tone patterns depending on whether the root is underlyingly H or L. The two choices are between H on V2, versus final H: H roots generally take final H, and L roots tend to take H on V2. The distinction is only clear when looking at relatively long stems. Stems where V2 falls on the last syllable are ambiguous, because /'v/ and /v'/ are realized the same, usually as [v].

ndaanywíi I drank
 yaagwíi he fell
 ndáávágáe I hung up
 ndaayavíi I buried
 ndaadóvói I crushed
 ndaasyámói I sneezed
 kwaabómóe I demolished
 ndaahómóe I massaged
 yaaságáe he dug up

In longer L toned stems, including those retain stem-final [y] as a replacement for /r/, the V2 pattern is clearer since the rightmost H is not on the last syllable.

yaarakóoyi he released
 ndaasámóyi I slapped
 ndaasóovii I believed
 kwaavugóyi we received
 kwaakúumbee we hugged
 ndaayóombóe I poured
 yaasamééhee he forgave

Non-imbricated free variants have been given alongside the above examples, where the non-imbricated variant has final H, showing how the tone pattern depends on selection of the imbricated stem form.

ndáádóvóri I crushed
 ndáásóóvírí I believed
 ndáásyéégéerí I limped
 ndaasámórí I slapped

An alternative is that H is on the final syllable and not V2

waayĩnzĩ	you worked
ndaaseembée	I weeded
ndaang'aavó	I sat open
ndaayambagĩllĩ	I stretched
kwaarĩndĩllĩ	we waited on
ndaavéenzégée	I belched
waataandó	you tore up
kwaarĩndĩllĩ	we waited

In the case of H roots, final H is the only pattern

ndaavohoolĩ	I untied
waavogĩllĩ	you agreed
ndaahómóe	I massaged
ndaivĩllĩ	I forgot
ndaasáángáe	I was happy
ndaasiisó	I chopped weeds
ndaariingóllĩ	I unfolded
kwaasaangaaé	we were excited

Data from PM is not very extensive, but the pattern appears to be final H for all all stems.

kwaasyée	we ground
kwaasuuĩ	we refused
kwaagórí	we bought
kwaatééví	we asked
kwaarĩndĩ	we waited
kwaakoonyĩ	we helped
kwaarímĩ	we plowed
kwaasaalízĩ	we injured
kwaarakóó	we released
kwaaháanzóúchĩ	we shouted
kwaséembée	we weeded
kwaagóyáání	we were disarranged

kwaayagóróchí	we came down
kwaaháangáé	we argued
kwayivíllí	we forgot
kwaamórómí	we spoke
kwaayírúoyí	we winnowed
kwaavodóng'ání	we went ahead

10.1.2. WITH OP

The general pattern for EM in this tense when an OP is present is that H verbs have H on the root-initial and final syllables, and L verbs have H on V2. This pattern is evident in longer stems

ndaamhé!réchí	I accompanied him
vaagebó!móri	they destroyed it
yaavasó!gómí	he pushed them
ndaakusí!mógókízí	I revived you < kusimugukiza >
vaakogí!róng'ányírí	they inverted for us
yaavavó!dóng'ányírí	he went around for them
vaayingá!ráángírí	they fried for me
vaakovó!hóólléé	they untied us
kwaayedéé!kéréé	we cooked for self
vaakotáá!ngáázírí	they announced for us
kwaachíí!góri	we opened it
ndaamzée!ngéélléé	I stared at him
ndaamhóó!ndóóllí	I stared at him

L

ndaavavarízi	I counted them
kwaakígórízi	we sold it
kwaakímínáji	we stirred it
kwaakígávóri	we divided it
ndaakisóng'ósi	I shook it
vaamgánáganyi	they thought of him
kwaakígávóranyi	we divided it
vaakusíníkizi	they annoyed us
vaakomórómeree	they spoke to us

<longer L collection sparse>

CVVCV, CVCV and CV(V) H stems have a single H on the first syllable, and no second H on the following final syllable

kwaakepóóri	we found it
kwaakíbíími	we measured it
kwaakedééchi	we cooked it

kwaaketémi	we chopped it
vaaimbéji	they shaved me
vaakotómi	they sent us
kwaakírásí	we threw it
yaaganwír	he drank it-6
kwaamohée	we gave him
ndaavatír	I feared them

The lack of second H in disyllabic stems is due to the fact that final H is never assigned when the preceding syllable has H.

In the case of CVVCV L stems, H is on the penult, as a level H, and in CVCV stems it is on the final vowel. That is, H is on the second stem vowel, which may be in the first syllable in CVVCV, or the second syllable in the case of CVCV. CV(V) L stems have final H as well – generally though a final long syllable with H is realized with falling tone.

kwaamoróri	we saw him
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kwaamróondi	we followed him
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yaaindéévi	he asked me
------------	-------------

yaavoshír	he ground it-14
vaayeyényi	they wanted selves
yaayísinyí	he annoyed self

<i>vaaimbáá!yírí</i>	<i>they visited (for) me</i>
<i>kwaayezéé!ngéélée</i>	<i>they stared at self</i>
<i>yaakohóó!ndóóllír</i>	<i>he stared at us</i>
<i>vaámóromeree</i>	<i>they spoke to him</i>
<i>vaaisíníkizi</i>	<i>they annoyed me</i>

Do L verbs optionally become H?? Other L verbs with the two-H pattern:

vaakosí!mógókízí	they revived us
waakwáá!mbókírí	you crossed for us
waakotúú!mírí	you jumped for us
yaavasóng'ó!sí	he shook them
vaaykó!rórí	they dragged self
waakovári!zí	you counted us
waainzé!yéree	you swept for me
waanzi!góllír	you opened for me
kwaayéé!yéree	they swept for us

vaakwée!yérée	they swept for us
vaamzée!ngéélée	they stared at him
waaimbári!zí	you counted me
vaaingó!rórí	they dragged me

So okay optional, but question is whether this is opt adding the final H. It is not consistently V2 on the initial section, so this isn't systematic enough to count

Starting at ML180225125540.006, objects and neg sort of support stable final H but deletion of non-final H. However there is a lot of variation so maybe deletion is optional. Still, it seems there is a strong correlation

10.2. Relative

The tone pattern of affirmative relative clause forms of the hesternal perfective is the same as that of the main clause form.

10.2.1. No OP

SR:

H

omóóndo yaanwíi	the person who drank
amarwá ga kwaanwíi	alcohol which we drank
rwá !ndáánwíi	when I drank
omwáána yaakíní	the child who played
vwahá yaaveji	who shaved
vwahá yaarumi°	who bit
vwahá yaatumi°	who sent
vwahá yaadeechi°	who cooked
rwá !vadáéchi	when they cooked
vwahá yaavohóóllée	who untied
vwahá yaakaraanji°	who fried
vwahá yaapagóri°	who ran
omorími yaavodong'ani°	farmer who went around

L

vwahá !yáágwíi	who fell
rwá !ndáágwíi	when I fell
aváándo va ndaaroji°	the people who I bewitched
rwá !váaríí	when I cried
vwahá yaaríri°	who cried

vwahá yaasechi
 rwá !váchóóri
 omóóndu wandaarúumbí
 omwíígízi yaaríndi°
 vwahá yaatuumi°
rijónyi yaabóró!chi
 rwá !kwááminájí
 rwá !ndáávúrújí
 omóóndu yaabomori°
 omóóndu yaagorizi°
 omóóndu yaamórómí
 rwá !yáárakúúrí
 omwáána wa ndaarakoori
 vwahá yaarakoori°
 rwá !ndááyíinzírí
 rwá !wááyíinzírí
 omwíígízi yaaríndíllí°
amáází gaatávágri
 omóóndu yaavezezeri°

who laughed
 when they drew
 the person who I pushed
 the teacher who waited
 who jumped
the bird that flew
 when we stirred
 when I stirred
 person who demolished
 person who sold
 the person who spoke
 when he released
 the child who I released
 who released
 when I worked
 when you worked
 the teacher who waited
the water that boiled
 person who belched

10.2.2. WITH OP

rwá ndaakínwí	when I drank it
rwá !ndáávárójí	when I bewitched them
rwá ndaakínwí	when I drank it
rwá ndaakíshí	when I ground it
rwá ndaavavéji	when I shaved them
rwá ndaamsechi	when I laughed at him
rwá ndaagorimi	when I plowed it
rwá ndaakedééchi	when I cooked it
rwá ndaakechóóri	when I drew it
rwá ndaavavárízi	when I counted them
rwá ndaakíhí!nórí	when I lifted it up
rwá ndaagígórízi	when I sold it
rwá ndaakitó!rízi	when I removed it
rwá ndaavavó!hóólléé	when I untied them
rwá ndaavarakóóri	when I released them

10.3. Relative Negative

10.3.1. No OP

amarwá ga kutaanwí
 aváándo vakotaaveji°
 ñáma ya kutaadeechí
 rwá kutaakaráánjí
 eng'óómbe ya kutaavohóólléé

alcohol which we didnt drink
 people who we didnt shave
 the meat which we didnt cook
 when we didnt fry
 the cow which we didnt untie

rwá kutaashée
 rwá kutaarri°
 omóóndo w-otaarori°
 vwah-átaachoori°
 aváándo vakotaachóóri
 aváándo va kutaarakóóri
 rwá kutaavarízí

when we didnt grind
 when we didnt cry
 the person who you didnt see
 who didnt draw
 people who we didnt draw
 the people who we didnt release
 when we didnt count

10.3.2. WITH OP

	rwá kutaakinwí	when we didnt drink it
1	eng'óómbe ya kutaakohée	the cow which we didnt give to you
2	amarwá ga kutaakonwééree	the alcohol which we didnt drink for you
2	rwá kutaavavéji	when we didnt shave them
2	rwá kutaavaréeti	when we didnt bring them
3	rwá kutaakivú!rújí	when we didnt stir it
3	rwá kutaakiká!ráánjí	when we didnt fry it

2	amádóóma ga kutaakoshéere	the maize which we didnt grind for you
1	rwá kutaakishée	when we didnt grind it
2	rwá kutaamorójí	when we didnt bewitch them
2	rwá kutaavachóóri	when we didnt draw them
4	rwá kutaavamóromeree	when we didnt speak for them
3	rwá kutaakigúrízi	when we didnt sell it
3	rwá kutaavarakóóri	when we didnt release them
3	r-ó!táávarákóóri	when you didnt release them

3	rwá !ndátáávarákóóri	when I didnt release them
3	rw-á!táávarákóóri	when he didnt release them

11. Hodiernal Perf

The hodiernal perfective melody is similar to M2, except that lexically-H verbs do not have a final H. We consider this pattern primarily in the tense construction referring to recently-completed past events, but the pattern is determined by the stem-formation process, which is largely independent of time reference and the prefix pattern, as discussed in Z. Included in this section are subsections on the SP-aka-Stem_{perf} construction, exemplified by *yaakarími* ‘he would plow’, and SP-ri-Stem_{perf} exemplified by *orivárízi* ‘you would have counted’. These forms are tonally analogous to the hodiernal perfective of the following subsection, though otherwise different in semantics and segmental composition w.r.t. prefixation. Another tonal variant of this segmental construction, exemplified by *kwaakáchéé!rízí* ‘we have greeted’, is tonally parallel to the non-completive-focused past formed with -aka-...-a in Q (i.e. the “explanatory past”), and is discussed there.

11.1. Hodiernal Perfect (basic)

The melody of the non-completive hodiernal perfective is similar to but differs from the main M2 pattern only in that H verbs, regardless of length, are all toneless, as opposed to having H on the final vowel in stems with 3 or more moras.

11.1.1. MAIN CLAUSE WITHOUT OP

Lexically L verbs have H on V2 of the stem, as also found in the M2 pattern.

shée	‘I ground’
kígwír	‘it fell’
vakányí	‘they denied’
njíbí	‘I answered’
koyáánzi	‘we loved’
aráánji	‘he called’
kubóróchi	‘we flew’
nzávír	‘I buried’
korákúúri	‘we released’
vachóórani	‘they drew e.o’
ng’úúnami	‘I fermented’
varííndillu	‘they waited on’
kohóómoori	‘we rubbed’
ayóóombooree	‘he over-poured’
agávóranyi	‘he doled out’
nzágáyaji	‘I glistened’
vayíínzanri	‘they worked for e.o’

Vowel-initial verbs have the same variant pattern as found in M2, where after a (C)V SP, the only H is on the second stem syllable.

yooſhí	‘he scattered’
veenyí	‘they wanted’
kweeyí	‘we swept’
yínnámi	‘he bent’
vaambóchí	‘they crossed’
viivíllí	‘they forgot’
kwíizórizi	‘we remembered’
vaambákani	‘they refused’

After the 1s SP N-, the first two vowels of the stem have H tone (the root-initial vowel is not lengthened).

jényí	‘I wanted’
nzíhí	‘I extracted’
jínámi	‘I bent’
nzéyáái	‘I was sweeping’
nzímíllí	‘I led’
nzágáyaji	‘I glistened’
nzávágòri	‘I dug’

H verbs under this pattern are systematically toneless.

anywee	‘he drank’
ndyíí	‘I feared’
kókari	‘we chopped’
ang’òsi	‘he pulled’
atemi	‘he chopped’
mbeji	‘I shaved’
adeechi	‘he cooked’
areeti	‘he brought’
kosigami	‘we knelt’
kosugumi	‘we pushed’
kòpàgòri	‘we ran’
akaraanji	‘he fried’
vahohoolanee	‘they untied for e.o’
faanani	‘I resembled’
adeekaanji	‘he was cooking’
ataangaasi	‘he announced’
nweezaai	‘I was drinking’
vakaraangizíí	‘they fried for e.o’
atòongaminyí	‘he inverted’

nzashi	‘I plucked’
yaati	‘he surguried’
yũmbi	‘he sang’
vwaadĩchi	‘it ₁₄ broke’
kwaavori	‘we took clothes down’
voononyi	‘they messed up’
vuombachi	‘they built’
yaagaani	‘he met’
zyaadĩchi	‘it broke’
nĩmbĩhi	‘I was short’
nũmbachi	‘I built’
nĩmbĩhi	‘I was short’
nũmbachi	‘I built’
nzambakani	‘I denied’
yaamiinwii	‘he was believed’
kwaamĩjani	‘we believed e.o’

11.1.2. MAIN CLAUSE WITH OP

The basic pattern with an OP is H on the first root syllable, however there is a variant with H on the first two syllables, when the root is L and begins with two short syllables. Setting aside that option, below are examples having the root-initial H pattern (noting that L verbs with an initial long vowel are ambiguous as to pattern: V-initial roots are not considered immediately below except when the preceding OP is 1s or reflexive and does not cause vowel lengthening). This variant is less frequent than the alternative second-vowel pattern.

L verbs

avaróji	‘he bewitched them’
akugóllĩ	‘he bought for us’
yũgóllĩ	‘he bought for self ’
aambóllĩ	‘he heard me’
vakogónyĩ	‘they made us sleep’
aanzízĩrĩ	‘he came for me’
kovarĩmĩrĩ	‘we plowed for them’
kuvazĩrĩllĩ	‘we continued for them’
aanzĩrũchi	‘he ran from me’
akorákooyĩ	‘he released us’
vaanzĩzorizi	‘they remembered me’
vaanzállĩ	‘they spread for me’

H roots only have the root-initial pattern.

H verbs

allómi	‘he bit it. ₅ ’
kũm’kóbi	‘we bit him’

mbahónyɪ	‘I healed them’
m̀’bónyɪ	‘I made him harvest’
vaandómi	‘they sent me’
vaanzáti	‘they surgeried me’
akorási	‘he threw us’
vagikáaraanji	‘they fried it’
kukokáragi	‘we judged you’
yaam̀’mbégizi	‘he made me shave him’
akisúgumi	‘he pushed it’
akɔ̀nágɔllɪ	‘he ran for us’
aanzíranɪ	‘he returned for me’
aambóhoollee	‘he untied me’
vaangáraangɪɪ	‘they fried for me’
vam̀’búgɪɪrɪzi	‘they made him agree’
vakeng̀’éréng̀’anyɪ	‘they made it shine’
vɪyáraminyɪɪ	‘they opened for themselves’

L verbs with an root-initial short vowel usually have H on the first two root syllables.

L verbs

moróri	‘I saw him’
akojíbi	‘he answered us’
vaddáchi	‘they lacked it’
aangóllɪ	‘he bought for me’
aapényi	‘he wanted me’
aasínyi	‘he annoyed me’
vaanjíbi	‘they answered me’
vɪjɪbí	‘they answered selves ’
vakojíbi	‘they answered us’
váándóji	‘they bewitched me’
ókóróji	‘you bewitched us’
kukígóri	‘we bought it’
aangóllɪ	‘he bought for me’
vaddónyi	‘they cut it up’
vaamányi	‘they knew me’
vannógi	‘they picked it’
vagurími	‘they plowed it’
avaróri	‘he saw them’
kukirákóói	‘we released it’
aanzímɪɪ	‘he went ahead of me’
aanzívɪɪ	‘he forgot me’
vɪyáyóɪɪ	‘they shouted at themselves ’
aambárizi	‘he counted me’
nzívarizi	‘I counted them’
okovárizi	‘you counted us’
vaandóvóri	‘they crushed me’

mohánízi	‘I made him close’
aandákóóri	‘he released me’
viisúng’úsi	‘they shook selves ’
aangánáganyi	‘he thought of me’
kovabórokiri	‘we flew for them’
akomóromeree	‘he spoke to us’
avagávóranyii	‘he doled out to them’
kokisínyikiri	‘we annoyed it’
vaasínyíkizi	‘they annoyed me’
vaanzámbókiri	‘they crossed for me’
mgávóranyii	‘I doled out for him’
kovabórokiri	‘we flew for them’
nzimórikiri	‘I lit up for self’
vaanzáraminyii	‘they opened for me’
kovamóromeree	‘we spoke for them’
aangánáganyi	‘he thought of me’

When the first vowel of the root is long, that syllable always has level H tone, irrespective of lexical tone. Vowel-initial verbs with a CV object prefix all fall into this subclass.

L verbs

kugasyíi	‘we ground it’
kolláánji	‘we called it. ₅ ’
vaandéévi	‘they asked me’
rokeróóndi	‘it. ₁₁ followed it. ₇ ’
ndopóóri	‘I found it. ₁₁ ’
vaandúúmi	‘they jumped over me’
vapáánzi	‘they loved me’
akoséényii	‘he made us step’
avachóóye	‘he drew them’
vaanáámi	‘they cursed me’
vamwéényi	‘they looked for 2p’
ajééyi	‘he swept it. ₉ ’
aapénéngeree	‘he brewed for me’
uumbyééveree	‘you danced for me’
avééyeree	‘he swept for them’
aaséémbellee	‘he weeded for me’
aambáángirrii	‘he arranged for me’
vaandúúmiri	‘they jumped on me’
aangwíihizi	‘he made me fall’
akoséénizi	‘he made us step’
kovázíírizi	‘we made them go’
oomóónyizii	‘you made me gossip’
aanzóóyeree	‘he scooped for me’
kukitáándouyi	‘we tore it’

avahááandiiki	‘he wrote to them’
vaambéeraanyi	‘they made me breathe’
vakohóónoonyi	‘they made us calm a cow’
vaapóómboollee	‘they over-poured on me’
kokihááandiichi	‘we wrote it’
kumwáámbokiri	‘we crossed a river for him’
kochíivulizii	‘we remembered it’
vakóúziri	‘they came for us’

H verbs

allí	‘he ate it. ₅ ’
yiri	‘he ate self ’
aanwí	‘he drank me’
aganwée	‘he drank it’
aambée	‘he gave to me’
vaandíri	‘they ate for me’
vakuríri	‘they ate for us’
vaandéeti	‘they brought me’
aanwéeree	‘he drank for me’
aambááni	‘he gave me away’
vakoráápiri	‘they ate for us’
vagwóómbachi	‘they built it’
vaanyíngiri	‘they entered for me’
aasáálliizi	‘he injured me’
vaasóóndollri	‘they poured for me’
vachíranyi	‘they returned it’
akíigizi	‘he taught it. ₁₂ ’
kochóómiini	‘we dried it’
vangúúmbeeri	‘they hugged me’
vamwóómbakiri	‘they built for him’
akisáámboranyi	‘he dismantled it’
akotóóngaminyi	‘he inverted for us’
kuchááraminyi	‘we opened it’
mwáámbayizi	‘I swung him’
vamwááraminyiri	‘they opened for him’

(in the recheck, worry about clumpy distribution of OP types)

And then there is this:

PM201705052003.328	kochiikó!úyí	we opened it
ML180128130027.083	mbahó!móyé	I massaged them
EM170415113129.032	oondéé!kéréé	you cooked for me (hod)
PM201705052003.430	vayindáá!ngáázííyí	they announced for me
PM201705052003.432	vayindóó!ngámínyíyí	they turned me
PM201705052003.424	vayingá!ráángííyí	they fried for me
PM201705052003.419	vayingó!ónyí	they helped me
PM201705052003.420	vayingóó!nící	they covered me
PM201705052003.422	vayinyó!mínyí	they dried me

PM201705052003.434	vayinzá!ráminyííyí	they opened for me
PM201705052003.425	vayinzá!yúóríí	they shouted at me
PM201705052003.428	vayisáá!llíízi	they injured me
EM170910091550.029	yáá!ddééka	we cooked it-1 l rem

Plus mostly FA with H too far left:

EM170826160513.006	vakwéékoopereee	they helped us themselves
FA201702201018.204	yéédeekkee	he cooked for himself
FA201702201018.219	yéékoonyi	he helped himself
FA201702201018.220	yéékubi	he beat himself
FA201702201018.223	yéémoromeree	he spoke to himself
FA201702201018.212	yééseembellee	he weeded for himself
FA201702201018.214	yééteevee	he asked himself
FA201702201018.221	yééveji	he shaved himself
FA201702201018.218	yéévezegellee	he belched on himself
FA201702201018.215	yéévohoollee	he untied himself
FA201702201018.229	yíígavollu	he doled out to himself
FA201702201018.222	yíígirung'anyi	he turned himself upside down
FA201702201018.211	yíígollu	he bought for himself
FA201702201018.225	yííhaandiichi	he wrote himself down
FA201702201018.208	yííhaanzuokiru	he shouted at himself
FA201702201018.206	yíírakollu	he released himself
FA201702201018.226	yíírimillu	he plowed for himself
FA201702201018.216	yíísaangaallu	he was happy for himself
FA201702201018.210	yííyati	he did surgery on himself
FA201702201018.209	yííyigizi	he taught himself
FA201702201018.207	yííyiranyiru	he returned for himself
FA201702201018.230	yííyirollu	he winnowed for himself
FA201702201018.213	yííyisyaamollu	he sneezed on himself
FA201702201018.217	yííyivillu	he forgot himself
FA201702201018.227	yííyiviru	he stole from himself

11.2. Relatives

The pattern for relative verb forms is substantially different from the main clause pattern. Abstracting away from substantial variation, we can say that the pattern is similar to that of M2 subordinate forms.

11.2.1. No OP

We first consider subject relatives, excluding headless subject relatives which have known tonal complications. We likewise will put off the complications of vowel-initial roots, thus starting with C-initial roots and forms with a CV subject prefix.

Here are the simplest cases. See SR_PFD for other subcases like V SP, HSR, also FA adjectival use

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Very mixed: **H may be all-L or double H**; a few longer stems are initial H
L verbs are double H or on shorter stems H!H (2 syl), a very few single H probably error

	1	EM190714085128.086	avaróondi vagwíi	the follower who fell
	1	ML171115115505.048	m̀báno gogwíi	the knife which fell
	1	EM190721090407.071	aváándo vanwíi	the people who drank
	1	EM190714085128.042	aváándo vagwíi	the people who fell
	1	EM190721090407.072	aváándo vagwíi	the people who fell
	1	EM160327085339.039	aváándo vashí!í	the people who ground
	1	EM180708093648.098	avíigizí vanwíi	the teachers who drank
	1	EM180708093648.097	avakére vashíi	the women who ground
	1	EM160529083004.063	kindrki !kígwíi	what fell; what has fallen
	1	EM210911141441.083	kí !kígwíi	what tell
	1	EM170210124001.025	jirihá !jígwíi	which ones fell
	1	EM170210124001.026	íjíríhá !jígwíi	which ones fell
	1	EM190721082259.042	vwahá vagwíi	who pl. fell
	2	EM190512094741.035	omlyáángó gohá!nwí	the door which was closed
	2	EM190714085128.085	avaróondi vayó!jí	the followers who talked
	2	EM180708093648.121	avakána vaví!ní	the girls who played
	2	EM190721090407.073	aváándo varí!mí	the people who plowed
	2	EM160327085339.037	aváándo vang'ú!sí	the people who pulled
	2	EM190714085128.045	aváándo vaveji	the people who shaved
	2	EM190721090407.074	aváándo vavé!jí	the people who shaved
	2	EM160327085339.041	aváándo vará!sí	the people who threw
	2	EM180708093648.126	izing'éréng'ání ziró!rwí	the stars which were seen
	2	EM190714085128.061	avíigizí varéjǐ	the teachers who defeated
	2	EM190721082259.078	vwahá vahonyi	who healed
	2	EM190721082259.021	vwahá vase!chí	who pl. laughed
	2	EM190721082259.097	vwahá vakeri	who pl. milked
	2	EM190721082259.098	vwahá vakéri	who pl. milked
	2	EM190714085128.047	vwahá varáǐjǐ	who pl. promised
	2	EM190721082259.039	vwahá vaveji	who pl. shaved
	2	EM190721082259.099	vwahá varé!chí	who pl. stopped
	2	EM190721082259.100	vwahá varéchi	who pl. stopped
	2	EM190714085128.091	avaróondi varuchi°	the followers who vomited
	2	EM190714085128.048	aváándo vasechi°	the people who laughed
	2	EM190721082259.091	vwahá vadeechi	(accepted)
	2	EM180708093648.103	avááguugá vatáá!jí	grandfathers who planted
	2	EM180708093648.106	izing'óómbe zirí!ndwí	the cows which were guarded

	2	ML180702103650.026	kindíkí kegeeshi°	what is scarce
	2	ML180415121125.122	vakáána vá!syéévi	the girls who have danced
	2	EM190714085128.041	aváándo vadééchi	the people who cooked
	2	EM190721082259.090	vwahá vadééchi	who pl. cooked
	2	ML180415121125.106	váándo vádecchi yava°	the people who have cooked
	2	EM190512091522.013	avíídako vadouchi	the Idakos (who) arrived
	2	EM170210124001.023	varihá vadouchi	which ones arrived
	2	EM170210124001.024	avá!há vadouchi	which ones arrived
	2	EM190714085128.064	aváándo vajáá!jí	the people who started
	2	EM160327085339.035	aváándo vakúú!tí	the people who scraped
	2	EM190721082259.037	vwahá varooti	who pl. dreamed
	2	EM180708093648.123	avwígízi vasóó!mí	the teachers who read
	2	ML180415121125.133	vakári vátaaji	the women who planted
	2	ML171115115505.061	vagéni vayíinzii	the guests who worked
	3	EM160327085339.038	aváándo vagó!rízí	the people who sold
	3	EM180708093648.110	avíirwáázi vagó!rízí	the preachers who sold
	3	EM180708093648.108	avígízi vavá!rízí	the teachers who counted
	3	EM190721082259.088	vwahá vabómóri	who pl. destroyed
	3	EM190721082259.030	vwahá vagórizi	who pl. sold
	3	EM190721090407.077	aváándo varakóó!rí	the people who released
	3	ML180108123735.092	vándo vagó!yáání	the people who were disarranged
	3	EM190721082259.025	vwahá vaká!ráanjí	who pl. fried
	3	EM190721082259.094	vwahá varakóóri	who pl. released
	3	EM190721082259.074	vwahá vasú!gáányíí	who pl. poured
	3	PM201705052004.071	varóji varakóói	the witches who released
	3	EM190714085128.106	avaróondi vayíinziri	the followers who worked
	3	EM190721082259.023	vwahá varáá!ndízí	who pl. announced
	3	EM190721082259.024	vwahá vaséé!mbéllí	who pl. weeded
	3	EM190721082259.026	vwahá vaséé!mbéllí	who pl. weeded
	3	EM190721082259.038	vwahá vaséé!mbéllí	who pl. weeded
	3	EM190714085128.108	avaróondi vavéézegeeri	the followers who belched
	3	EM190721090407.084	aváándo varí!ndíllíí	the people who waited
	3	EM190721090407.083	aváándo vasáá!móóri	the people who slapped
	3	EM160327085339.034	aváándo vahí!rítíí	the people who snored
h	1	EM190714085128.087	avaróondi vanwíí	the follower who drank
h	1	EM190714085128.044	aváándo vanwii	the people who drank
h	1	EM190721082259.043	vwahá vatii	who pl. feared
h	2	EM190714085128.081	avaróondi vavé!jí	the followers who shaved
h	2	EM190714085128.073	aváándo vavé!jí	the people who shaved
h	2	EM190721082259.079	vwahá vahó!nyíí	who healed
h	2	EM180610101037.093	monyi modéé!chí	2p who cooked
h	2	EM180708093648.101	avíísukoro vadéé!chí	the grandchildren who cooked
h	2	EM190714085128.067	aváándo vadéé!chí	the people who cooked
h	2	EM190721090407.075	aváándo vadéé!chí	the people who cooked
h	2	EM190714085128.095	avaróondi vadeechi	the followers who cooked
h	2	ML171115115505.059	vagéni vadeechi	the guests who cooked

h	2	EM190721082259.029	vwahá vadeechi	who pl. cooked
h	2	EM190714085128.117	avaróondi vadéechi	the followers who cooked
h	3	EM190714085128.098	avaróondi vasigami	the followers who knelt
h	3	EM190721082259.031	vwahá vacherevi	who pl. was late
h	3	EM180708093648.112	aváána vahó!móórwi	the children who were massaged
h	3	ML180108123735.093	váandu vaká!ráánjí	the people who fried
h	3	PM201705052004.069	varóji vavohore	the witches who untied
h	3	EM190721082259.075	vwahá vasugaanyi	who pl. poured
h	3	EM190721082259.095	vwahá vavohoolli	who pl. untied
h	3	EM190721082259.096	vwahá vavó!hóóllí	who pl. untied
h	3	EM190714085128.113	avaróondi vavohoollee	the followers who untied
h	3	EM190721090407.078	avááandu vavó!hóóllée	the people who untied
h	3	EM190714085128.107	avaróondi vahaambizi	the followers who started a fire
h	3	EM190721090407.085	avááandu vasáá!ngáári	the people who were happy
h	3	PM201705052004.078	varóji vazáázaami	the witches who tasted
h	3	EM190721082259.048	vwahá vataangaazi	who pl announced
h	4	EM190714085128.111	avaróondi vavódong'ani	the followers who went around
h	4	EM190721090407.080	avááandu vavó!dóng'áni	the people who went around
h	4	EM180708093648.117	avíígízi vavó!dóng'áni	the teachers who went around
h	4	EM190721082259.034	vwahá vavodong'ani	who pl. went around
h	4	EM190714085128.116	avaróondi vavodong'anece	the followers went around
h	4	EM190714085128.115	avaróondi vavódong'anece	the followers who went around
h	4	EM190714085128.109	avaróondi vatúúngaminyi	the followers who inverted
h	4	EM190714085128.110	avaróondi vasóóndoranyi	the followers who spilled
h	4	EM160327085339.031	avááandu vatúú!ngámíjní	the people who inverted
h	4	EM190721090407.079	avááandu vatúú!ngámínyí	the people who inverted
h	4	EM190721082259.033	vwahá vatuungaminyi	who pl. inverted
h	4	EM180708093648.114	avááandu vasáá!míhííywi	the people who were forgiven
l	1	ML171115115505.056	vagéni vagwí	the guests who fell
l	2	EM190714085128.092	avaróondi vaséché	the followers who laughed
l	2	EM160327085339.040	avááandu vagó!rí	the people who bought
l	2	EM190714085128.072	avááandu vayó!jí	the people who talked
l	2	EM190721082259.044	vwahá varírí	who pl. cried
l	2	EM190714085128.043	avááandu varími ^o	the people who plowed
l	2	EM180708093648.095	avááandu vahó!llí	the people who heard
l	2	EM190714085128.093	avaróondi vachóó!rí	the followers who drew
l	2	EM180708093648.102	avíídako vachóó!rí	the Idakhos who drew
l	2	EM190721090407.076	avááandu vachóó!rí	the people who drew
l	2	EM190714085128.096	avaróondi vachóóri	the followers who drew
l	2	EM190721082259.092	vwahá vachóóri	who pl. drew
l	2	EM160327085339.033	avááandu vang'óó!dí	the people who wrote
l	2	EM160327085339.036	avááandu varóó!ndí	the people who followed
l	2	EM190721082259.028	vwahá varóó!ndí	who pl. followed
l	3	EM190512091522.015	avaróondi vavarízi	the followers who counted
l	3	EM190714085128.097	avaróondi vagórízi	the followers who sold
l	3	EM190714085128.083	avaróondi vamóró!mí	the followers who talked

1	3	EM160327085339.032	aváándo vasú!ng'úsí	the people who shook
1	3	ML171115115505.044	mogóye gogá!dóchí	the rope which broke
1	3	ML171115115505.043	mogoye kí gogadochi	which rope broke
1	3	EM190721082259.027	vwahá varakóóri	who pl. released
1	3	EM190714085128.112	avaróondi vasáamori	the followers who slapped
1	3	ML171115115505.051	rigína rigoongomi	the stone which rolled down
1	3	EM190721090407.082	aváándo vaséé!mbélléé	the people who weeded
1	4	EM190721090407.086	aváándo vamá!ńíkání	the people who were famous
1	4	EM190721090407.081	aváándo vagá!vórányíí	the people who doled out
1	4	EM190721090407.087	aváándo vavó!rógányíí	the people who stirred up
1	4	EM180708093648.119	avíígízí vavéé!zégéerí	the teachers who belched
1	4	EM190721082259.032	vwahá vavéézegeri	who pl. belched
XXXXXX	2	EM180107110417.035	monyi modééchi	2p who have cooked

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<Temporal: **L is M2 or double H, H is toneless**

>

L

rwáá shii	when I ground	
rwá !kógwáí	when we fell	
rwá! kórórí	when we saw	
rwá !várírí	when they cried	
rwá !kósé!chí	when we laughed	occasional variant
rwá !kógórí	when we bought	
rw-óó!rójí	when you bewitched	
rwá vang'óó!dí	when they wrote	
rwá vayáá!rí	when they sued	
rwá koróóndi	when we followed	
rwá koyáá!nzí	when we were happy	
rwá !váráánji	when they called	
rwá !váchóóri	when they drew	
rwá !várííndi	when they guarded	
rwá vavárizi	when they counted	
rwá! kísará!mí	when it boiled	
rwá kogórizi	when we sold	
vóri rw-óó!mórómi	whenever you talked	
rwá kogoyáá!ní	when we got confused	
rwá vagoráánji	when they were buying	
rwá koráá!ndízí	when we ate ugali	
rwá kohááanzuuchi	when we shouted	
rwá koyóó!mbóorí	when we overpoured	

rwá vagáná!gání when they thought
 rwá kogá!vórányíí when we doled out
 rwá vavéé!zégéerí when they belched
 rwá kovéézegeri when we belched

H

rwá koru when we ate
 rwáá nwii when I drank
 rwá vakobi when they beat
 rwá koveji when we shaved
 rwá kotemi when we chopped
 rwávadeechi when they cooked
 rwá kokoonyi when we helped
 rwá vakaraji when they counted
 rwá kojagori when we ran
 rwá kusigami when we knelt
 rwá vasamiri when they forgave
 rwá kokaraanji when we fried
 rwá koraagiri when we ate ugali
 rwá kushaagari when we sharpened
 rwá kohaambaani when we joined up
 rwá kusaangaari when we were happy
 rwá vavodongani when they went around
 rwá kogirong'anyu when we turned around
 rwá kotuungaminyi when we inverted

h	rwávatiizaanji	when they were fearing	CVCVVCVVCVVCV
h	rwá viivi	when they stole	CVCVVCV
h	rwá kwiiti	when we killed	CVCVVCV
h	rwá mbaambizi	when I lit up	CVCVVCVVCV
h	rwá kuugihizi	when we sharpened	CVCVVCVVCV
h	rwáátoongaminyi	when he inverted	CVVCVVCVVCV
l	rwá veenyí	when they wanted	CVCVVCV
l	rwá !kwéenyí	when we wanted	CVCVVCV
l	rwá kwaambóchi	when we crossed	CVCVVCVVCV
l	rwá kwaanígiri	when we went up	CVCVVCVVCV
l	rwáá!níní	when I plowed	CVVCVVCV
l	rwáá!nzéyí	when I swept	CVVCVVCV
l	rwáá!rírí	when he cried	CVVCVVCV
l	rwáá!pényí	when I looked	CVVCVVCV
l	rwá!ángáyí	when I prohibited	CVVCVVCV
l	rwáá!mbéénzegeri	when I belched	CVVCVVCVVCV
l	rwáaséémbee	when he weeded	CVVCVVCV

Looks like Main, with double-H exx included

>

Moving on to negative:

H verbs are all-L; L verbs are M2 but under-checked given variation.

11.3. -aka- perfective 1

When prefixed with -aka- – but not the “explanatory” variant covered in Q – the same tone pattern holds. L verbs have H on V2 of the root.

L verbs

waakagwí	‘you would fall’
yaakazyí	‘he would go’
yaakadóí	‘she would hit’
yaakagósí	‘he would err’
vaakaséché	‘they would laugh’
yaakátóómi	‘he would cross’
kwaakamóonyi	‘we would gossip’
waakachóónji	‘you would strain’
yaakagérizi	‘she would test’
yaakasúng’úsi	‘she would shake’
waakadóvóri	‘you would crush’
vaakárakóóri	‘they would release’
vaakáséégeri	‘they would limp’
ndaakagóóngomi	‘I would roll’
ndaakaviímbori	‘I would unroof’
kwaakagánágani	‘we would think’
chaakang’éréng’ani	‘it would be shiny’
yaakáháángarizani	‘he would argue’
ndaakasáámboroganyii	‘I would dismantle’
kwaakouñjí	‘we would join’
ndaakeenyí	‘I would want’
kwaakiigóri	‘we would open’
ndaakaambúchi	‘I would cross’
yaakaambákani	‘she would refuse’
yaakaambágillii	‘he would reach to’

In a few tokens of V-initial stems, H is solely on the root-initial syllable, reflecting an analysis with the initial vowel if treated as long.

yaakáámbuchi	‘he would cross’
ndaakéélechi	‘he would go downhill’
vaakíivillii	‘they would forget’

Lexically H verbs are variable, in that the stem may follow the M2 pattern, or more commonly will be toneless. That means that for H toned vowel-initial stems and those with more than CVCV structure, final H is also an option. Toneless examples are as follows.

H verbs

ndaakanwii	‘I would drink’
vaakaveji	‘they would shave’
vaakakuzi	‘they would die’
waakaveji	‘you would shave’
ndaakakeri	‘I would milk’
vaakahollu	‘they would hear’
vaakadeechi	‘they would cook’
vaakasuuvi	‘they would throw away’
kwaakadoori	‘we would pick up’
kwaakacherevi	‘we would be late’
waakakaraanji	‘you would fry’
waakavohoolli	‘you would untie’
ndaakacheerizi	‘I would greet’
kwaakasaamori	‘we would slap’
kwaakachiring’ani	‘we would be quiet’
yaakavodong’ani	‘he would go around’
vaakagirung’ani	‘they would go around’
vaakahoononochi	‘they would escape’
vaakoombachi	‘they would build’
ndaakaavoranyi	‘I would cut up’
vaakaagorochi	‘they would fall down’
vaakaanigiri	‘they would go up’

Final H is also possible with longer stems, including VCV stems (indeed, this is the only form currently attested in VCV stems).

H verbs

waakaryii	‘you would eat’
ndaakatyii	‘I would fear’
waakakaraji	‘you would judge’
waakahaambichi	‘you would be drunk’
kwaakacheerizi	‘we would greet’
ndaakakuumbéeri	‘I would hug’
kwaakataangázi	‘we would announce’
waakataaji	‘you would plant’
kwaakumbi	‘we would sing’
waakaati	‘you would do surgery’
kwaakivi	‘we would steal’
waakiji	‘you would learn’
vaakoombachi	‘they would build’

ndaakiingírí

‘I would enter’

When an OP is present, L verbs have the M2 pattern with H on the second stem vowels

L verbs

ndaakamókéví	‘I would circumcise him’
ndaakavasóní	‘I would point at them’
yaakakegósí	‘he would lack it’
yaakakoséché	‘he would laugh at us’
vaakakosinyáállí	‘they would sneer at us’
vaakamokwéési	‘they would pull him’
ndaakavabádórí	‘I would whip them’
ndaakam’síníkizi	‘I would annoy her’
yaakam’mórómeree	‘she would speak for her’
vaakakiráándizi	‘they would spread it’
kwaakakítáándórí	‘we would tear it up’
kwaakakevéérerizi	‘we would mourn it’
waakavahííngaari	‘you would disagree with them’
waakakisáámboroganyí	‘you would dismantle it’
ndaakakwíígullí	‘I would open for you’
waakavíízorizi	‘you would remember them’
vaakavééllekizi	‘they would make them go downhill’

H verbs have the M2 patterns with stem-initial H and sometimes the double-H pattern.

H verbs

waakaketée	‘you would bury it’
waakaganwíí	‘you would drink it’
kwaakavarási	‘we would throw them’
kwaakavatómi	‘we would send them’
waakakíróchi	‘you would vomit it’
kwaakavatómíí	‘we would send for/to them’
kwaakakoróóti	‘we would dream of you’
ndaakakisóóvi	‘I would throw it out’
vaakakokóonyi	‘they would help us’
kwaakavarásííí	‘we would throw at/for them’
kwaakavatómííí	‘we would send for/to them’
yaakavakórollee	‘he would cough on them’
waakaanyíngillí	‘you would enter for me’
waakaasáállizi	‘you would hurt me’
ndaakavavó!dóng’ání	‘I would go around them’
yaakachááti	‘she would do surgery on it’
ndaakamwíívi	‘I would steal him’
vaakachíízorizi	‘they would fill it’

11.4. -ri- perfective

The perfective stem with the prefix -ri- likewise follows the general perfective pattern, where L verbs have H on the second stem vowel and H verbs have no H.

L verbs

orishír	‘you would have ground’
koriróri	‘we would have seen’
korigényí	‘we would have wondered’
aririmí	‘he would plow’
ndidíiri	‘I would have held’
varibíimi	‘they would have measured’
arigórizi	‘he would have sold’
kirisóng’ósi	‘it would have shaken’
korirakóóri	‘we would have released’
koriséembelli	‘we would weed’
varidíigiri	‘they would have limped’
ndisíiṅaari	‘I would have sneered’
korigávóranyi	‘we would have doled out’
ndivéézegeri	‘I would have belched’
ariháánzouchi	‘she would have talked loudly’
oriháángarizani	‘you would have argued’
oryeeí	‘you would have swept’
varyaavúchi	‘they would have branched off’
varyaanígiri	‘they would have gone up’

H verbs

variri	‘they would have eaten’
viriti	‘they would have feared’
ndidashi	‘I would have drawn water’
ndirochi	‘I would have vomited’
variṅaanyi	‘they would have eaten’
kirisaallu	‘it would have gotten hurt’
ndikorori	‘I would have coughed’
arikaaji	‘he would have judged’
korikaraanji	‘we would fry’
orivohoollee	‘you would have untied’
ndijookanyi	‘I would have mixed up’
oritaangaazi	‘you would have announced’
varivodong’ani	‘they would have gone around’
varihaambichi	‘they would have been drunk’
varisoondoranyi	‘they would have over-poured’
arigirung’ani	‘she would have turned around’
varyaaramínyí	‘they would have opened’
variiti	‘they would have killed’
viriivi	‘they would have stolen’

vriingiri

'they would have entered'

kurivoshí	'we would have ground it'
aryeerójí	'she would have bewitched herself'
korikígórí	'we would have bought it'
varikeng'óódi	'they would have written it'
ndim'bárízi	'I would have counted him'
korim'rakúóri	'we would have released him'
ndikorííndrlll	'I would have wait for you'
ndikomórómeri	'I would have spoken to you'
kuricháári	'we would have spread it'
korichéényi	'we would have looked for it'
varichííngiri	'they would have entered it'
arimwíivilll	'he would have forgotten him'

ndíganwí	'I would have drunk it'
kurivitémi	'we would have chopped them'
kurivirééti	'we would have brought them'
ndikisóóvi	'I would have thrown it out '
oryeevóhoollee	'you would have untied yourself'
ndikodéékéri	'I would have cooked for you'
korim'bódong'ani	'we would have gone around him'
ndichíívi	'I would have stolen it'
varikwííti	'they would have killed us'
arichííji	'he would learn it'
ariinzáti	'she would have done surgery on me'
varichíígori	'they would have opened it'
varivyááhri	'they would have picked them'

11.5. ri-ka perfective

L verbs

arikashí

'he would have ground'

ndikagósi

'I would have lacked'

korikaróri

'we would have seen'

korikabíimi

'we would have measured'

orikagóri
arikakwéési
ndikiigóri
varikiigállu
ndikaháánzoochi
varikadíginyi
korikarakóóri
varikazáázaami
orikasinyáari
arikasóoviri
arikasíníkizi
orikavéézegezi
korikasáámburuganyi
ndikeenyí
orikaaji
arikaámbagillu

‘you would have bought’
‘she would have pulled’
‘I would have opened’
‘they would have obstructed’
‘I would have talked loudly’
‘they would have tickled’
‘we would have released’
‘they would have tasted’
‘you would have sneered’
‘she would have believed’
‘he would have annoyed’
‘you would have belched’
‘we would have dismantled’
‘I would have wanted’
‘you would have scratched’
‘he would have reached towards’

H verbs

ndikanwii
korikaryii
ndikakini
ndikareji
ndikareeti
korikarochi
varikatomi
korikadeechi
orikakoonyi
ndikahaambichi
ndikajuukanyi
korikakorori
orikakaraji
orikavohoolli
arikasuundoranyi
varikiiji
varikoonoonyi
orikiingiri
ndikaaraminyi
arikaavoranyi

‘I would have drunk’
‘we would have eaten’
‘I would have played’
‘I would have won’
‘I would have brought’
‘we would have vomitted’
‘they would have sent’
‘we would have cooked’
‘you would have helped’
‘I would have been drunk’
‘I would have mixed up’
‘we would have coughed’
‘you would have decided’
‘you would have untied’
‘he would have over-poured’
‘they would have learned’
‘they would have messed up’
‘you would have entered’
‘I would have opened’
‘she would have cut up’

OP

L verbs

ndikakesóomi
varikakeyéenji
ndikiháandiichi

‘I would have read it’
‘they would have brewed it’
‘I would write it’

varikavagéénderi
 ndikavigárókizi
 ndikakojíbi
 korikaang'ényí
 korikam'bádóri
 varikakivárízi
 orikavagávóri
 orikagoséémbelli
 ndivasíníkizi
 ndivayávógolri
 varikakivóróganyri
 arikakomórómellee
 orikacháánigiri
 korikamwééyi
 korikaanzállri
 varikakwíívizi

'they would have walked for them'
 'I would have returned them'
 'I would have answered you'
 'we would have wondered about me'
 'we would have whipped him'
 'they would have counted it'
 'you would have divided them'
 'you would have weeded it'
 'I would annoy them'
 'I would unbury them'
 'they would have stirred it'
 'he would have spoken to us'
 'you would have gone up it'
 'we would have swept him'
 'we would have spread for me'
 'they would have made us steal'

H verbs

ndikakeróóti
 korikakokínji
 arikakurási
 arikavavóhi
 ndikakítáándori
 ndikikáaraanji
 ndikakotívori
 korikakikámati
 orikakítáángaaizi
 ndikakísáámبورogi
 ndikikáraangillri
 varikaangírung'anyri
 arikaangórogeri
 arikaangáraangiri
 varikakovódong'ani
 ndikachííti
 orikakwááhirri
 ndikavóómbakiri

'I would have dreamed it'
 'we would have protected you'
 'he would have thrown at us'
 'she would have tied them'
 'I would have torn up it'
 'I would fry it'
 'I would have answered you'
 'we would have caught it'
 'you would have announced it'
 'I would have dismantled it'
 'I would fry it'
 'they would have turned me around'
 'he would have stirred for me'
 'he would have fried for me'
 'they would have gone around you'
 'I would have killed it'
 'you would have picked leaves for us'
 'I would have built for them'

	2	5		CVCVCVCVC VVC	h	varikakotáágII	they would have planted for you
	2	6		CVCVCVCVC VVCV	h	korikakedééchi	we would have cooked it
	3	6		CVCVCVVCV	h	korikaasáállizi	we would have

				VCVCV			injured me
	3	7		CVCVCVCVC VVCVCV	h	varikakosáállizi	they would have h us
	3	5		CVCVCVCVV CV	h	ndíkikáraangi	I would fry it
	3	6		CVCVCVVCV CVCV	h	varikáánjagori	they would have chosen me
	3	6		VCVCVVCVC VVCVV	l	arikaangoyáányi I	he would have ma me disarranged
	5	8		CVCVCVVCV CVVCVCVCV	h	varikáángaraang iziri	they would have f for you
	2	5	x	CVCVCVCVV CV	h		
	2	6	x	CVCVCVCVC VVCV	h		
	2	6	x	VCVCVCVCV CV	h		
	2	6	x	VCVCVCVCV CV	h		
	3	6	x	CVCVCVCVV CVCV	h		
	3	5	x	CVCVCVCVV CV	h		
	3	6	x	CVCVCVCVC VCV	h		
	3	7	x	CVCVCVCVC VCVCV	h		
	3	7	x	VCVCVCVCV VCVVCV	h		
	4	7	x	CVCVCVCVV CVCVCV	h		
	4	6	x	CVCVCVCVV CVCVV	h		
	4	7	x	CVCVCVVCV CVCVCVV	h		
	4	7	x	VCVCVVCVC VCVCV	h		
	4	7	x	VCVCVVCVC VVCVCV	h		
	4	8	x	CVCVCVCVC VCVCVCV	h		
v	2	4	x	CVCVCVVCV	h		
v	3	6	x	VCVCVCVVC VCVV	h		
v	4	6	x	CVCVCVVCV CVCV	h		

	2	5		CVCVCVCVV CV	1	ndikakidííri	I would have held
	2	6		VCVCVCVCV VCV	1	urikakíbíími	you would have measured it
	3	6		VCVCVCVVC VCV	1	arikam'háándizi	she would have gotten him stuck
	2	5		CVCVCVCVC V	1	ndikavarójí	I would have bewitched them
	2	6		CVCVCVCVC VCV	1	korikakíyáví	we would have du
	2	6		CVCVCVCVC VCV	1	korikavarájí	we would have promised them
	3	7		VCVCVCVCV CVCV	1	arikavasúhg'úsi	she would have shaken them
	3	7		VCVCVCVCV CVCV	1	orikamogérizi	you would have tested him
	4	6		VCVCVVCVC VCV	1	orikaangórori	you would have dragged me
	4	8		VCVCVCVCV CVCVCV	1	orikakígávórany i	you would have doled it out
	4	8		VCVCVCVCV CVCVCVV	1	orikakígávórany II	you would have doled it out
	2	5	x	CVCVCVCVV CV	1		
	2	6	x	CVCVCVCVC VVCV	1		
	3	5	x	CVCVCVVCV VCV	1		
	3	7	x	CVCVCVCVC VVCVCV	1		
	4	7	x	CVCVCVCVC VCVCV	1		
	2	5	x	CVCVCVCVC V	1		
	2	5	x	CVCVCVVCV CV	1		
	3	6	x	CVCVCVCVC VCV	1		
	3	7	x	CVCVCVCVC VCVCV	1		
	3	7	x	VCVCVCVCV CVCV	1		
	3	7	x	VCVCVCVCV VCVCV	1		
	4	6	x	CVCVCVCVC VCV	1		

	4	6	x	CVCVCVCVC VCVV	1		
	4	8	x	CVCVCVCVC VCVCVCVV	1		
	4	8	x	VCVCVCVCV CVCVCVV	1		
v	4	7	x	VCVCVCVVC VCVCV	1		
v	2	5	x	CVCVCVCVV CV	1		
v	2	5	x	CVCVCVVCV CVV	1		
v	3	6	x	CVCVCVCVV CVCV	1		

arikahoni	he would have gotten better
arikakéví	she would have circumcised

11.6. ka perfective

akadeechi	he would cook	h
akaryu	he would eat	h
akaveji	he would shave	h
akiiti	he would kill	h
akakuunji	he would chase	h
akakaraji	he would judge	h
akougihizi	he would sharpen	h
akougihi	he would be sharp	h
akaambochi	he would ford	h
akavodong'ani	he would go around	h
akachiring'ani	he would be quiet	h
akahaambaanyi	he would join up	h
vakadeechi	they would cook	h
akadeechi	he would cook	h
akimbi	he would sing	h
akaveji	he would shave	h
okanwu	you would drink	h
okaveji	you would shave	h
vakaveji	they would shave	h
kokaveji	we would shave	h
akarochi	he would vomit	h
akachóóri	he would draw	l
akashíí	he would grind	l
akadúí	he would hit	l

akeeyí	he would sweep	1
akakaraanji	he would fry	1
akarákóóri	he would release	1
akadóvóri	he would smash	1
akavárizi	he would count	1
akahóópoonyi	he would calm a cow	1
akarímí	he would plow	1
akarímí	he would plow	1
okarímí	you would plow	1
akarójí	he would bewitch	1
vakarójí	they would bewitch	1
ngarójí	I would bewitch	1
vakachóóri	they would draw	1
vakakaraanji	they would fry	1
vakayáári	they would sue	1
vakakóróri	they would drag	1
vakavóróji	they would stir	1
vakarakóóri	they would release	1

These data over two separated sessions: fill gaps but this suffices. However also need OP data

vakaangóruri	they would drag me	
vakakovórogi	they would stir for us	
akakosínji	he would bathe us	
akakedóóri	he would pick it up	
akacháávori	he would cut it up	
akachíígori	he would open it	
akakovéézegellee	he would belch on us	
vakakikáaraanji	they would fry it	h
akakiryíi	he would eat it	h
akakóveji	he would shave us	h
alakííti	he would kill them	h
akaangárají	he would judge me	h
akavakárají	he would judge them	h
akaanzigizi	he would teach me	h
akakovóhoollee	he would untie us	h
akakitóóngaminyi	he would invert it	h
vakakoyáári	they would sue us	1
vakakorakóóri	they would release us	1

vakam'rakóóri	they would release him	1
kurim'rakóóri	we would release him	1
kokam'rakóóri	we would release him	1
akakishíí	he would grind it	1
akakigórí	he would buy it	1
akachééi	he would sweep it	1
akakochóóri	he would draw us	1
akam'bárízi	he would count him	1
akakorakóóri	he would release us	1