

Luyia Tone Melodies

Abstract

This paper offers an overview of verbal tone melodies within Luyia, a cluster of Bantu languages spoken in Kenya and Uganda. Luyia tone is diverse, possessing three types of verbal tonal systems: ‘conservative’, ‘predictable’, and ‘reversive’. We illustrate the general tonal characteristics of each type of system with an exemplar language variety, describing the complex interactions of lexical and melodic tones.

Keywords: Bantu, tone, Luyia, tense-aspect-mood

1. Introduction

This paper offers an overview of verbal tone melodies in representative languages of the Luyia (aka ‘Luhya’) macrolanguage [luy] of western Kenya and eastern Uganda.¹ The Luyia cluster comprises approximately 25 closely related varieties, which are notable for their tonal diversity, for the large number of tonal melodies in their verbal systems, and for the complexity of these systems.

The main published research on Luyia tone is Austen (1974a, b), de Blois (1975), and Mutonyi (2000) on Bukusu; Marlo (2009) on Khayo; Leung (1991) on Logoori; Bruckhaus (2012) and Marlo (2007) on two varieties of Marachi; Ochwaya-Oluoch (2003) on Nyala-East; Ebarb & Marlo (2009), Marlo (2007), and Onyango (2006) on Nyala-West; Chagas (1976) and Poletto (1998) on Saamia; Odden (2009) on Tachoni; Paster & Kim (2011) on Tiriki; and Marlo (2008) on Tura.

In all Luyia languages, verb inflection is characterized by distinctive ‘melodic H’ (H_M) tones on specific positions of the (macro)stem. For example, some contexts have a H_M on μ_2 ;² others have a H_M towards the right edge of the stem. Some contexts are inflected with two H_M s. The exact realization of H_M s is determined by lexical tone and the presence of object prefixes (OPs), as well as phrasal position and stem shape (e.g. long vowels, number of syllables). Other factors affecting tone, not discussed here, include the presence of the reflexive, the causative or passive suffixes, and the choice of subject prefix. See Marlo (2013b) for a survey of these and other factors influencing verb tone patterns across Bantu.

Luyia languages manifest a microcosm of the three major types of tonal systems found in Bantu: ‘conservative,’ ‘predictable,’ and ‘reversible’, classifications which describe synchronic tonal properties of verb roots and the distribution of inflectional tonal melodies (Marlo 2013b). Examples in (1) illustrate basic features of conservative vs. predictable languages. In conservative languages like Logoori and Tiriki, the Near Future has no H_M , and the lexical tone surfaces transparently; toneless ($/\emptyset/$) verbs surface all L, and $/H/$ verbs have H on σ_1 (the verb stem is indicated in brackets). In predictable languages like Khayo and Tura, all verb roots are underlyingly $/\emptyset/$. As in other predictable tone systems in Bantu

¹ In Maho’s (2009) classification, Luyia varieties fall into three groups: (i) the Nyoro-Ganda Group (JE10), of which Nyala-West (JE18) is the lone representative; (ii) the Masaba-Luhya Group (JE30), including Bukusu (JE31c), Wanga (JE32a), Saamia (JE34), and most other languages of the core “Luyia cluster”; and (iii) the Logoori-Kuria Group (JE40), including Logoori (JE41), Idakho (JE411), Isukha (JE412), and Tiriki (JE413). While this bears some resemblance to the three-way classification of Luyia tonal systems adopted here, it is not consistent with the view that Luyia varieties are more closely related to one another than to languages like Ganda and Soga or Gusii (Mould 1981).

² Positions of the verb stem are referred to by the relevant prosodic unit, mora (μ) or syllable (σ), and the distance from the left stem boundary. By default, we refer to the stem and add reference to the macrostem only when necessary. Thus, “ σ_3 ” refers to the third syllable of the stem, and “ μ_1 of the macrostem” refers to the first mora of the macrostem.

(Odden 1989), all verbs have a tense-determined tonal suffix, which in the Tura forms in (1) is realized as H on all non-initial syllables of the stem.³

(1)	Tiriki (conservative)	Tura (predictable)	
*Ø verbs	a-la [pulux-a]	a-lá [purúx-á]	‘he will fly’
*H verbs	a-la [vúkúl-a]	a-lá [βukúl-á]	‘he will take’

Reversive languages, like Bukusu and Nyala-East, are geographically and, we hypothesize, historically intermediate between conservative and predictable varieties. Forms in (2) show that, like conservative languages, reversion systems retain a two-way tone distinction in verb roots, but like predictable languages, all verbs have a H_M, sometimes revealed only phrase-medially (in Bukusu).

(2)	Bukusu (reversive)		Nyala-East (reversive)	
*Ø verbs	a-la [purux-a] ‘he will fly’		a-lá [kúlíx-á] ‘he will name’	
	a-lá [purux-a] ...			
*H verbs	a-lá [βukul-a] ‘he will take’		a-lá [xalák-á] ‘he will cut’	
	a-lá [βukúl-a] ...			

Luyia tonal melodies are among the most numerous and complex in Bantu; we count 11 melodies in Khayo and Marachi.⁴ Due to the complexity of the melodic systems, we use a classification system dividing melodies into distinct ‘Patterns’ and ‘sub-Patterns.’ Each Pattern has a numeric label; sub-Patterns have an alphabetic label, e.g. Pattern 1 might be divided into sub-Patterns 1a and 1b. Numeric patterns generally reflect a major difference in H_M position. Alphabetic distinctions reflect minor differences, such as distinct properties of prefixes or whether a morphosyntactically-specific tone rule applies. The choice to classify sub-Patterns within one Pattern or as distinct Patterns is sometimes difficult.

The choice of melody for a given form is determined primarily by tense-aspect-mood (TAM) differences, and it is generally unpredictable which melody a TAM construction takes. Polarity (affirmative vs. negative) and clause type (matrix vs. relative clause) sometimes affects the choice of melody. Negative or relative clause forms may have the same pattern as the corresponding affirmative, matrix clause form; other times, negative or relative clause forms take a different melody. Generally, when there is a tonal alternation between clause-type forms, there is a default melody that negative or relative forms select. For example, in Idakho and Nyala-West, many negative and relative forms take the Pattern 2 melody, which targets $\mu 2$ (Idakho) or $\sigma 2$ (Nyala-West).

A significant analytical challenge posed by reversion systems is whether toned roots are /H/ or /L/. One factor contributing to this ambiguity is that in conservative systems, a H_M generally triggers the deletion/lowering of root Hs. For example, in Tachoni, the root H in **oxu** [βótooxan-a] ‘to go around’ fails to sur-

³ We adapt most transcriptions from their original source to follow IPA conventions, with the exception that long vowels are represented as a sequence of two identical vowels.

⁴ Soga [xog] may have even more melodies than we have found in Luyia (Yukawa 2000).

face in forms with a H_M , e.g. **βa-li** [**βotooxán-a**] ‘they will go around’, where the H_M surfaces on $\sigma 3$. The root H is deleted before the H_M by Reverse Meeussen’s Rule (RMR, Odden 2009).

All verb forms of reversive languages are inflected with a H_M , and $\sigma 1$ of historically *H verbs generally surfaces [L], as in (2). This is consistent with two analyses that are difficult to distinguish: (i) *H verbs are synchronically /L/ vs. (ii) *H verbs are synchronically /H/ but lowered/deleted by rule. We suspect that this ambiguity of analysis is responsible for some of the diverse historical tonal changes that have taken place in Luyia.

Below we describe the melodic systems of three Luyia varieties—Idakho [ida] (conservative, §2), Nyala-West [nle] (predictable, §3), and Wanga [lwg] (reversive, §4). We focus on general melodic tonal patterns of each language, while also touching on effects of OPs and phrasal position. Data are from our own field notes. Idakho verb tonology is the subject of Ebarb’s (2014) dissertation. Data from Nyala-West derives from Marlo (2007), which is being updated in Ebarb et al. (in prep). Wanga data were collected by Marlo in 2006; Wanga tonology is the subject of ongoing research by Green and Marlo.

2. Idakho (conservative)

Idakho is a conservative variety of Luyia. It has 10 melodies, distinguished by the number and position of H_{MS} in the stem. $\mu 2$ is a position commonly targeted by H_{MS} in /Ø/ verbs, but H_{MS} target other positions as well: $\mu 1$ of the macrostem, $\mu 2$ after $\sigma 1$ of the macrostem, $\sigma 3$, and the final vowel (FV).

The surface patterns of /Ø/ and /H/ verbs are regularly divergent. A rule of H_M Assignment (MHA) that links the H_M to $\mu 2$ in /Ø/ verbs does not apply in /H/ verbs because the target mora must be preceded by a toneless mora. Often, a second MHA rule determines the position of H_{MS} in /H/ verbs, with the effect that H_{MS} reach their surface positions by different rules in /Ø/ and /H/ verbs.

Root Hs and Hs of OPs are commonly lowered by Initial Lowering (IL), which lowers a macrostem-initial H in the presence of H_M . IL applies in all verbal contexts taking a H_M and can be seen as a variant of RMR.

Two rules widely attested in Bantu (Kisseberth & Odden 2003) are phonologically general: Plateau and Meeussen’s Rule (MR). Plateau spreads a H leftward onto moras between adjacent Hs, rendering HØH and HLH sequences as H’HH.⁵ MR deletes the second of two Hs. Plateau does not feed MR.

There are several contexts with no H_M , including the Near Future which reveals the /H/ vs. /Ø/ root contrast. /H/ verbs surface with H on the stem-initial mora, and /Ø/ verbs surface all L, as in (3).

(3) Pattern 1

Near Fut.	/H/	a-la { [kálaaŋga] }	‘he’ll fry’
	/Ø/	a-la { [laxuula] }	‘he’ll release’

⁵ Plateau applies regularly between two Hs separated by a single mora, but optionally when the Hs are further apart.

OPs, which are underlyingly /H/, surface H and trigger MR; they delete the root H and neutralize the contrast between /H/ and /Ø/ verbs. As there is no H_M in Pattern 1, OPs are not affected by IL.

(4) Pattern 1 + OP

Near Fut.	/H/	a-la{mú [xalaka]}	‘he’ll cut him’
	/Ø/	a-la{mú [laxuula]}	‘he’ll release him’

Idakho has several Pattern 1 contexts which take the prefix **áxa-**. When this prefix combines with /H/ roots, Plateau applies, spreading the root H onto the pre-stem syllable, resulting in H⁺HH.

(5) Pattern 1 with **áxa-**

Imm. Pst.	/H/	y-á‘xá{ [xálaka]}	‘he just cut’
	/Ø/	y-áxa{ [kulixa]}	‘he just named’

Other contexts in Idakho are inflected with a H_M. Pattern 2 has an all-L surface pattern in /H/ verbs and a H_M on μ_2 in /Ø/ verbs. Except for the Hodiernal Perfective, Pattern 2 contexts are all negative forms.

(6) Pattern 2

Hod. Perf.	/H/	a{ [xalaatʃe]}	‘he cut’
	/Ø/	a{ [kulííʃi]}	‘he named’

We attribute the all-L surface pattern of /H/ verbs to IL, which lowers macrostem-initial Hs. (Following Ebarb (2014), we assume that IL creates Ls and does not delete Hs.) The H_M surfacing in /Ø/ verbs is the result of a MHA rule targeting μ_2 . The H_M fails to link in /H/ verbs due to a condition on the MHA rule requiring the preceding mora to be toneless.

The H of an OP is lowered in both /H/ and /Ø/ verbs by IL.⁶ Because the root H of /H/ verbs is not macrostem-initial, it does not undergo IL; it surfaces. As in forms lacking an OP, the H_M fails to surface in /H/ verbs due to the H before the target of MHA. In /Ø/ verbs, the H_M surfaces on μ_2 . The early application of IL prevents Plateau from applying in /Ø/ verbs.

(7) Pattern 2 + OP

Hod. Perf.	/H/	a{mu [xálaatʃe]}	‘he cut him’
	/Ø/	a{mu [laxúuli]}	‘he released him’

One Pattern 2 context, the Conditional Negative in (8), differs from other Pattern 2 tenses in that subject prefixes (SPs) surface H, without Plateauing.

⁶ Lowering of OP Hs is what distinguishes IL from the version of RMR found in other Luyia varieties such as Tachoni, as RMR only lowers a root H before H_M.

(8) Pattern 2

Cond.	/H/	na-á-xa{ [xalaka] } tá	‘if he doesn’t cut’
Neg.		na-á-xa{mu [xálaka] } tá	‘if he doesn’t cut him’
	/Ø/	na-á-xa{ [kulíxa] } tá	‘if he doesn’t name’
		na-á-xa{mu [kulíxa] } tá	‘if he doesn’t name him’

Pattern 3 is found in the Subjunctive and affirmative and negative forms of the Crastinal Future, which are morphologically based on the Subjunctive. This pattern has a H_M that targets μ_2 after σ_1 of the macrostem. The weight of the macrostem-initial syllable is irrelevant to H_M assignment, and thus the H_M is located on V3 or V4 of the macrostem, depending on the length of the macrostem-initial syllable. IL is also active in Pattern 3, lowering the root H and neutralizing the contrast between /H/ and /Ø/ verbs in forms lacking an OP.

(9) Pattern 3

/H/ verbs		/Ø/ verbs	
a{ [kalaáŋɕɛ] }	‘let him fry’	a{ [laxuúli] }	‘let him release’
a{ [βoolitsí] }	‘let him seduce’	a{ [seeβulí] }	‘let him say bye’
a{ [βoyonáne] }	‘let him go around’	a{ [kalufítsi] }	‘let him return’

When an OP is present, the syllable of the OP is macrostem-initial. The H of the OP is lowered by IL, and the target of MHA is effectively μ_2 , where it surfaces in /Ø/ verbs. In /H/ verbs, the root H surfaces, but the H_M does not, since the target of MHA must follow a toneless mora.

(10) Pattern 3 + OP

Subj.	/H/	a{mu [xálatʃɛ] }	‘let him cut him’
		a{mu [βóolitsi] }	‘let him seduce him’
	/Ø/	a{mu [laxúuli] }	‘let him release him’
		a{mu [seeβuli] }	‘let him say bye to him’

Pattern 4 contexts are the affirmative and negative Remote Past. As in (11), /H/ and /Ø/ verbs both have H on μ_1 in forms lacking an OP. We propose that the H on μ_1 is the H_M , which is unconditionally assigned to μ_1 of the macrostem. Pattern 4 MHA overwrites any macrostem-initial tone, negating the effects of IL. In forms with an OP, we find evidence of a second MHA rule targeting μ_2 —the same rule as in Pattern 2. This rule does not apply in forms lacking an OP because μ_1 is H.

(11) Pattern 4

Rem. Pst.	/H/	y-aa{ [βóolitsa] }	‘he seduced’
	/Ø/	y-aa{ [sééβula] }	‘he said bye’

OPs surface H in both /H/ and /Ø/ verbs due to MHA, which targets μ_1 of the macrostem and reverses the effects of IL. /H/ verbs have no other surface Hs, and

/Ø/ verbs have H on $\mu 2$. We attribute the stem H in /Ø/ verbs to the Pattern 2 MHA rule, which targets $\mu 2$ and requires a preceding toneless mora. The stem H is downstepped following the OP H due to Plateau. In /H/ verbs, the H_M does not surface because the root H immediately precedes the target of MHA. The root H fails to surface due to MR.⁷

(12) Pattern 4 + OP

Rem. Pst.	/H/	y-aa{mú[βoolitsa]}	‘he seduced her’
	/Ø/	y-aa{mú[‘sééβula]}	‘he said bye to her’

Pattern 5a is found in the Present and related contexts. Its H_M occupies all moras of $\sigma 3$ in /H/ verbs and $\mu 2$ in /Ø/ verbs. Root Hs do not surface, due to IL. In long /Ø/ verbs, the H_M may double onto a mora of the following syllable if that syllable precedes the penult.

(13) Pattern 5a

Pres.	/H/	a{[xalakáaŋga]}	‘he’s cutting’
		a{[kalaŋgáaŋga]}	‘he’s frying’
		a{[βoolitsáaŋga]}	‘he’s seducing’
		a{[βoyonánaaŋga]}	‘he’s going around’
	/Ø/	a{[kulíxaŋga]}	‘he’s naming’
		a{[laxúulaŋga]}	‘he’s releasing’
		a{[seéβúlaŋga]}	‘he’s saying bye’
		a{[kalújítsaŋga]}	‘he’s returning’

/Ø/ verbs do not realize the H_M in the same position as /H/ verbs due to rule ordering: the rule targeting $\mu 2$ precedes the rule targeting $\sigma 3$. The H_M is not assigned to $\mu 2$ in /H/ verbs because a toneless mora must precede the target.

An OP H is lowered by IL in the Present. /H/ verbs have the root H on V1 and the H_M on $\sigma 3$, the latter of which predictably undergoes Plateau.⁸ In /Ø/ verbs, the H_M surfaces as in forms lacking an OP, on $\mu 2$.

(14) Pattern 5a + OP

Pres.	/H/	a{mu[βó‘ólítsáaŋga]}	‘he’s seducing him’
	/Ø/	a{mu[seéβúlaŋga]}	‘he’s saying bye to him’

Pattern 5b /H/ verbs realize the H_M on the FV. /Ø/ verbs have the same properties as in Pattern 5a, with a H_M on $\mu 2$.

⁷ An alternative analysis is that the Pattern 4 macrostem-initial H originates on the tense prefix and undergoes Prefix Hop (PH), shifting H to the macrostem-initial position. PH is found in other Luyia varieties, e.g. Tachoni (Odden 2009); we do not adopt this analysis as PH is otherwise unmotivated in Idakho.

⁸ There is variation in the rightward reach of H_M in /H/ stems. Some speakers extend H_M to the following mora; others extend it onto the FV, as in Pattern 5b-c /H/ verbs with an OP.

(15) Pattern 5b

Indef. Fut.	/H/	a-li{ [boyonaná] }	‘he’ll go around’
	/Ø/	a-li{ [seéβula] }	‘he’ll say bye’

As in Pattern 5a, OPs surface L in all forms due to IL. /H/ verbs have a H on μ_1 ; the H_M associates to the FV and undergoes Plateau, spreading leftward to the root H. /Ø/ verbs have a H_M on μ_2 .

(16) Pattern 5b + OP

Indef. Fut.	/H/	a-li{mu [βó‘ólítsá] }	‘he’ll seduce her’
	/Ø/	a-li{mu [seéβula] }	‘he’ll say bye to him’

Pattern 5c shares core properties with Pattern 5b: /H/ verbs have a H_M on the FV, and /Ø/ verbs have a H_M on μ_2 . In the Conditional, SPs are H, providing the context for Plateau to apply; thus, the H_M is realized as a downstepped H span across the stem in /H/ verbs without an OP, and on μ_1 and μ_2 in /Ø/ verbs. When an OP is present, its H is lowered by IL. In /Ø/ verbs, the H_M surfaces on μ_2 and undergoes Plateau.

(17) Pattern 5c

Cond.	/H/	na-á{ [‘βóólítsá] }	‘if he seduces’
		na-á{ ‘mú [βó‘ólítsá] }	‘if he seduces her’
	/Ø/	na-á{ [‘sééβula] }	‘if he says bye’
		na-á{ ‘mú [sééβula] }	‘if he says bye to her’

A striking feature of Pattern 5c (and also Pattern 8) is that the /H/s of /H/ verbs lacking an OP and of OPs themselves have no effect on surface tones. One might expect Ls created by IL to limit the leftward extent of the H_M , but they do not. One might be tempted to reanalyze IL as deletion of the lexical Hs, but Ebarb (2014) argues that this process creates Ls. While most rules of Idakho are sensitive to the Ø vs. L contrast, the late rule Plateau appears to be indifferent to the distinction.

Affirmative Imperative forms without OPs exhibit Pattern 6. /H/ verbs surface with a H_M on the FV; the root H is not expressed. In addition to a H_M on the FV, /Ø/ verbs take an additional H_M on μ_1 that spreads rightward through to the penult. The MHA rule that targets μ_1 is blocked from applying when its target and the preceding mora bear a tone.

(18) Pattern 6

Imp. (sg.)	/H/	{ [saanditsá] }	‘thank’
	/Ø/	{ [kálúj‘tsá] }	‘return’

Imperative forms with an OP are quite different. These forms select a Subjunctive FV (-e /-i /-e). In all verbs, OP Hs are lowered by IL, and a H_M surfaces on the FV, which spreads left via Plateau. /Ø/ verbs surface with the default H_M that tar-

gets $\mu 2$. The H_M which targets $\mu 1$ in bare Imperative forms is blocked from being assigned by the tone of the OP because MHA requires a preceding toneless mora. In /H/ verbs, the root H is shielded from IL by the OP and therefore surfaces. Just in Imperative constructions, the root H shifts to the second mora of a long initial syllable by a rule of Heavy Shift.⁹

(19) Pattern 6: Imp. (sg.) + OP

Imp. (sg.)	/H/	{ mu [xá'láǽǽ] }	‘cut him’
		{ mu [βoó'lítsí] }	‘seduce him’
	/Ø/	{ mu [kulí'fí] }	‘name him’
		{ mu [seé'βúlí] }	‘say bye to him’

The Hesternal Perfective exhibits Pattern 7. Both verb classes have a H_M on the FV. The root H is lowered by IL, while /Ø/ verbs also have a H_M on $\mu 2$. Hs spread unboundedly leftward via a melody-specific rule (possibly via Plateau as well in /Ø/ verbs).

(20) Pattern 7

Hest. Perf.	/H/	y-a { [téé'fí] }	‘he cooked’
		y-a { [xálááǽǽ] }	‘he cut’
	/Ø/	y-a { [láu'úlí] }	‘he named’
		y-a { [kálú'jítsí] }	‘he returned’

The Hs of OPs are lowered by IL, and there is a H_M on the FV. The root H is expressed *in situ*, and in /Ø/ verbs, there is a H_M on $\mu 2$, which doubles onto a prepenultimate syllable if possible. Hs undergo unbounded leftward spreading.

(21) Pattern 7 + OP

Hest. Perf.	/H/	y-a { mu [xá'lááǽǽ] }	‘he cut him’
		y-a { mu [βó'ólíítsí] }	‘he seduced him’
	/Ø/	y-a { mu [kálú'fíí] }	‘he defended him’
		y-a { mu [síínj'ííítsí] }	‘he said bye to him’

Pattern 8 is in the Habitual, which has a H-toned prefix **aá-** and H_M on the FV. This surfaces as a downstepped H on all stem moras after **aá-**. Since the root H is lowered, /H/ and /Ø/ verbs have the same pattern in forms lacking an OP.

(22) Pattern 8

Hab.	/H/	y-aá { ['βóólítsá] }	‘he is always seducing’
	/Ø/	y-aá { ['sééβúlá] }	‘he is always saying bye’

We believe that the H span on the stem is unrelated to Plateau. As noted in fn. 5, long-distance Plateau is optional. In our corpus of Pattern 8 forms, the H_M is

⁹ /Ø/ verbs also optionally take the /H/ pattern, with the H_M on $\mu 1$ when $\sigma 1$ is short and on $\mu 2$ when $\sigma 1$ is long.

found on all stem moras more often than we would expect if spreading were the result of Plateau. This suggests that the surface position of the H_M results from a pattern-specific rule, probably the same one also found in Pattern 7.

The H of an OP is lowered by IL. The root H undergoes Plateau and is downstepped after the H-toned tense prefix. In /H/ verbs, the span of the downstepped H_M begins after the root H; in /Ø/ verbs, it begins on the OP.

(23) Pattern 8 + OP

Hab.	/H/	ya-á{ 'mú [xó'noóndá] }	'he is always knocking him'
	/Ø/	ya-á{ 'mú [sééβúlá] }	'he is always saying bye to him'

Phrasal rules may have a substantial impact on stem tone. H Tone Anticipation (HTA) spreads H unboundedly leftward; a H may spread over multiple underlyingly toneless words. HTA only affects stem tone when the verb does not express a tonal melody, as in the Near Future. The H of H-toned complements spreads through the σ_2 in /H/ verbs and beyond in /Ø/ verbs.¹⁰

(24) Pattern 1 phrase-medial

Near Fut.	/H/	a-la{ [xálaka] } muundu	'he'll cut s.o'
		a-la{ [xá'láká] } músáatsa	'he'll cut the man'
	/Ø/	a-la{ [seeβula] } muundu	'he'll say bye to s.o'
		a-la{ [sééβúlá] } músáatsa	'he'll say bye to the man'

Another rule, Phrase-Medial H_M Deletion (PMHD), deletes H_M s when the verb is phrase-medial. As indicated in (25), PMHD applies in some but not all contexts inflected with a H_M . PMHD feeds HTA, allowing a H from a word following the verb to spread onto the verb. In /H/ verbs, the effects of IL persist phrase-medially, and the H span which begins on the word following the verb variably extends leftward through μ_1 , μ_2 , or σ_3 . The transcriptions below reflect conservative estimates of the leftward extent of H for each form.

(25) Phrase-Medial H_M Deletion

Pres.	/H/	a{ [xalakááŋgá] } mú'yáyí	'he's cutting the boy'
(Pattern 5a)		a{ [xalakaanga] } muundu	'he's cutting s.o'
	/Ø/	a{ [laxúúlááŋgá] } mú'yáyí	'he's releasing the boy'
		a{ [laxuulaanga] } muundu	'he's releasing s.o'
Indef. Fut.	/H/	a-li{ [βoolítsá] } mú'yáyí	'he'll seduce the boy'
(Pattern 5b)	/Ø/	a-li{ [sééβúlá] } mú'yáyí	'he'll say bye to the boy'
Imp. (sg.)	/H/	{ [βoolítsá] } mú'yáyí	'seduce the boy'
(Pattern 6)	/Ø/	{ [kálújítsá] } mú'yáyí	'return the boy'
Hest. Perf.	/H/	y-a{ [βooliitsí] } mú'yáyí	'he seduced the boy'

¹⁰ The leftward extent of the H span in /Ø/ verbs is unclear, possibly including just the stem or extending through a tense prefix or SP. In other Luyia languages with HTA, e.g. Logoori and Tiriki, the generalization seems to be that H spreads leftward through toneless moras until it reaches another tone (H or L). HTA in Idakho seem more variable (see Ebarb 2014).

(Pattern 7)	/Ø/	y-a{ [sééβúúlí] } mú'yáyi	'he said bye to the boy'
Hab.	/H/	ya-á{ [βoolitsá] } mú'yáyi	'...seducing the boy'
(Pattern 8)	/Ø/	ya-á{ ['sééβúúlá] } mú'yáyi	'..saying bye to the boy'

More commonly, the verb stem has the same tonal properties phrase-medially as it does pre-pausally. Neither HTA nor PMHD applies in the following contexts.

(26) Phrase-Medial H_Ms

Hod. Perf	/H/	a{ [xalaaŋɛ] } mú'yáyi	'he cut the boy'
(Patt. 2)	/Ø/	a{ [kulíífi] } mú'yáyi	'he named the boy'
Cond. Neg.	/H/	na-á-xa{ [xalaka] } mú'yá'yí tá	'... cut the boy'
(Patt. 2)	/Ø/	na-á-'xá{ [kúlíxá] } muundu tá	'... name the boy'
Subj.	/H/	a{ [βoolitsí] } 'mú'yáyi	'let him seduce the boy'
(Patt. 3)	/Ø/	a{ [kaluʃítsí] } mú'yáyi	'let him return the boy'
Rem. Pst.	/H/	ya-a{ [βóolitsa] } mú'yáyi	'he seduced the boy'
(Patt. 4)	/Ø/	ya-a{ [sééβula] } mú'yáyi	'he said bye to the boy'
Cond.	/H/	na-á{ ['βóólítsá] } muundu	'if he seduces s.o.'
(Patt. 5c)	/Ø/	na-á{ ['sééβúla] } muundu	'if he says bye to s.o.'
Imp. (sg.)	/H/	{mu [βoó'lítsí] } muundu	'seduce s.o. for him'
(Patt. 6)	/Ø/	{mu [kalú'ʃítsí] } muundu	'return s.o. for him'

Affirmative imperatives interact with PMHD in an interesting way: the H_M is lost in forms lacking OPs, but retained when an OP is present.

The following summarizes other contexts taking each pattern. Contexts marked with * lose their H_M phrase-medially.

(27) Summary of other contexts taking each melody in Idakho

Pattern 1

Near Fut.	/H/	a-la{ [ká'lááŋgá] } tá	'he won't fry'
Neg.	/Ø/	a-la{ [láuúúlá] } tá	'he won't release'
Perf.	/H/	a-a{ [kálaaŋɔ́i] }	'he has fried'
	/Ø/	a-a{ [laxuuli] }	'he released'
Perf. Neg.	/H/	a-a{ [ká'lááŋɔ́í] } tá	'he has not fried'
	/Ø/	a-a{ [láuúúlí] } tá	'he has not released'
Infin.	/H/	xu{ [kálaaŋga] }	'to fry'
	/Ø/	xu{ [laxuula] }	'to release'
Imm. Pst.	/H/	y-á'xá{ [ká'lááŋgá] } tá	'he didn't just fry'
Neg.	/Ø/	y-á'xá{ [láuúúlá] } tá	'he didn't just release'
Rem. Fut.	/H/	y-á'xá{ [kálaaŋɔ́ɛ] }	'he will fry'
	/Ø/	y-áxa{ [laxuule] }	'he will release'
Rem. Fut.	/H/	y-á'xá{ [ká'lááŋɔ́é] } tá	'he won't fry'
Neg.	/Ø/	y-á'xá{ [láuúúlé] } tá	'he won't release'

Pattern 2

Subj. Neg.	/H/	a-xa{ [xalaka] } tá	'he should not cut'
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	/Ø/	a-xa{ [kulíxa] } tá	‘he should not name’
Imp. (sg.)	/H/	u-xa{ [xalaka] } tá	‘don’t cut’
Neg.	/Ø/	u-xa{ [kulíxa] } tá	‘don’t name’
Imp. (pl.)	/H/	mu-xa{ [xalatʃi] } tá	‘don’t cut’
Neg.	/Ø/	mu-xa{ [kulíʃi] } tá	‘don’t name’
Hod. Perf.	/H/	a{ [xalaatʃe] } tá	‘he didn’t cut’
Neg.	/Ø/	a{ [kulíʃi] } tá	‘he didn’t name’
Fut. Neg.	/H/	ʃ-a{ [xalaka] } tá	‘he won’t cut’
	/Ø/	ʃ-a{ [kulíxa] } tá	‘he won’t name’
Pres.	/H/	ʃi{ [ndumulaa] } tá	‘I don’t hit’
Neg.	/Ø/	ʃi{ [nomólómaa] } tá	‘I don’t talk’
Pattern 3			
Crast. Fut.	/H/	na-a{ [boyonjáne] } tá	‘he’ll go around’
	/Ø/	na-a{ [kaluʃítsi] } tá	‘he’ll return’
Crast. Fut.	/H/	na-a{ [boyonjáne] } tá	‘he won’t go around’
Neg.	/Ø/	na-a{ [kaluʃítsi] } tá	‘he won’t return’
Pattern 4			
Rem. Pst.	/H/	ya-a{ [βóolitsa] } tá	‘he didn’t seduce’
Neg.	/Ø/	ya-a{ [sééβúla] } tá	‘he didn’t say bye’
Pattern 5a			
Pres. Neg.*	/H/	a{ [boyonánaanga] } tá	‘he’s not going around’
	/Ø/	a{ [kaluʃítsaanga] } tá	‘he’s not returning’
Pers.*	/H/	a-ʃi{ [bohólólaanga] } tá	‘he’s still untying’
	/Ø/	a-ʃi{ [sééβúlaanga] } tá	‘he’s still saying bye’
Pers.	/H/	a-ʃi{ [bohólólaanga] } tá	‘he’s not still untying’
Neg.*	/Ø/	a-ʃi{ [sééβúlaanga] } tá	‘he’s not still saying bye’
Pattern 5b			
Indef. Fut.	/H/	a-li{ [βoolítsá] } ‘tá	‘he won’t seduce’
Neg.*	/Ø/	a-li{ [sééβúla] } tá	‘he won’t say bye’
Pattern 6			
Imp.	/H/	{ [saanditsí] }	‘thank’
(pl.)(*)	/Ø/	{ [kálúʃí‘tsí] }	‘return’
Pattern 7			
Hest. Perf.	/H/	y-a{ [xáláátʃé] } ‘tá	‘he didn’t cut’
Neg.*	/Ø/	a-li{ [kálúʃí‘ítsí] } ‘tá	‘he didn’t return’
Pattern 8			
Hab. Neg.*	/H/	ya-á{ [‘βóólítsá] } tá	‘he doesn’t always seduce’
	/Ø/	ya-á{ [‘sééβúlá] } tá	‘he doesn’t always say bye’

3. Nyala-West (predictable)

Nyala-West has a predictable tone system with two notable differences from conservative systems like Idakho: (i) it lacks a lexical contrast in verb roots as all verbs are /Ø/, and (ii) every context is inflected with a tonal melody. There are 8 melodies in Nyala-West, usually expressed by one or rarely two H_{MS}. One tonal

melody eliminates Hs within the verb. Depending on the Pattern, H_M s target μ_1 , μ_1 of σ_2 , or the FV. There is also Pattern-specific spreading of the H_M . SPs are /Ø/, and OPs are /H/; there is a contrast between /H/ and /Ø/ tense prefixes. In the presence of an OP, there are often dramatic tonal alternations resulting in Hs on the first moras of the stem-initial and stem-final syllables (Patterns 2b, 3, and 4).

Pattern 1a is characterized by a H_M spanning from σ_2 to the FV. The tense prefix is /Ø/, or there is no tense prefix.

(28) Pattern 1a: H on stem σ_2 through FV

Indef. Fut.	xu-ri [paangúlul-á]	‘we will disarrange’
	xu-ri-βá [siindíx-á]	‘we will push them’

Pattern 1b is identical to Pattern 1a; the H_M spans from σ_2 to the FV, but the tense prefix is /H/. Following the H tense prefix, an OP H is deleted by MR.

(29) Pattern 1b: H tense prefix and H on stem σ_2 through FV

Near Fut.	βa-ná [paangúlul-á]	‘they will disarrange’
	xu-ná-βa [siindíx-á]	‘we will push them’

In Pattern 2a, the H_M occupies μ_1 of σ_2 , i.e. the first mora of σ_2 whether σ_2 is short or long. The tense prefix is /Ø/, or there is no tense prefix.

(30) Pattern 2a: H on μ_1 of stem σ_2

Pres. Neg.	si-xu [paangúlul-a]	‘we are not disarranging’
	s-aa [xoomóor-er-a]	‘s/he is not making funny faces’
	si-βa-mú [deex-ér-a]	‘they are not cooking for him’

Pattern 2b is identical to Pattern 2a; the H_M occupies μ_1 of σ_2 , but the tense prefix is /H/. When an OP is present, a ‘first and final’ pattern emerges, in which the OP surfaces L, and there is one H on μ_1 and one H on the first mora of the stem-final syllable. In our analysis, this pattern is phonologically derived: the H of the OP shifts to μ_1 , and the H_M shifts to the stem-final syllable, which is lengthened.

(31) Pattern 2b: H on tense prefix and H on μ_1 of σ_2

Imm. Pst.	si-β-a-xá [paangúlul-a]	‘they didn’t just disarrange’
Neg.	si-β-a-xá [laambáal-a]	‘... sleep carelessly’
	si-β-a-xá-mu [déex-er-áa]	‘they didn’t just cook for him’

In Pattern 3, found in the Imperative, the H_M occupies the FV. In forms with an OP, the FV becomes -e, and the first and final pattern emerges.

(32) Pattern 3: H on FV

Imp. (sg.)	[paangulul-á]	‘disarrange!’
	mu [bólól-ée]	‘untie him!’

In Pattern 4, which has a /H/ tense prefix, no H_M surfaces in forms lacking an OP, but the first and final pattern emerges when an OP is present.¹¹

(33) Pattern 4: H on tense prefix

Rem. Pst.	βa-á [paangulul-a]	‘they disarranged’
	β-á-mu [déex-er-áa]	‘they cooked for him’

Pattern 5 is characterized by two H_Ms: one occupies the FV; one occupies μ1. Following an OP H, the H_M targeting μ1 does not surface due to MR.

(34) Pattern 5: H on μ1 and H on FV

Hod. Perf.	xu [sáambuluul-é]	‘we de-roofed’
	βa-mú [βolool-é]	‘they untied him’

In Pattern 6, the entire verb surfaces [L], even when there is an OP. Since OPs are /H/, we treat this as tense-specific melodic pattern characterized by [L] throughout the verb. Strikingly, the H of a causative or passive does surface in this context, as in **a** [kus-iis-í-e] ‘if he could sell’ and **a** [βek-er-ú-e] ‘if he could be shaved’.

(35) Pattern 6: all L

Cond.	xu [paanguluul-e]	‘if we could disarrange’
	xu-mu [siindiix-ir-e]	‘if we could push him’

A summary of other contexts with each Nyala-West melody is in (36). Most forms take Pattern 1 or Pattern 2, while Patterns 3–6 are limited to one context each.

(36) Summary of other contexts taking each melody in Nyala-West

Pattern 1a

Cond. Pst. Perf.	xw-a-xa [βodóxáán-é]	‘we should have gone around’
Cond. Pst. Perf. [Rel.]	ó-w-a-xw-a-xa [βodóxáán-é]	‘the one we should’ve gone around’
Cond. Pst. Perf. Neg.	si-xw-a-xa [βodóxáán-é]	‘we shouldn’t have gone around’
Cond. Pst. Perf. Neg. [Rel.]	ó-w-a-xu-r-a-xa [βodóxáán-é]	‘the one we shouldn’t have gone around’
Consec.	ni-xu [βodóxán-á]	‘and then we went around’
Hest. Perf.	xw-aa [βodóxáán-é]	‘we went around’
Hest. Perf. [Rel.]	ó-w-a-xw-aa [βodóxáán-é]	‘the one went around’
Hest. Perf. Neg. ¹²	si-xw-aa [βodóxáán-é]	‘we didn’t go around’

¹¹ Our notes indicate an unexpected shortening of the surface vowel derived from the vowel of the SP and the tense prefix **á-** in forms with an OP. See Dalgish (1986) for discussion of related phenomena in Tsootso.

Hest. Perf. Neg. [Rel.]	ó-w-a-xu-r-aa [βodóxáán-é]	‘the one we didn’t go around’
Indef. Fut. [Rel.]	ó-w-a-xu-ri [βodóxán-á]	‘the one we will go around’
Indef. Fut. Neg.	si-xu-ri [βodóxán-á]	‘we won’t go around’
Indef. Fut. Neg. [Rel.]	ó-w-a-xu-ra-ri [βodóxán-á]	‘the one we won’t go around’
Pres.	xu [βodóxán-á]	‘we are going around’
Pres. [Rel.]	ó-w-a-xu- [βodóxan-a]	‘the one we are going around’
Rec. Pst. Neg.	si-xw-a-xa [βodóxán-á]	‘we didn’t go around’
Rec. Pst. Neg. [Rel.]	ó-w-a-xu-r-a-xa [βodóxan-a]	‘the one we didn’t go around’
Pattern 1b		
Consec.	má-ni-xw-áá [βodóxán-á]	‘and then we went around’
Imm. Pst.	xw-a-xá [βodóxán-á]	‘we just went around’
Imm. Pst. [Rel.]	ó-w-a-xw-a-xá [βodóxan-a]	‘the one we just went around’
Infin. [long]	o-xú [βodóxán-á]	‘to go around’
Infin. [short]	ó [βodóxán-á]	‘to go around’
Near Fut. [Rel.]	ó-w-a-xu-ná [βodóxán-á]	‘the one we will go around’
Near Fut. [‘when’]	ní-xu-ná [βodóxán-á]	‘when we go around’
Near Fut. Neg.	si-xu-ná [βodóxán-á]	‘we won’t go around’
Near Fut. Neg. [Rel.]	ó-w-a-xu-ra-ná [βodóxán-á]	‘the one we won’t gone around’
Near Fut. Neg. [‘when’]	ní-xu-ra-ná [βodóxán-á]	‘when we don’t go around’
Pers.	xu-sí [βodóxán-á]	‘we are still going around’
Pers. [Rel.]	ó-w-a-xu-sí [βodóxán-á]	‘the one we are still going around’
Pers. Perf.	xu-sí [paangúlúúx-é]	‘we are still disarranged’
Pres. Perf. Neg.	xu-r-aá [βodóxán-á]	‘we have not yet gone around’
Pres. Perf. Neg. [Rel.]	ó-w-a-xu-r-áá [βodóxán-á]	‘the one we have not yet gone around’
Pres. Prog.	xu-ri oxú [βodóxán-á]	‘we are going around’
Pres. Prog. [Rel.]	ó-w-a-xu-ri xú [βodóxán-á]	‘the one we are going around’

¹² Matrix and relative clause forms of the Hesternal Perfective Negative and Indefinite Future Negative optionally take the Pattern 2a melody.

Pres. Prog. Neg.	xu-si-ri oxú [βodóxán-á]	‘we are not going around’
Pres. Prog. Neg. [Rel.]	ó-w-a-xu-si-ri ó [βodóxán-á]	‘the one we are not going around’
Rem. Fut.	xw-a-xá [βodóxán-é]	‘we will go around’
Rem. Fut. [Rel.]	ó-w-a-xw-a-xá [βodóxán-é]	‘the one we will go around’
Rem. Fut. Neg.	si-xw-a-xá [βodóxán-é]	‘we will go around’
Rem. Fut. Neg. [Rel.]	ó-w-a-xu-r-a-xá [βodóxán-é]	‘the one we won’t go around’
<hr/> Pattern 2a		
Cond.	ní-xu [βodóxan-a]	‘if we go around’
Cond. Neg.	ní-xu-ra [βodóxan-a]	‘if we don’t go around’
Crast. Fut.	na-xu [βodóxan-e]	‘we will go around’
Crast. Fut. [Rel.]	ó-w-a-xu-n-aa [βodóxan-e]	‘the one we will go around’
Crast. Fut. Neg.	si-na-xu [βodóxan-e]	‘we won’t go around’
Crast. Fut. Neg. [Rel.]	ó-w-a-xu-na-r-aa [βodóxan-e]	‘the one we won’t gone around’
Hod. Perf. [Rel.]	ó-w-a-xu [βodóxaan-e]	‘the one we went around’
Hod. Perf. Neg.	si-xu [βodóxaan-e]	‘we didn’t go around’
Hod. Perf. Neg. [Rel.]	ó-w-a-xu-ra [βodóxaan-e]	‘the one we didn’t go around’
Imp. (pl.)	mu [βodóxaan-e]	‘go around (pl.)’
Imp. (pl.) Neg.	mu-ra [βodóxan-a]	‘don’t go around (pl.)’
Imp. (sg.) Neg.	o-ra [βodóxan-a]	‘don’t go around’
Participial	ní-xu [βodóxan-a]	‘(we) going around’
Pres. Neg. [Rel.]	ó-w-a-xu-ra [βodóxan-a]	‘the one we aren’t going around’
Subj.	xu [βodóxan-e]	‘let’s go around’
Subj. Neg.	xu-ra [βodóxan-a]	‘let’s not go around’
<hr/> Pattern 2b		
Imm. Pst. Neg. [Rel.]	ó-w-a-xu-r-a-xá [βodóxan-a]	‘the one we didn’t just go around’
<hr/> Pattern 4		
Rem. Pst. [Rel.]	ó-w-a-xw-áá [βodoxan-a]	‘the one we went around’
Rem. Pst. Neg.	si-xw-aá [βodoxan-a]	‘we didn’t go around’
Rem. Pst. Neg. [Rel.]	ó-w-a-xu-r-áá [βodoxan-a]	‘the one we didn’t go around’
<hr/> Pattern 5		
Cond. Hod. Perf.	xw-axa [βodóxáán-é]	‘if we had gone around’
<hr/> Pattern 6		
Cond. Pst. Perf.	xw-axa [βodoxaan-e]	‘had we gone around’

Cond. Pst. Perf. Neg. **si-xw-axa [βodoxaan-e]**

‘had we not gone
around’

4. Wanga (reversive)

Wanga is a central Luyia variety with a reversive tonal system. Like predictable languages, every verb form is inflected with a H_M , including contexts where analogous forms in conservative varieties lack a H_M . Like conservative languages, reversive languages maintain a lexical tonal contrast in verb roots. Reversive languages differ from conservative languages in that historically *H verbs are synchronically ambiguous as to the underlying root tone; as noted above, the choice to analyze toned roots as having underlying /L/ vs. /H/ is not trivial. Below we present our analysis of Wanga with a /L/ vs. /Ø/ contrast while also describing a /H/ vs. /Ø/ alternative analysis. In Wanga verbs, SPs are /Ø/, and OPs are /H/, and there is a tonal contrast between /H/ and /Ø/ tense prefixes.

Wanga has nine known melodies. The manifestation of Wanga H_M s is affected by Melodic Doubling (MD) and Decontouring (DC), which are independent of our analysis of root tones. MD results in rightward binary spread of the H_M , while DC renders tautosyllabic HØ sequences as HH. In our root /L/ analysis, Prefix Hop (PH) and Reverse Meeussen’s Rule (RMR) play a prominent role. PH generally involves two rules, Spreading and Delinking, which result in the rightward shift of the lexical H of OPs and certain tense prefixes; in one pattern, Delinking does not apply, and we find only Spreading. RMR removes the first of two adjacent Hs, the main effect of which is to delete the H of an OP before the H_M in /Ø/ verbs. In our /H/ analysis, we do not have PH or RMR, but instead Initial Lowering (IL), which removes a macrostem-initial H, as in Idakho. In non-phrasal contexts, we describe Wanga melodies in relation to the TBU to which the H_M associates. As in Idakho, we find cases where the H_M fails to surface in the toned verb class; in Wanga, this is usually because the root tone occupies the TBU targeted by the H_M . In some contexts, the H_M undergoes unbounded Leftward Spread (LS).

In both Patterns 1a and 1b, the H_M targets $\mu 1$. In Pattern 1a, /L/ blocks the H_M , and /L/ verbs surface all L; /Ø/ verbs surface with H on $\mu 1$ and $\mu 2$, via MD. (Where the second mora is the first half of a long vowel, the H extends to $\mu 3$, via DC.) With an OP, /L/ verbs surface with a H on $\sigma 1$. We attribute this H to the OP; it reaches its surface position via PH. In /Ø/ verbs, RMR removes the OP H; these verbs have H from $\mu 1$ to $\mu 2/\mu 3$ due to MD and DC.

(37) Pattern 1a

Hod. Perf.	/L/	a{ [karaaŋɕir-e] }	‘he fried’
		a{mu [káraaŋɕiir-e] }	‘he fried for him’
	/Ø/	a{ [léxúúlir-e] }	‘he released’
		a{mu [léxúúlir-e] }	‘he released him’

In an alternative /H/ analysis, the root H undergoes IL. The root H is lowered in forms without an OP, and the H of the OP is lowered when there is an OP, allowing the root H to surface on the stem-initial position.

Pattern 1b is characterized by the prefix **á-**, which spreads across the stem-initial syllable in /L/ and /Ø/ verbs by a version of PH where Delinking does not occur. The H_M is prevented from surfacing due to the targeted $\mu 1$ position being occupied. In forms with an OP, the H of **á-** spreads to the OP.¹³ The H_M surfaces in /Ø/ verbs on $\mu 1$ - $\mu 2$. In /L/ verbs, the stem surfaces all L because the H_M assignment is blocked by the root tone. Under a /H/ analysis, an additional principle would be required to explain why the root H does not surface in forms with an OP. One possibility is that Meeussen's Rule (MR) applies here, deleting the root H after H. The challenge for this analysis is to explain why MR does not apply in other contexts such as Pattern 1a and Pattern 2.

(38) Pattern 1b

Rem. Pst.	/L/	y-á{ [búkú-l-a] }	'he took'
		y-á{ [bóólol-a] }	'he untied'
/Ø/		y-á{mú [bukul-a] }	'he took him'
		y-á{ [yáβir-a] }	'he buried'
		β-á{ [rééβan-a] }	'they asked each other'
		y-á{mú ['yáβir-a] }	'he buried him'

In Pattern 2, H_M targets the leftmost mora of the first free syllable in the stem; it is realized on the first two moras after $\sigma 1$ in /L/ verbs and on $\mu 1$ - $\mu 2$ in /Ø/ verbs. With an OP, the H_M surfaces in the same stem positions. In /L/ verbs, the OP H shifts by PH to $\sigma 1$; it does not surface in /Ø/ verbs due to RMR. Under a /H/ analysis, IL would lower the root H in forms without an OP and would lower the H of the OP when an OP is present, leaving the root H to surface on $\sigma 1$.

(39) Pattern 2

Pres.	/L/	a{ [leɛŋgááŋg-a] }	'he's watching'
		a{mu [léé'ŋgááŋg-a] }	'he's watching him'
/Ø/		a{ [xwéésaaŋg-a] }	'he's pulling'
		a{mu [xwéésaaŋg-a] }	'he's pulling him'

In Pattern 3, the H_M targets $\mu 1$ of $\sigma 2$ of the macrostem. With no OP, the H_M surfaces on the first two moras after $\sigma 1$ in both /L/ and /Ø/ verbs, neutralizing the lexical contrast. With an OP, H_M cannot associate in the /L/ context, and H surfaces on $\sigma 1$. Under the /L/ analysis, we attribute this H to the OP, which undergoes PH. In /Ø/ verbs, the H of the OP is deleted by RMR, and the H_M surfaces on $\mu 1$ - $\mu 2$. Under the /H/ analysis, IL removes the root H in forms without an OP and the H of the OP when an OP is present, leaving the root H to surface on $\sigma 1$ in /H/ verbs and leaving the H_M to surface on $\mu 1$ - $\mu 2$ of /Ø/ verbs.

¹³ This spreading delinks the OP /H/, thereby precluding further spread to the stem.

(40) Pattern 3

Crast. Fut.	/L/	na-a { [βukúl-é] }	‘he’ll take’
		na-a { [saangáál-e] }	‘he’ll be happy’
/Ø/		na-a { mu [βúkul-e] }	‘he’ll take him’
		na-a { [purúf-é] }	‘he’ll fly’
		na-a { [laambáál-e] }	‘he’ll sleep carelessly’
		na-a { mu [léfér-e] }	‘he’ll forgive him’

Pattern 4 is characterized by a stem-final H_M , it is the sole H in both verb types. When an OP is added, it loses its H; the whole verb is L up to the H_M on the FV.¹⁴ Under a /H/ analysis, the failure of the root H and the H of an OP to surface is due to IL. An additional principle would be required to explain why the root H fails to surface when an OP is present, as in Pattern 1b.

(41) Pattern 4

Imp. (sg.)	/L/	{ [karaang-á] }	‘fry!’
		mu { [karaangir-é] }	‘fry for him!’
/Ø/		{ [saambul-á] }	‘de-roof!’
		{mu} [saambulir-é] }	‘de-roof for him!’

In Pattern 5, the entire verb surfaces L in both /L/ and /Ø/ verbs, including when an OP is added. We assume that there is active lowering in this tense, as in Pattern 6 of Nyala-West (see (35)).

(42) Pattern 5

Cond. Pst.	/L/	a { [karaang-a] }	‘if he had fried’
		a { mu [karaangir-a] }	‘if he had fried for him’
/Ø/		a { [lexuul-a] }	‘if he had released’
		a { mu [lexuul-a] }	‘if he had released him’

Pattern 6, which is found in contexts cognate with those lacking a H_M in conservative languages, is complex. The H_M targets the FV and spreads leftward. /L/ verbs have one H on σ_1 and a second H from σ_2 to the FV. /Ø/ verbs have a H extending from the tense prefix to the FV. When an OP is present, the OP surfaces H, and /L/ verbs have H from σ_2 to the FV, while /Ø/ verbs have a (downstepped) H from μ_1 to the FV. We analyze these forms as having a H tense prefix **lá-**, which undergoes PH in all forms but /Ø/ verbs lacking an OP. In that context, a special version of RMR applies, which deletes the H of the tense prefix, allowing the H_M to spread onto **la-** when there is no OP. In /L/ verbs, RMR is blocked by the stem L, and in /Ø/ verbs with an OP, RMR is blocked by the H of the OP.

¹⁴ Marlo’s original notes indicate a second possible pronunciation of forms with an OP in which there is a H on the stem-initial syllable in addition to the stem-final H; in reviewing recordings in our audio archive, we were unable to verify these variants.

(43) Pattern 6

Near Fut.	/L/	a-la{ [xó'íóí-á] }	'he'll cough'
		a-la{mú [fumúr-á] }	'he'll stab him'
	/Ø/	a-lá{ [púrúx-á] }	'he'll fly'
		a-la{mú ['límír-á] }	'he'll dig for him'

Under a /H/ analysis, there would be no IL in this context (as in Idakho, where there is no H_M), no PH, and the tense marker would be /Ø/. This would account for the surface pattern of /H/ verbs lacking an OP and /Ø/ verbs, but we would have to explain why the root H does not surface in forms with an OP.

Pattern 7a, found in the Remote Past Negative, has a H prefix **á-**; it does not spread, unlike the **á-** in Pattern 1b. The stem is H on all syllables after $\sigma 1$ in /L/ verbs and on all syllables in /Ø/ verbs. OPs surface L and do not affect the stem tone patterns. There is no downstep of the clause-final negative marker **tá**; the stem H may be the result of leftward spreading from **tá**; thus, no H_M is expressed in this pattern. Under a /H/ analysis, we could say that IL is responsible for the removal of the root H in forms lacking an OP and of the OP Hs, but this would leave unexplained why the root H does not surface with an OP. We could pursue an account that uses MR, but the challenge of such an approach is providing a plausible explanation for where MR occurs and where it does not.

(44) Pattern 7a

Rem. Pst. Neg.	/L/	si-y-á{ [βukúl-á] } tá	'he didn't take'
		si-y-á{mu [βukúl-á] } tá	'he didn't take him'
	/Ø/	si-y-á{ ['kálúx-á] } tá	'he didn't return'
		si-y-á{mu [límír-á] } tá	'he didn't dig for him'

Pattern 7b, in the Hodiernal Perfective Negative, has the same general pattern as Pattern 7a: H after $\sigma 1$ in /L/ verbs and H on all stem moras in /Ø/ verbs. Unlike Pattern 7a, negative **tá** is downstepped after the stem H in Pattern 7b, showing that the stem H is a H_M. A second difference is that there is no H-toned tense prefix. The H of an OP shifts to $\sigma 1$ in /L/ verbs and is deleted by RMR in /Ø/ verbs. The root /H/ analysis with IL works straightforwardly here, removing the root H in forms without an OP, and removing the H of the OP in forms with an OP.

(45) Pattern 7b

Hod. Perf. Neg.	/L/	s-aa [βoolér-é] 'tá	'he didn't speak'
		s-aa-mu [léé'ndžér-é] 'tá	'he didn't watch him'
	/Ø/	s-aa [rééβér-é] 'tá	'he didn't ask'
		s-aa-mu [rééβér-é] 'tá	'he didn't ask him'

Other contexts taking each of melody are summarized in (46). There are no other contexts that take Patterns 1b, 4, 5, or 7b.

(46) Summary of other contexts taking each melody in Wanga

Pattern 1a			
Imp. Sg. Neg.	/L/	o-la [xalak-a] tá	‘don’t cut’
	/Ø/	o-la [βakál-á] tá	‘don’t set out to dry’
Pres. Neg.	/L/	s-aa [ʃin-a] tá	‘he’s not dancing’
	/Ø/	s-aa [lób-á] tá	‘he’s not refusing’
Pattern 2			
Indef. Fut.	/L/	ya-li [βukúl-á]	‘he’ll take’
	/Ø/	ya-li [kórók-a]	‘he’ll stir’
Hest. Perf.	/L/	ya-a [lumír-é]	‘he bit’
	/Ø/	ya-a [kónér-e]	‘he slept’
Pattern 3			
Crast. Fut. Neg.	/L/	si-n-aa [βukúl-é] ‘tá	‘he won’t take’
	/Ø/	si-n-aa [purúf-é] ‘tá	‘he won’t fly’
Subj.	/L/	xu [xalátf-é]	‘let’s cut’
	/Ø/	xu [βakál-é]	‘let’s set out to dry’
Pattern 6			
Near Fut. Neg.	/L/	s-aa-lá [sí‘kám-á] tá	‘he won’t kneel’
	/Ø/	s-aa-lá [púrúx-á] tá	‘he won’t fly’
Rem. Fut.	/L/	ya-xa [xó‘lól-é]	‘he’ll cough’
	/Ø/	ya-xá [kórótf-é]	‘he’ll stir’
Rem. Fut. Neg.	/L/	si-ya-xa [bé‘tf-é] tá	‘he won’t shave’
	/Ø/	si-ya-xá [kón-é] tá	‘he won’t sleep’
Imm. Pst.	/L/	ya-xa [βú‘kúl-á]	‘he just took’
	/Ø/	ya-xá [káβúl-á]	‘he just separated’
Imm Pst. Neg.	/L/	si-ya-xa [bé‘k-á] tá	‘he didn’t just shave’
	/Ø/	si-ya-xá [βál-á] tá	‘he didn’t just count’
Pattern 7a			
Indef. Fut. Neg.	/L/	s-aa-li [púrúx-á] tá	‘he won’t fly’
	/Ø/	s-aa-li [βukúl-á] tá	‘he won’t take’
Hest. Perf. Neg.	/L/	si-y-aa [βoolóól-é] tá	‘he didn’t untie’
	/Ø/	si-y-aa [fúúyír-é] tá	‘he didn’t wash clothes’

5. Conclusion

Luyia melodies are numerous and complex. In the languages discussed here, we see great variation in positions targeted by H_{MS} at the left edge of the stem. These positions may require reference to moras only, e.g. $\mu 1$ or $\mu 2$; sometimes the syllable is the primary referent, e.g. (all moras of) $\sigma 3$; they may require reference to both the mora and syllable, e.g. $\mu 1$ of $\sigma 2$; sometimes the macrostem is involved, e.g. $\mu 1$ of the macrostem or $\mu 2$ after $\sigma 1$ of the macrostem. At the right edge of the stem, the FV is a common target of MHA. Melodies targeting the FV differ in whether they undergo leftward spreading or not. There may be multiple H_{MS} in a single context; usually one targets the left edge of the stem ($\mu 1$ or $\mu 2$), and the

other targets the FV. In languages with phrasal tonal alternations like Idakho, H_{MS} may or may not delete phrase-medially.

In languages with a lexical root tone contrast like Idakho and Wanga, there are often distinct patterns for toned vs. toneless verb classes. A common difference is that /Ø/ verbs realize the H_M at the left edge of the (macro)stem, while the H_M does not surface in the toned class. Elsewhere, we find H_{MS} in both root types, but the H_M is assigned by different rules (e.g. targeting μ_2 vs. the FV, μ_2 vs. σ_3). In Wanga, one MHA rule assigns H to μ_1 in /Ø/ verbs and to μ_1 of σ_2 in toned verbs, i.e. to the first mora of the leftmost stem syllable that lacks /H/. In a few contexts, the H_M neutralizes the contrast between toned and toneless roots, though the lexical contrast is usually revealed when an OP is present.

When a H_M is present, σ_1 often surfaces [L] in toned verb classes. In many cases, the root tone influences the H_M by limiting its leftward extent in the stem, preventing it from surfacing, and/or triggering a different MHA rule. In conservative languages, with tonally uninflected contexts, it is clear that toned roots are /H/ and that H deletes or lowers in the presence of H_M . In reversionary languages, whose contexts exhibit a H_M , it is often ambiguous whether root tones are /H/ or /L/. Where σ_1 is [L], it may be that the root /L/ surfaces without alternation, or that a root /H/ has been deleted or lowered. As we saw in Wanga, in cases where σ_1 is [H], it is unclear whether the [H] is attributed to a prefix, whose /H/ shifts or spreads to the right, or whether in fact a root /H/ surfaces.

Consideration of cross-Luyia melodic data reveals that both types of analyses are required for different languages. In Idakho forms with a H_M , root Hs fail to surface when there is no OP. Importantly, OP Hs are also lowered; the root H surfaces when an OP is present. Here, the simplest analysis involves IL, which removes the macrostem-initial H in the presence of H_M . Another conservative Luyia language, Tachoni, has RMR, which deletes a root H before a H_M , as well as PH, which shifts the H of an OP to σ_1 , as in (47).

(47) RMR and PH in Tachoni

H verb	β-li [βotooxán-án-íl-a]	‘they will go around for e.o.’
	β-li-xu [βótooxán-íl-a]	‘they will go around for us
Ø verb	β-li [sukúw-án-íl-a]	‘they will scrape for e.o.’
	β-li-tʃi [súkuw-án-íl-a]	‘they will scrape them ₁₀ for e.o.’

At present, it is unclear whether Wanga is more like Tachoni in having synchronic PH and diachronic RMR, rendering a root *H as /L/, or like Idakho in having synchronic IL with root /H/s. We expect that further investigation of Luyia melodic systems will clarify the synchronic properties of each system and the diachronic paths they have followed.

Abbreviations

Ø	toneless	Crast.	crastinal	Neg.	negative
H	high tone	Fut.	future	Patt.	pattern

L	low tone	Hab.	habitual	Perf.	perfective
H _M	melodic H	Hest.	hesternal	Pers.	persistive
OP	object prefix	Hod.	hodiernal	Pst.	past
sg.	singular	Imm.	immediate	Rec.	recent
pl.	plural	Imp.	imperative	Rem.	remote
Cond.	conditional	Indef.	indefinite	Subj.	subjunctive
Consec.	consecutive	Infin.	infinitive		

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