

Wanga noun tonology

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December 21, 2014

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1. **Abstract**

Wanga is a variety of Luyia: a Bantu macrolanguage of western Kenya. This document utilizes data from a questionnaire created by Dr. Michael Marlo and translated by Alfred Anangwe, a speaker of Wanga. Mr. Anangwe then recorded himself pronouncing these translations using high quality recording equipment. Those recordings were developed into the preliminary description of the Wanga noun tone system presented in this document. Nouns in Wanga fall into 11 different patterns. Two rules are identified in this document which affect the tonal pattern of nouns: High Tone Anticipation and High Tone Insertion. High Tone Anticipation spreads a high tone leftward onto the stem of the preceding word. High Tone Insertion is a phenomenon whereby certain modifiers, namely demonstratives, possessives and some quantifiers, insert a high tone on the final syllable of the preceding word.

2. Introduction

The Wanga [lwg] variety of the Bantu macrolanguage Luyia [luy] is spoken by approximately 300,000 individuals, primarily in the Butere-Mumias district in Kakamega County in western Kenya (Lewis et al, 2014). Like many of the world's languages, Wanga is underdocumented. The only existing documentation is a description of the verbal tone system in *Verb tone in Bantu languages: micro-typological patterns and research methods* (Ebarb et al, to appear). This thesis sets out to describe one aspect of the grammar of Wanga: the noun tonology system.

In this document I will describe tonal patterns within the Wanga noun phrase and offer a rule-based analysis. The data for this precursory investigation of Wanga noun tonology originated from an extensive questionnaire created by Dr. Michael Marlo which sought to probe into the structure of Wanga. This questionnaire, which was constructed using prior knowledge of the grammar systems of other Luyia languages, addressed both verbal and nominal aspects of Wanga grammar. The nominal component of this document featured a large number of nouns in isolation in addition to systematic combinations of nouns and modifiers. Though we did not have direct access to a speaker of Wanga, we were able to obtain the preliminary data utilized in this thesis by sending said questionnaire to a speaker in Nairobi, Kenya. He then translated the questionnaire into Wanga and recorded himself pronouncing each of his translations using high-quality recording equipment. These recordings were then transferred back to our United States-based team. Though there are some limitations in the current data (many examples need to be elicited), this report addresses general tonal patterns in Wanga noun phrases, providing future research endeavors with the tools for more directed exploration of the Wanga tonal system. The presentation of Wanga noun tonology in this paper constitutes a substantial first step towards understanding the Wanga tonal system and the grammar of Wanga as a whole.

Before delving into the particulars of Wanga noun tonology, I will describe some of the background grammar of Wanga, specifically tone in Wanga and the Wanga noun class system. Noun class is a lexical property of nouns in Wanga. Noun class is associated, nearly ubiquitously, with a noun class prefix. For example, the word **òmùsáálà**, meaning 'tree', consists of a noun class prefix, **òmù-**, which is affixed to the stem, **sáálà**. The noun class attached to a stem has an effect on the interpretation of the noun: this same stem (**sáálà**), combined with the noun class prefix **èmì-** yields **èmìsáálà** meaning 'trees'. Nominal modifiers agree with the noun class of the modified noun. Thus the prefix affixed to an adjective like **-láyì**, meaning 'good', changes as a reflection of the noun class of the modified noun. The prefix **òmù-** is affixed to this adjectival stem when it modifies 'tree' producing **òmùsáálà òmùláyì**. However, whenever this same adjectival stem is combined with a noun of a different noun class, for example **àmàhòòndò**, meaning 'pumpkins', the prefix is instead **àmà-**, yielding **àmàhóònd' ámaláyì**. Following the conventional Bantu system, noun classes are assigned numbers. In the above data, for instance, **òmùsáálà** is in noun class 3, **èmìsáálà**, the plural version, is in noun class 4 and **àmàhòòndò** is in noun class 6.

Tone is a contrastive feature in Wanga. The words **indà**, meaning 'stomach', and **í'ndá**, meaning 'louse' are segmentally identical (both are segmentally /inda/). These two words can only be discerned from each other by the tonal pattern associated with their vocalic segments (all L for 'stomach' but H followed by a downstepped H for 'louse'). Words in Wanga belong to distinct tonal classes or tonal patterns. In addition, the tonal properties of nouns in Wanga are

affected by post-nominal modifiers (by tonal insertion and spreading rules). These tonal patterns and modifier effects are the topic of this thesis.

3. Transcription conventions and abbreviations

In this document I adopt a hybrid of IPA and Wanga orthography for my transcriptions. (1) displays the correspondences between my transcriptions and the IPA transcription system. All other symbols follow standard IPA practice, e.g. <k> for the voiceless velar stop.

(1) Non-standard consonant transcription conventions

<kh>	[x]	<y>	[j]
<ch>	[tʃ]	<r>	[ɾ]
<ny>	[ɲ]	<j>	[dʒ]

There are only five phonemic vowels in Wanga [**a e i o u**], the transcription conventions for vowels are faithful to IPA convention. The vowel transcriptions herein differ from Wanga orthography in that they systematically reflect length and tone (features which certainly must be displayed in a paper on tonology). Long vowels are indicated as a sequence of two identical vowels. Tone is indicated using standard convention: an acute accent (é) indicates a high tone, a grave accent (è) indicates a phonetically low tone (which may be either Ø or L underlyingly) and the superscript downward pointing arrow (ˋ) indicates that the H that follows is downstepped.

When morphological boundaries are pertinent to the discussion they will be indicated with a hyphen (-). Boldface is used at different points throughout this document to accentuate specific segments of the data.

The abbreviation system used throughout the document is shown in (2).

(2) Abbreviations in document

NC	noun class
L	low (used in reference to tone)
Ø	toneless
dim.	diminutive
aug.	augmented
Cl. 1	noun class 1

4. Underlying nominal tone

In this section, I will describe the general tonal patterns that nouns fall into in Wanga. Data for each of these tonal patterns will consist of nouns in isolation. Additional data in which nouns are combined with phonetically L modifiers will also be displayed, provided such data exist. All known members of this set of modifiers, which has no effect on the tonal pattern of the noun, are displayed in 4.2.

4.1 Noun tone patterns

There are 11 tone patterns or tonal classes nouns belong to in Wanga.

4.1.1 All L

The class of all L nouns is the largest class in our current data. The members of this class surface as all L, however, they are all underlyingly toneless (this analytical distinction will be presented in section 5.1). The data in (3) display members of the all L class of varying stem shapes in both singular and plural forms.

(3) Phonetically all L nouns in isolation

Singular	Plural	
ìndà	tsìndà	‘stomach’
ìsì	tsìsì	‘fly’
òmùkòyè	èmìkòyè	‘rope’
òmùsùkù	àβàsùkù	‘enemy’
lìkòshè	àmàkòshè	‘ash’
òmùkùùndà	èmìkùùndà	‘farm’
lìhòòndò	àmàhòòndò	‘pumpkin’
lìkhùùkhùùni	àmàkhùùkhùùni	‘amoeba’
èshìlòlèrò	èfilòlèrò	‘mirror, sign’
ìtálànyì	tsìtálànyì	‘lion’
òmùsààngùlà	èmìsààngùlà	‘species of fruit tree’

Members of the class of all L nouns are combined with the numeral ‘one’, **-làlà**, in (4). This numeral is translated into English as ‘some’ when used to modify a plural noun.

(4)	All L noun with phonetically L-toned numeral		
	‘N’	‘one N’	
	òmùùndù	òmùùndù mùlàlà	‘person’
	lìhòòndò	lìhòòndò èlàlà	‘pumpkin’
	lìkhùùkhùùmì	lìkhùùkhùùmì èlàlà	‘amoeba’
	òmùsùkù	òmùsùkù mùlàlà	‘enemy’
	òmùkhààyè	òmùkhààyè mùlàlà	‘wife’
	èshìlòlèrò	èshìlòlèrò shìlàlà	‘mirror’

4.1.2 Stem initial H

Stem initial H nouns have a H on the first mora of the stem and are phonetically L-toned on all other moras. Stem initial H nouns are displayed in (5) below. The monosyllabic stems in this class, like **òlùkhwí** (‘firewood’) and **èshìrwí** (‘ear’) are somewhat arbitrarily in this category rather than the final H category described in 4.1.3: the stem initial and word final moras are the same for these nouns.

(5)	Stem initial H nouns in isolation		
	Singular	Plural	
	òβù-úsì	òlù-úsì	‘thread’
	òlù-khwí ¹	tsììkhwí	‘firewood’
	èshì-rwí	àmàrwí	‘ear’
	lì-pátà	àmàpátà	‘duck’
	ì-nzúkà	tsì-nzúkà	‘snake’
	ì-mbúsì	tsì-mbúsì	‘goat’
	àmà-átsì		‘water’ ²
	òmù-úyà	èmyù-úyà	‘air’
	òβù-úshì		‘honey’
	òmù-nyólòlò	èmì-nyólòlò	‘chain’

Stem-initial H nouns combined with the L-toned numeral ‘one’ are displayed in (6).

¹ H tones in phrase final position often undergo a phonetic fall without lengthening the vowel. For nouns, this fall is lost when the word is followed by a modifier as ‘some firewood’ and ‘one piece of firewood’ in (6) show.

² Many mass nouns like ‘water’ and ‘honey’ only have singular forms. Despite this the numeral ‘one’ translates into English as ‘some’ when modifying a mass noun, much like plurals.

(6)	Noun with stem-initial H modified by phonetically L-toned numeral		
	‘N’	‘one N’	
	òlù-khwí	òlùkhwí lùlàlà	‘firewood (sg.)’
	tsìi-khwí	tsìikhwí tsìndàlà	‘firewood (pl.)’
	òlù-límì	òlùlímì lùlàlà	‘tongue’
	èshì-kápò	èshìkápò shìlàlà	‘basket’
	òβù-úshì	òβùúshì βùlàlà	‘honey’

4.1.3 Final H

The final H class is characterized as having a H on the final mora of the noun and phonetically L-toned on all other syllables. As mentioned above, monosyllabic stems are, somewhat arbitrarily, not considered members of this class. Members of the final H class are in isolation in (7).

(7)	Word final H nouns in isolation		
	Singular	Plural	
	pààpá	βàpààpá	‘father’
	ìpùùsì	tsìpùùsì	‘cat’
	ìngùrwê	tsìngùrwê	‘pig’
	mámà ³	βàmàmá	‘mother’

The data in (8) consist of the only example of a member of this class combined with the phonetically L-toned numeral ‘one’.

(8)	Noun with word final H modified by phonetically L-toned numeral		
	‘N’	‘one N’	
	βàmàmá	βàmàmá βàlàlà	‘mothers’

4.1.4 All H

The all H class has a level H stretching across the entire word. This class may be thought of as a kind of extension of the final H class discussed in 4.1.3 except that the H stretches across the whole word⁴. Data displaying members of the all H class of nouns in isolation is in (9).

(9)	All H nouns in isolation		
	Singular	Plural	
	ómúnwâ	émínwâ	‘mouth’
	ífwâ	tsífwâ	‘species of leafy vegetable’

³ The singular and plural forms of ‘mother’ do not follow the same pattern. The singular form appears to have a stem initial H instead of a word final H as the plural does. This difference in tonal pattern across noun classes is addressed in 7.

⁴ This is only true if one assumes that the H is starting out at the leftmost edge of the span and then spreading leftward. This assumption has some credence given that leftward spreading is a type of tonal spreading already attested in the context of noun with high toned modifier (see 5).

The data in (10) contain the only member of this class for which the combination of noun and ‘one’ (**ndàlà**) exist. No examples of **índábá** (‘tobacco’) in isolation are provided in (9) or (10) as this represents a gap in our recorded data.

- (10) All H noun modified by phonetically L-toned numeral
‘one N’
índábá ndàlà ‘tobacco’

4.1.5. Penultimate H, Final Ø

The bare penultimate H, final Ø nouns in (11) surface identical to the bare penultimate H, final L nouns in (13). All members of this class have CVVCV stem shapes (e.g. a stem shape with two syllables in which the first syllable is long and the second short).

- (11) Penultimate H, Final Ø nouns in isolation
- | Singular | Plural | |
|------------------------------|------------------|------------|
| lǐ’yíínjì⁵ | àmàyíínjì | ‘argument’ |
| lìyèémbè | màyèémbè | ‘mango’ |

There are currently no data in which members of this class are combined with a L-toned modifier.

There are only two nouns above because these are the only nouns which surface with only a penultimate H but undergo HTA. The nouns below also surface with this pattern but since there are no examples of these nouns in an environment where HTA can occur, it is unknown whether they belong to this class or to the class described in 4.1.6.

- (12) Surface penultimate H nouns
- | Singular | Plural | |
|-----------------|--------------------|-----------|
| ìràáŋgì | tsìràáŋgì | ‘color’ |
| ìpàákì | tsìpàákì | ‘bag’ |
| | tsìsèéndè | ‘money’ |
| lùpàáŋgà | tsí’mbááŋgà | ‘machete’ |

4.1.6 Penultimate H, Final L

Members of the penultimate H, final L class are characterized as surfacing with a H on the second mora from the end of the word and being unaffected by HTA. Notice that all current members of the penultimate H, final L class, like members of the penultimate H, final L class have a CVVCV stem shape. Whether this stem syllable shape pattern is true of all members of the penultimate H class is a question further research will seek to address. (13) displays penultimate H, final L nouns in isolation.

⁵ The rising tone on the noun class prefix on this example is a phenomenon that will be explained in 7

(13) Penultimate H nouns in isolation		
Singular	Plural	
òmùsàálà	èmìsàálà	‘tree’
lìtùúndà	màtùúndà	‘fruit’
ìsìmbà	tsìsìmbà	‘lion’
shìkòómbè	fìkòómbè	‘cup’

Members of this class modified by the L-toned numeral ‘one’ are displayed in (14).

(14) Penultimate H nouns modified by phonetically L-toned numeral		
‘N’	‘one N’	
òmùsàálà	òmùsàálà mùlàlà	‘tree’
lìtùúndà	lìtùúnd’ èlàlà	‘fruit’
shìkòómbè	shìkòómbè shìlàlà	‘cup’

All members of this class for which data in which HTA would be predicted to occur (see 5) do not display HTA in these contexts. Thus this category is described as Penultimate H, Final L. The adjective ‘good’ (-láyì) causes HTA in most nouns which surface with a final L in isolation. However, the members of this class are unaffected by this adjective and instead surface identical to their bare noun forms.

(15) No HTA in penultimate H, final L nouns			
òmùsàálà	‘tree’	òmùsàálà òmùláyì	‘a good tree’
lìtùúndà	‘fruit’	lìtùúndà línùlù	‘a sweet fruit’
ìsìmbà	‘lion’	ìsìmbà ìndítì	‘a small lion’
shìkòómbè	‘cup’	shìkòómbè shìláy èshìlàlà	‘one good cup’

Penultimate H, final L nouns are distinct from penultimate H, final Ø nouns because as (15) shows HTA does not affect penultimate H, final L nouns but does affect penultimate H, final Ø nouns.

(16) HTA in penultimate H, final Ø nouns			
àmàyìnjì	‘argument’	àmàyìí’njí ámaláyì	‘a good argument’
lìyèémbè	‘mango’	lìéé ⁺ mbé líláyì	‘a good mango’

Though the members of both of these classes surface the same in isolation, the fact that HTA applies differently to these classes indicates that they are distinct classes. The distinct nature of these two classes motivates the analysis of /L/ as an underlying tone. Both toneless and L moras surface the same in isolation but the association of an /L/ with a mora prevents a H from being associated with this mora. Hence HTA is blocked when a /L/ is associated with a mora.

4.1.7 H on noun class prefix

The H on noun class prefix nouns have a H on the mora closest to the stem. (17) contains the members of this class whose noun class prefixes contain two moras.

(17) Nouns with H on second mora of NC prefix

Singular	Plural	
lǐí-wà	àmá-wà	‘flower/ thorn’
lǐí-swì	àmá-swì	‘hair’
èlí-ínò	àmé-énò	‘tooth’
lǐí-kùnìà	àmá-kùnìà	‘gunny sack’
lǐí-pàkà	àmà-pàkà	‘cat’
òmú-kòòṅgò	èmí-kòòṅgò	‘back’
sèèfwè	àḃá-sèèfwè	‘revered father’

The single example in our dataset which has a noun class prefix with only one mora is shown in (18).

(18) Nouns with H on initial mora of NC prefix

Singular	Plural	
í-mbàkhà	tsí-mbàkhà	‘joke’

The fact that the tone surfaces on both the singular and plural noun class prefixes indicates that this is not an underlying property of the noun class prefix itself. The data in (19) show one of the members of this tonal pattern in the in-locative noun class (class 18). The tonal pattern remains the same even as the stem is associated with different noun classes.

(19) Nouns with H on stem-adjacent mora of NC prefix

Singular	Plural	
mùlí-swì	mùmá-swì	‘in hair’ (class 18)

The analysis of both (17) and (18) as having a H on the mora closest to the noun stem leaves room for several possible processes by which this H is associated with a syllable on the noun class prefix: this class’s tonal pattern may have an underlying floating H preceding the stem or this tone may move from a position on the noun stem to the noun class prefix.

No recorded data currently exist in which a member of this class was combined with a surface L-toned modifier like ‘one’.

4.1.8 Stem peninitial H, final H

The current sole member of the stem peninitial H, final H class is shown in isolation in (20).

(20)	Stem peninitial H, final H noun in isolation		
	Singular	Plural	
	sàmwáàná	βà-sàmwáàná	‘father’

There are currently no data in which this noun is combined with a surface L-toned modifier like ‘one’.

4.1.9 Stem initial H, final H

The stem initial H, final H class is actually of considerable size relative to the sample of Wanga nouns from which our data drew. Various members of this class are displayed in (21) in isolation.

(21)	Stem initial H, final H nouns in isolation		
	Singular	Plural	
	èly-áàró	àm-áàró	‘boat’
	èly-úùlú ⁶	àm-óòlú	‘nose’
	lìi-ráàngó	àmà-ráàngó	‘thigh’
	òmù-syáàní	àβà-syáàní	‘boy/boyfriend’

4.1.10 H on noun class prefix, final H

Members of this tonal class are displayed in isolation in (22).

(22)	H on noun class, final H nouns in isolation		
	Singular	Plural	
	lìi-tùùmá	àmá-tùùmá	‘corn grain, corn plant’
	àkhá-àná	órwá-àná	‘child (dim)’
	òmú-tòkâ		‘car’
	òmú- ⁺ tô	èní- ⁺ tô	‘mattress’
	í- ⁺ ndá	tsíí ⁺ ndá	‘louse’

In addition to these nouns in which each H span has only one mora, there are two members which have the same stem initial H, final H pattern but have H’s with a span greater than one mora. In the word for ‘chicken’, the final H is associated with two moras.

⁶ Examples like this may be problematic as the H which is indicated on the initial syllable of the stem may actually be members of the H on NC prefix, final H class in 4.1.10. The [y] is likely derived from the /i/ which normally accompanies class 5 nouns (compare to èlí-ínò (‘fish’)) using a glide formation rule. If this is the case, a new rule could be formulated in which the tone, which would normally associate with the /i/, is associated with the adjacent /a/.

(23)	H on noun class, final H nouns with 2 mora H spans in isolation		
	Singular	Plural	
	í- ⁺ ŋgók ^{hó}	tsí-ŋg ⁺ ók ^{hó}	‘chicken’
	èlíí- ⁺ ná	àméé- ⁺ ná	‘hole’

Currently, I am considering these as subclass of the stem initial H, final H class due to this shared pattern. However, the cause of these longer high spans has yet to be determined and their classification may change after further exploration of tonal phenomenon.

4.1.11 H on noun class prefix, penultimate H

Members of the H on noun class prefix, penultimate H tonal class are displayed in (24) below. In all members of this class, the penultimate H spans across a long syllable, encompassing two moras.

(24)	H on noun class prefix, penultimate H nouns in isolation		
	Singular	Plural	
	í- ⁺ nyúúŋgù	tsí- ⁺ nyúúŋgù	‘pot’
	líí- ⁺ sháátì	àmá- ⁺ sháátì	‘shirt’
	òmú- ⁺ fúúkò	èmí- ⁺ fúúkò	‘bag’
	òmú- ⁺ yááyì	àbá- ⁺ yááyì	‘boy’
	òmú- ⁺ sííkò	èmí- ⁺ sííkò	‘bag’

4.2 Additional phonetically L modifiers

The data in 1 involved the low-toned adjective ‘one’. However, several other adjectives in our data on Wanga are also toneless. Like ‘one’, these other modifiers have no effect on the tonal pattern of the noun. The noun surfaces the same when modified by these adjectives as it does in isolation.

(25)	Other low-toned adjectival modifiers		
	‘N’	N + /L/ Adj	
	àmàβéèrè	àmàβéèr’ àmàyù	‘hot/cooked milk’
	àmàβéèrè	àmàβéèr’ kàyìrè	‘hot/cooked milk’
	àmàβéèrè	àmàβéèr’ kàβòyèrè	‘sour milk’
	lìyèémbè	lìyèémbè lìlùlù	‘a sour mango’
	ìndà	ìndà ìkhòngò	‘a big stomach’
	àβààndù	àβààndù βàné	‘four people’

5. High Tone Anticipation

When a noun is preceded by an adjective with a high tone, the H on the adjective spreads leftward onto the noun. This leftward spreading is High Tone Anticipation (HTA). In (26) the H which is spreading under HTA is underlined. The bare noun is shown before of each example of High Tone Anticipation for comparison.

(26) High tone anticipation in toneless nouns

àmà-yòni	‘bird’	àmà-yóní	káβiri	‘two birds’
ì-tàlàni	‘lion’	ì-tálání	índítì	‘a small lion’
àkhà-chìná	‘stone (dim)’	àkhà-chíná	khátítì	‘a small stone (dim.)’
òβù-syè	‘flour’	òβù-syé	óβúláyì	‘good flour’
òmùùndù	‘man’	òmùúndú	ómúsáàtsà	‘a good man’
lìikhùkhùùnì	‘amoeba’	lìikhúkúúní	lííláyì	‘a good amoeba’
lìihòòndò	‘pumpkin’	lìihóóndó	lííláyì	‘a good pumpkin’
tsiisì	‘flies’	tsíísí	tsíí ⁺ ngálí	‘big flies’

In addition to all toneless nouns, other nouns with word final Ø’s undergo HTA. The H spreads until it reaches a mora that has been associated with a different H. This is phonetically realized as a downstep after the end of the first H.

(27) High tone anticipation in word final Ø nouns

àmàyìnjì	‘argument’	àmàyì ⁺ njí	ámáláyì	‘a good argument’
lìyèémbè	‘mango’	lìéé ⁺ mbé	lííláyì	‘a good mango’
lìiswì	‘hair’	lìi ⁺ swì	lííláyì	‘a good hair’
èlíínò	‘tooth’	èlíi ⁺ nó	lííláyì	‘a good tooth’
òmúkòòngò	‘back’	òmú ⁺ kóòng	ómúkáli	‘a big back’

5.1. Restrictions on HTA

While High Tone Anticipation does occur in many noun phrases in Wanga, there are restrictions on how far HTA causes the H to spread and whether or not HTA occurs at all. HTA only occurs if the H will be associated with a mora in the stem of the preceding word. Thus H does not spread onto phrase initial prefixes, as there is no preceding stem that the H will be linked with. In addition, H will only spread through non-phrase initial prefixes if the H is able to link to a mora in the stem of the preceding word.

5.1.1. Extent of H spreading

The leftward extent of HTA is limited by the nominal stem. That is, H tones do not spread onto the noun’s class prefixes. The tones in bold are low despite the high tone which has spread to the position immediately to their right.

(28) Lack of HTA on phrase-initial noun class prefix

àmà-hóònd’	ámá-máli	‘black pumpkins’
òmù-únd’	ómú-βíí	‘bad people’
òmù-únd’	ómú-sírò	‘a stupid person’

The noun class agreement prefixes on the adjectives providing the H are not always part of the adjective’s H-span, however. These prefixes surface as H only if the H continues to spread onto

the stem of the preceding word. In isolation, the noun class agreement prefixes on pronominalized adjectives do not surface H.

(29)	Pronominalized adjectives and adjectival modifiers		
	Adj	N + Adj	
	àmà-máli	àmà-hóond' áamá-máli	'black pumpkins'
	òmù-βî	òmù-únd' ómù-βî	'bad people'
	èly-áṅgù	lîí-chín' ély-áṅgù	'a lightweight stone'
	òmù-sírò	òmù-únd' ómù-sírò	'a stupid person'

Indeed, noun class prefixes function no differently from noun class agreement prefixes in this regard. The datum in (30) displays a noun phrase with a fronted demonstrative. The H is able to spread through the noun class prefixes because it is able to spread onto the stem of the toneless demonstrative.

(30)	H spreading through NC prefix		
	lîí-yéémbè	'mango'	éró lîí-yéémbè
			'that mango'

5.1.2. Final L nouns

In addition to HTA not affecting the noun class prefix, HTA does not affect certain words. This suggests an underlying distinction between \emptyset and L tones. Those nouns which do not allow tonal spreading are underlyingly L. If the noun being modified ends with a L (instead of \emptyset), the high tone on the adjective is unable to spread onto the noun's stem and thus HTA does not occur. In the data below the vowel which, under this analysis, has an underlying L instead of \emptyset is in bold.

(31)	No HTA for words ending in L	
	òmùsáálà òmùláyì	'a good tree'
	lîitùúndà lîínùlù	'a sweet fruit'
	ìsìimbà ìndítì	'a small lion'
	shìkòómbè shíláy èshìlálà	'one good cup'

The noun class prefix of the high toned adjective does not become high, despite the fact that these syllables are not phrase initial because the final L prevents the H from spreading onto the stem of the preceding word. The data in (31) are reiterated below with the noun class agreement prefixes which do not surface H underlined.

(32)	No HTA for words ending in L	
	Phrase without HTA	Gloss
	òmùsáálà òmùláyì	'a good tree'
	lîitùúndà <u>lîínùlù</u>	'a sweet fruit'
	ìsìimbà <u>ìndítì</u>	'a small lion'

6. High Tone Insertion (HTI)

Various nominal modifiers insert a high tone on the final syllable of another word in the noun phrase, including demonstratives, possessives, and some quantifiers. This H then undergoes HTA (see 5) if possible. I will first examine each of the modifiers that insert a H and then examine the position in the noun phrase said H is inserted.

6.1. Modifiers causing H insertion

As shown below, proximal (33), distal (34) and remote (35) demonstratives insert a H onto the final syllable of the preceding word. Modifiers which motivate HTI need not surface with any H tones on the modifier itself. The demonstratives below exemplify this fact.

(33) H insertion by proximal demonstratives

N	N + Dem	
lìyèémbè	lìyèémb'è linò	'this mango'
èshìlòlèrò	èshìlòléró shìnò	'this mirror'
ìndà	ìndá ìnò	'this stomach'
àmàhòndò	àmàhóóndó kàndò	'these pumpkins'

(34) H insertion by distal demonstratives

N	N + Dem	
ìṅòòmbè	ìṅóómbé èyò	'that cow'
ìtálàṅì	ìtáláṅí èyò	'that lion'
èmìkòyè	èmíkéyè echyò	'those ropes'

(35) H insertion by remote demonstratives

N	N + Dem	
mwiìkùlù	mwiíkúlú mùlyà	'that (far) sky'
òrwààṅà	òrwàá'ná rùlyà	'those (far) children'
òmùùndù	òmùúndú ùlyà	'that (far) person'

Possessive pronouns also insert a H onto the final syllable of the preceding noun, which subsequently spreads by HTA.

(36) H insertion by possessive pronouns

N	N + Poss	
òmùsùùkù	òmùsùúkú' wánjè	'my enemy'
àmàhòndò	àmàhóóndó kòkò	'your pumpkins'
èshìlòlèrò	èshìlòléró shyèfwèè	'our mirror'
èmìkòyè	èmìkóyé' chéè	'his ropes'

The 2nd person plural and 3rd person plural possessive pronouns are not displayed in the table above. One would expect these to also insert a H. However, there are currently no data where this phenomenon can be observed for these pronouns and indeed no contexts in which the HTI rule

would predict insertion would happen: the only words which are combined with these possessive pronouns end in a H already and thus the HTI rule has no effect.

In addition, constructions involving the associative also trigger H insertion on this final syllable. Note that the three possessors used below have different tonal properties but still cause H insertion.

(37) H insertion by possessive phrases

N	N + NP Possessor	
òmùsùkù	òmùsúkú ⁺ wáà βààndù	‘the enemy of the people’
lìhòndò	lìhóondó ⁺ lyáà bààmamá	‘the mothers’ pumpkin’
ìpènì	ìpénì yà bùlù	‘blue fish’

Below are nouns modified by the quantifier ‘another’. This quantifier inserts a H onto the final syllable of the preceding word.

(38) H insertion by ‘another’

N	N + ‘other’	
òmùsùkù	òmùsúkú wùndí	‘another enemy’
àβààndù	àβàándú βàní	‘other people’
lìswì	lì ⁺ swì lùndí	‘other hair’
ìpàṅà	ìpàṅá yìndí	‘another day’

6.2. Position of inserted H

The data in (39) below show that this high tone is inserted onto the syllable immediately preceding the modifier which triggers the high tone insertion, regardless of whether this syllable is part of the modified noun. The tones that are inserted are in bold while the modifier which causes the insertion is in italics.

(39) Tonal insertion with multiple modifiers

èfí-káp ⁺	éffí-láy ⁺ í	fò	‘those good baskets [short]’	
lì-khúkúhúúní	lí-lá ⁺ yí	élálá	lì-lyê	‘his one good amoeba’
ìn-zú ⁺	íngálí	yò	‘that big house [short]’	
ìn-zú	ìngàlì	èyò	‘that big house [long]’	

Finally, when there is no syllable preceding a HTI inducing modifier, when the modifier is phrase initial, HTI does not occur. In the example below the alternation between the bare noun and the noun modified by ‘that’ is simply due to the HTA rule outlined in 5.

(40) Fronted H-inserting modifier

éró	lí-yéémbè	‘that mango’
	lì-yèémbè	

7. Tonal alternation across noun classes

In general, words which have the same nominal root share the same tonal pattern across noun classes.

(41) Shared tonal pattern across noun classes

sg	pl	cl. 20	cl. 13	cl. 18	Gloss
ìtálàṅ̀nì	tsìtálàṅ̀nì	kùtálànyì	àkhàtálàṅ̀nì	mùtálàṅ̀nì	‘lion’
ìmbwá	tsìmbwá	òkùbwá	àkhàbwá	mùmbwá	‘dog’
òmú+’fúúkò	èní+’fúúkò	òkú+’fúúkò			‘bag’

However, some nouns exhibit differences between their singular and plural forms. There are two types of nouns like this: familial terms and nouns in class 5 and 10.

Kinship terms do not have a noun class prefix in their singular forms but have a Cl 2 noun class prefix on their plural forms. The kinship terms which have plural and singular forms with different tonal patterns are shown in (42) below. These family terms vary quite a lot and are likely due to different underlying tonal patterns in the plural and singular noun classes.

(42) Kinship terms with different tonal shapes across noun classes

Cl. 1a	Cl. 2	
nyínáà	ḃànyìnà	‘mother’
màámà	ḃàmàámá	‘mother’
páápà ~pààpá	ḃàpàpá	‘father’
sèèfwè	àḃásèèfwè	‘revered father’

Cl. 5 and Cl. 10 nouns have a tonal pattern that is distinct from the pattern their stems display in other noun classes. Instead the distinction between the two forms can be explained if a H is added to the noun class prefix in these classes.

(43) Class 5 irregular tonal patterns

Cl. 5	Cl. 6	
lìpàkà	àmàpákà	‘cat’
lì+’yíínjì	àmàyíínjì	‘argument’
lì+’sááfù	àmàsááfù	‘leaf’
lìḃyáá+’kálá	àmàḃyáá+’kálá	‘lizard’

(44) Class 10 irregular tonal patterns

sg (Cl. 9/11)	pl (cl. 10)	
lùpàáṅ̀gà	tsí+’mbááṅ̀gà	‘machete’
òlùsàáà	tsí+’sááà	‘stick’
íjáánzà	tsí+’jáánzà	‘lake’

This analysis gains further support given that some pronominalized adjectives show similar tonal alternations in their class 5 and class 10 forms.

- (45) Class 5 pronominalized adjective irregular tonal patterns
- | | | |
|---------|--------|------------|
| Cl. 5 | Cl. 6 | |
| lǐ́+káì | àmàkáì | ‘big ones’ |
- (46) Class 10 pronominalized adjective irregular tonal patterns
- | | | |
|--------|----------|------------|
| Cl. 11 | Cl. 10 | |
| òlùkáì | tsíí’ǵáì | ‘big ones’ |

However, not all class 5 and class 10 words exhibit this inserted tone. Below are some examples of nouns that do not display these tonal insertions.

- (47) Class 10 regular tonal patterns
- | | | |
|---------|----------|----------|
| Cl. 11 | Cl. 10 | |
| òlùβùβì | tsììβùβì | ‘spider’ |
| òlùlímì | tsììnímì | ‘tongue’ |
- (48) Class 5 regular tonal patterns
- | | | |
|------------|-------------|------------|
| Cl. 5 | Cl. 6 | |
| lìyònì | àmàyònì | ‘bird’ |
| lìkòshè | àmàkòshè | ‘ash’ |
| lìkòsì | àmàkòsì | ‘neck’ |
| lìkùlù | àmàkùlù | ‘sky’ |
| lìchìnà | àmàchìnà | ‘stone’ |
| lìtùúndà | màtùúndà | ‘fruit’ |
| lìyèémbè | màyèémbè | ‘mango’ |
| lìyìngàndò | àmàyìngàndò | ‘argument’ |
| lìchùùngù | àmàchùùngù | ‘rat’ |

Notably, many of these with regular class 5 and class 10 forms are all L.

The members of the H on NCP, penultimate H class (see 4.1.11) in Cl. 5 or Cl. 10 surface the same in other noun classes. **tsí’nyúúngù** (‘pots’) has the same tonal pattern in its Cl. 10 form as it does in its Cl. 11 form (which is used to express the singular). **lǐí-’sháátì** (‘shirt’) has the same tonal pattern in its Cl. 5 form as it does in its Cl. 6 form (which expresses the plural).

- (49) H on noun class prefix, penultimate H nouns in isolation
- | | | |
|-------------|--------------|---------|
| Singular | Plural | |
| í’-nyúúngù | tsí-’nyúúngù | ‘pot’ |
| lǐí-’sháátì | àmá-’sháátì | ‘shirt’ |

8. Conclusion

Wanga is a language spoken in western Kenya in the Mumias-Butere district of Kakamega county (Lewis et al, 2014). This language is part of the Luyia cluster of languages. Our data were collected at a distance from a speaker in Nairobi, Kenya who translated a lengthy questionnaire prepared by Dr. Michael Marlo. He then recorded himself pronouncing these translations. Wanga is a tonal language. Noun phrase tonology in Wanga is the subject of this report. Nouns in Wanga fall into 11 general tonal classes. In addition, nominal modifiers in the noun phrase have effects on the tone of other elements in the noun phrase. Herein I identify two of these effects: High Tone Anticipation and High Tone Insertion. High Tone Anticipation spreads a H leftward by associating the H with \emptyset moras. However, HTA only occurs if the H is able to spread onto the stem of the preceding word. High Tone Insertion is a phenomenon in which demonstratives, possessives and some quantifiers insert a H onto the final syllable of the preceding word. This inserted H then undergoes HTA if possible. The questionnaire used to collect the data used in this report was informed by background knowledge of other tonal phenomenon that occur in Luyia languages. However, with this general data more specific questions about the nature of Wanga noun tonology have emerged. Future research endeavors in Wanga noun tonology should verify that the general tonal classes and phenomenon presented herein hold true for a larger set of Wanga nouns and noun, modifier combinations.

9. References

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