

THE HIGH TONE ANTICIPATION RULE IN THE LWISUKHA DIALECT OF LUYIA

Sussy Khaadi Nandama, Jane A. N. Oduor, and P. I. Iribemwangi

This paper describes the high tone anticipation rule in the Lwisukha dialect of Luyia, a Bantu language of Kenya. This rule involves the right-to-left spread of a high tone from post-modifying adjectives to toneless syllables of the noun. The data described in the paper consist of 35 noun phrases which were uttered by twelve respondents. Each utterance was analysed for pitch and tone, within the framework of the Autosegmental Phonology Theory (APT). The results show that the high tone anticipation rule is triggered when a noun is followed by an adjective, descriptive or numeral, containing a high tone. In the case of descriptive adjectives, the high tone that spreads leftwards is that of the initial syllable of the stem, while in the case of numeral adjectives it is that of the first syllable of the adjective concerned. In either case, the spreading high tone spreads to all the low toned syllables of the noun that are underlyingly toneless. However, in some utterances, when a noun with a high tone (H) and a low tone (L) is followed by an adjective that has a high tone, the rule is not triggered. Nouns with a surface low tone that allows HTA are analysed as being underlyingly toneless while those with a surface low tone that blocks spreading are analysed as having a low tone at the underlying level. The paper shows that the difference between a noun with a low tone and one with a toneless syllable is not realised on the surface. When the adjectives have a low tone on all the syllables, obviously no high tone anticipation is expected.

Key words: High-tone anticipation rule, noun phrases, postmodifying entity, postmodified entity, tier

LIST OF ABBREVIATIONS

APT	Autosegmental phonological theory
H	High
(H ⁺ H)	A high tone and a downstepped high tone
HL	Falling tone
(HL)	A high and low tone merged
(HØ)	A high and toneless syllable merged
HTA	High tone anticipation
L	Low tone
OCP	Obligatory contour principle

LIST OF SYMBOLS

ˈ	High tone
ˌ	Low tone
ˆ	Falling tone
↓	Downstepped tone
-	Morpheme boundary
∅	Toneless syllable
⊥	Delinking
⋮	Reassociation

1. INTRODUCTION

The notion of *high tone anticipation* applies to a case where a high tone of a postmodifying entity is anticipated, and, hence, placed on the preceding toneless syllables of the postmodified entity. In the present case the postmodifying entity is the adjective (whether descriptive or numeral), while the postmodified entity is the noun. Ebarb et al. (2015: 5), discussing “Luyia tone” in general, point out that “high tone anticipation (HTA) spreads the high tone on an adjective onto preceding toneless syllables. Syllables with a high tone or a low tone block high

tone anticipation”. Examples (1) and (2) from Lwisukha, the dialect under study, illustrate this.

(1) m̀ù-nd̀ù ‘person’ mú-nd̀ù mú-tʃéǎ ‘a clever person’

Example (1) illustrates high tone anticipation found in the descriptive adjective /-tʃéǎ/ (‘clever’), which postmodifies the noun /m̀ù-nd̀ù/ (‘person’). The anticipated tone on the syllable [tʃé] replaces all the low tones to its left, that is that of the prefix /m̀ù/ in the adjective itself and those on the two syllables of the noun /m̀ù-nd̀ù/. This means that both the adjectival prefix and the noun /m̀ù-nd̀ù/ have a low tone uttered in isolation. Therefore, on the surface the prefix of the adjective and the noun have a low tone, but they are underlyingly toneless.

(2) mú-háànda ‘road’ mú-háànda mú-léǎ ‘a good road’

Example (2) illustrates the blocking of the high tone in the descriptive adjective /- léǎ/ ‘good’ postmodifying a noun in Lwisukha. The high tone on the syllable [lé] of the adjective does not spread leftwards to the noun because the final syllable of the noun has a low tone. This means that the final syllable of the noun has a low tone on the surface and underlyingly. Remember as explained earlier in the introduction a low tone blocks HTA. A high tone only spreads leftwards to toneless syllables.

According to Kisseberth and Odden (2003) and Marlo and Odden (2019), the leftward spreading of a high tone is rare in Bantu languages. Most Bantu languages have only a rightward spreading of a high tone. Example (3) shows the rightward spread of a high tone. The high tone spreads one mora to the right as shown below:

(3) a) x́ú-límà ‘to cultivate’
b) x́ú-rúm̀ùlà ‘to beat’
c) x́ú-xálàkà ‘to cut’

Leftward spreading has to do with a high tone avoiding the final position or spreading into the penult from the final position. Yip (2002:8) says that leftward

spread sounds like "peak delay" in the sense that there is a crescendo (gradual rise in pitch up to the pitch peak). To date no systematic study of the tonal rules in the Lwisukha dialect has been done¹, even though these rules contribute greatly to the grammatical structure of tone languages. High tone anticipation is an assimilation process; its function is to ease articulation on the part of the speaker. This paper aims to fill this gap by illustrating how the high tone anticipation rule works across nouns with different tone patterns: toneless nouns (hereafter referred to as "Ø nouns") and nouns with a high tone and a final syllable that is toneless (hereafter referred to as "HØ nouns").

It should be noted that, there are three instances when the tone-anticipation does not apply. a) nouns with a high tone and a low tone on the final syllable (HL) are followed by adjectives (descriptive) that have a high tone (e.g. /ʃí-kóðmbè ʃí-léjì/ ('a good cup'), b) nouns followed by (descriptive) adjectives that have a low tone on all the syllables, (e.g. /mùù-ndù mù-ńtòhò/ ('a heavy person'), c) nouns followed by (numeral) adjectives that have a low tone on all the syllables (e.g. /ʃí-βújì ʃí-làlà/ ('one jerry can').

2. HIGH TONE ANTICIPATION IN NOUNS POSTMODIFIED BY ADJECTIVES CARRYING A HIGH TONE

Descriptive adjectives such as /-léjì/ ('good'), /-ŋgáí/ ('big'), /-láβù/ ('light skinned') and /-múťì/ ('red') postmodify nouns in Lwisukha. So, they spread the high tone leftwards to the nouns.

2.1 High tone anticipation in toneless nouns postmodified by adjectives carrying a high tone

This section discusses nouns which are pronounced with a low tone in isolation on all their syllables, but which take on a high tone on all their syllables once they are postmodified by adjectives carrying a high tone. In the noun phrase in

¹However, studies have been done on high tone anticipation rules in other Luyia dialects: Paster and Kim (2011) on Lutiriki, Marlo and Steimel (2015) on Luwanga, and Everhart et al. (2015) on Lubukusu.

Example (1) /múú-ndú mú-tʃéǎ/ ('a clever person') there is high tone anticipation because the high tone on the stem-initial syllable of the adjective spreads leftwards to the toneless syllable of the adjective prefix and continues to the toneless syllables of the nouns.

(4) High tone anticipation in Ø nouns postmodified by adjectives carrying a high tone

Ø nouns	Gloss	N + /H/ adjective	Gloss
a) ǎ-hòndò	'pumpkin'	ǎ-hóndó ǎ-léǎ	'a good pumpkin'
b) ǎ-ndà	'stomach'	ǎ-ndá ǎ-ǎǎǎ	'a big stomach'
c) mùù-ndù	'person'	múú-ndú mú-láǎù	'a light skinned person'
d) ǎ-ǎdòmbè	'cow'	ǎ-ǎómbé ǎ-mútǎ	'a red cow'

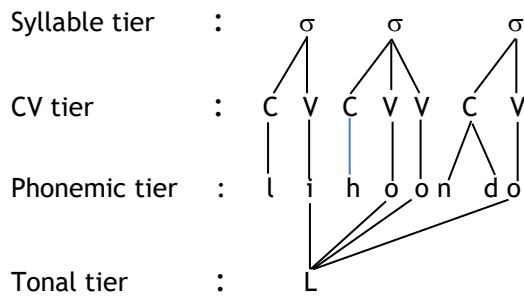
The diagram in (5) (a) shows the autosegmental representation of the tone pattern of /ǎ-hòndò/ ('pumpkin'), as shown in example (4). This noun has a low tone on all the syllables when uttered in isolation but is underlyingly toneless. The adjective /ǎ-léǎ/ ('good'), surfaces with a high tone on the prefix and the stem initial syllable and a low tone on the final syllable [H.H.L] when uttered in isolation and in a phrase context, as shown in diagram (5) (b).

The diagram in (5) (c) (i) shows delinking of a low tone on the noun /ǎ-hòndò/ ('pumpkin') and on the adjective prefix /ǎ/. The symbol \neq is used to show delinking. The diagram in (5) (c) (ii) shows reassociation. The broken lines mean reassociation. Such lines are used to show that the low tone on the noun /ǎ-hòndò/ 'pumpkin' and the adjective prefix /ǎ/ do not remain stable. The low tones on the noun and the adjective prefix are therefore, replaced with a high tone on all the syllables as shown in diagram (5) (c) (iii). The low tone remains floating in (5) (c) (ii) and does not get anchored to any vowel; so, it gets deleted, as shown in (5) (iii)).

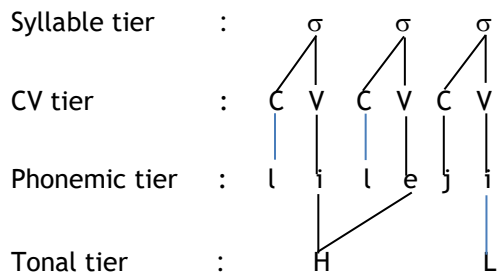
The diagram in (5) (c) (iii) shows high tone anticipation. The high tone on the stem initial syllable in the adjective /ǎ-léǎ/ ('good') spreads leftwards to the adjective prefix /ǎ/ and up to the noun /ǎ-hóndó/ ('pumpkin'). In this diagram, the OCP has been applied. Consecutive high tones exist because of the word

boundary between the two words /lí-hóóndó lí-léjǐ/. Therefore, the diagram in (5) (c) (iii), not that in (5) (c) (ii), is the final autosegmental representation.

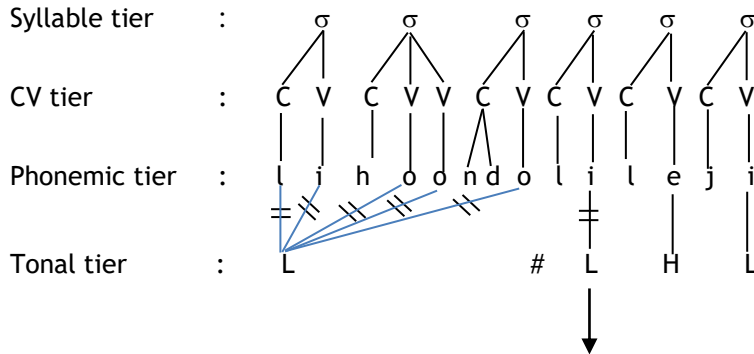
(5) a) lí-hòòndò ‘pumpkin’



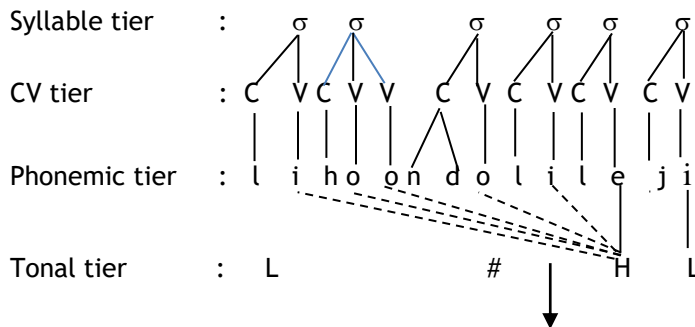
b) lí-léjǐ ‘good’



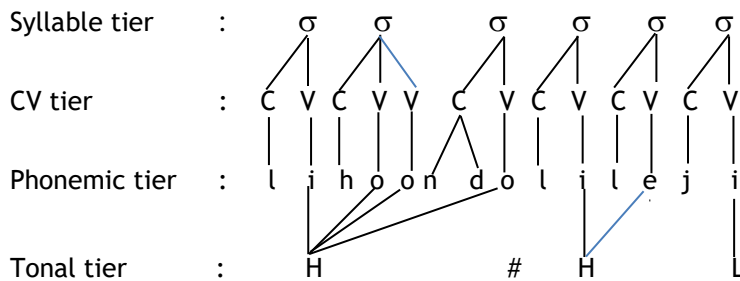
c) (i) lí-hóóndó lí-léjī ‘a good pumpkin’



(ii) lí-hóóndó lí-léjī ‘a good pumpkin’



(iii) lí-hóóndó lí-léjī ‘a good pumpkin’



2.2 High tone anticipation in HØ nouns postmodified by adjectives carrying a high tone

Example (6) illustrates the case of high tone anticipation in HØ nouns postmodified by adjectives carrying a high tone. Notice that the spreading of the high tone leftwards is blocked by the high tone on the noun prefix. The low tone on the final syllable of the nouns is toneless, that is why the high tone on the adjectives is able to spread to the final syllable of the nouns. Notice also that when two high tones are realized on adjacent syllables, the second is phonetically realized as a downstepped high tone. Therefore, in this example there is high tone anticipation but the low tone is not lost. Its effect is realised in the form of a downstepped high tone.

(6) High tone anticipation in HØ nouns postmodified by adjectives carrying a high tone

HØ nouns	Gloss	N + /H/ adjective	Gloss
a) mwáá-nà	'a child'	mwáá- [↓] ná mú-léjǐ	'a good child'
b) lwí-kà	'horn'	lwí- [↓] ká lú-léjǐ	'a good horn'
c) í-nzúxà	'snake'	í-nzú [↓] xá í-mútǐ	'a red snake'
d) ǐ-láárò	'shoe'	ǐ-láá [↓] ró ǐ-mútǐ	'a red shoe'

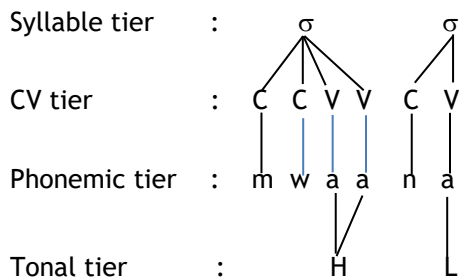
The diagram in (7) (a) shows the autosegmental representation of the tone of /mwáá-nà/ ('child') in example (6). This noun has a high tone on the prefix and a low tone on the final syllable [H.L] when uttered in isolation. The final syllable has a low tone on the surface but is toneless underlyingly. The adjective /mú-léjǐ/ 'good' surfaces with a high tone on the prefix and the stem initial syllable and a low tone on the final syllable [H.H.L] when uttered in isolation and in the phrase context form as shown in the diagram in (7) (b).

The diagram in (7) (c) (i) shows delinking of a low tone on the noun /mwáá-na/ ('child') and the adjective prefix /mù/ followed by reassociation in (7) (c) (ii). In this diagram, the low tone on the noun /mwáá-nà/ and the adjective prefix /mù/ is displaced by a high tone. The low tone on the noun /mwáá-nà/ remains floating in (7) (c) (ii) and does not get anchored to any vowel as shown in (7) (c)

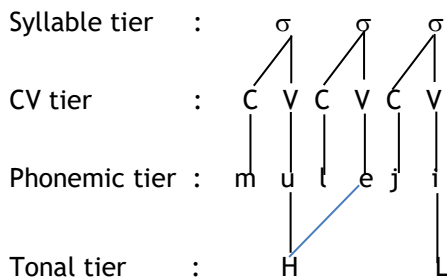
(iii). We know that it is floating because the final syllable ends up having a downstepped high tone. This means that it is not lost. The prefix /mú/ of the adjective /mú-léjǐ/ 'good' has a low tone when uttered in isolation and is replaced with a high tone in the phrase context form. This adjective prefix is underlyingly toneless, thus it receives its surface H as a result of high tone anticipation.

The diagram in (7) (c) (iii) shows high tone anticipation. The high tone on the stem initial syllable of the adjective /mú-léjǐ/ 'good' spreads leftwards to the adjective prefix /mú/ up to the final syllable of the noun /mwáá-nà/. In this diagram OCP has been applied. Consecutive high tones exist because of the word boundary between the two words /mwáá-⁺ná mú-léjǐ/. Therefore, the autosegmental representation in (7) (c) (iii), not that in (7) (c) (ii), is the final form.

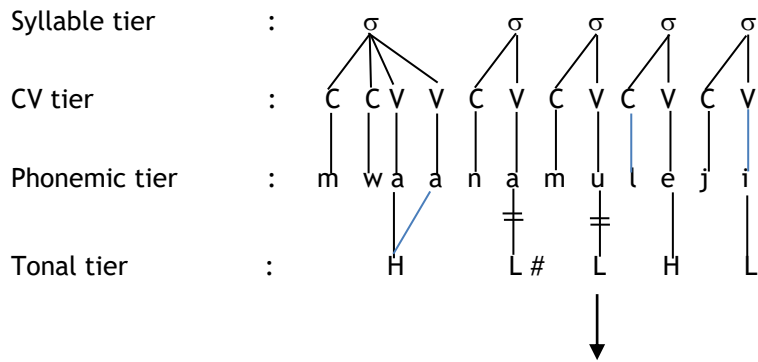
(7) a) mwáá-nà 'child'



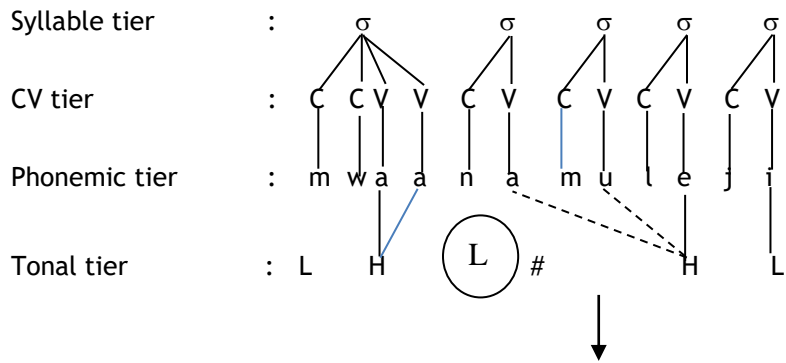
b) mú-léjǐ 'good'



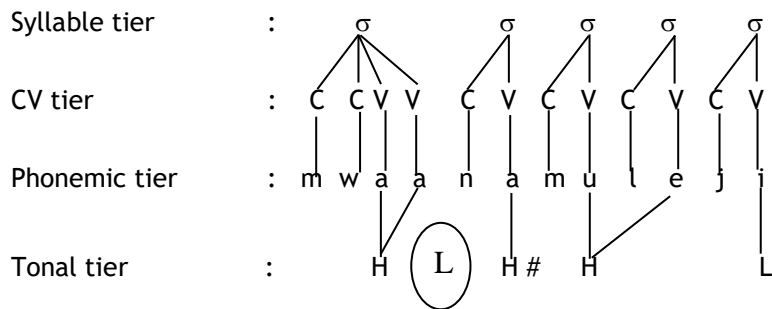
c) (i) mwáá-⁺ná mú-léjĩ ‘a good child’



(ii) mwáá-⁺ná mú-léjĩ ‘a good child’



(iii) mwáá-⁺ná mú-léjĩ ‘a good child’



3. HIGH TONE ANTICIPATION IN NOUNS POSTMODIFIED BY NUMERALS CARRYING A HIGH TONE

Numeral adjectives, like descriptive adjectives that have a high tone on the stem initial syllable, postmodify nouns in Lwisukha and they too spread their high tone leftwards to the nouns.

3.1 High tone anticipation in toneless nouns postmodified by numerals carrying a high tone

The nouns in Example (8) have a low tone when uttered in isolation, but they take on a high tone when they are postmodified by numeral adjectives. There is high tone anticipation because the high tone on the numeral /síítà/ ('six') and /kúmĩ/ ('ten') spreads leftwards up to the prefix of the toneless nouns.

(8) High tone anticipation in Ø nouns postmodified by high-tone-carrying numerals

Ø nouns	Gloss	N + /H/ numerals	Gloss
a) mà-ɲòɲĩ	'birds'	má-ɲójí síítà	'six birds'
b) tsĩ-ɲàmà	'pieces of meat'	tsí-ɲámá síítà	'six pieces of meat'
c) ßàà-ndù	'people'	ßáá-ndú kúmĩ	'ten people'

3.2 High tone anticipation in HØ nouns postmodified by numerals carrying a high tone

In Example (9) the high tone on the numerals spreads leftwards to the final syllable of the noun that is toneless. Unlike the noun phrases in example 4, the high tone does not spread to the penultimate syllable and the prefix of the nouns. The high tone spreads up to the final syllable of the noun. Remember a syllable that has a low tone and allows HTA is a toneless syllable but a syllable that has a low tone and blocks HTA is not a toneless syllable. A syllable with a low tone blocks HTA but a syllable with a low tone and allows HTA is toneless. That is why we refer to the nouns in this section as HØ nouns and not HL nouns. The HL nouns are discussed in section 4.1 of this paper. From the examples discussed in example (9) is clear that, in HØ nouns postmodified by numerals carrying a high

tone, the low tone is lost. This means the low tone is deleted that is why there is no downstepped high tone in these examples. However, in HØ nouns postmodified by adjectives carrying a high tone as seen in example (4) the low tone is not lost, that is why there is a downstepped high tone.

(9) High tone anticipation in HØ nouns postmodified by numerals carrying a high tone

HØ nouns	Gloss	N + /H/ numerals	Gloss
a) má-pátà	‘ducks’	má-pátá síítà	‘six ducks’
b) mí-xónò	‘hands’	mí-xónó síítà	‘six hands’
c) ßá-línà	‘friends’	ßá-líná kúmì	‘ten friends’

While in the majority of cases the high tone anticipation (HTA) rule is obtained in Lwisukha, there are cases where it does not, as the following section illustrates.

NON-APPLICATION OF THE HIGH TONE ANTICIPATION RULE

Non-application of the high tone anticipation rule means that there is no right-to-left high tone spreading from a postmodifier to toneless syllables of the postmodified noun.

4.1 Lack of HTA in HL nouns postmodified by adjectives carrying a high tone

According to Marlo and Steimel (2015:6), who studied the Luwanga dialect of Luyia, and Paster and Kim (2011:14), who studied the Lutiriki dialect of it, high tone anticipation does not occur in nouns that have a high tone and a final syllable that has a low tone that is nouns with a (HL) tone pattern. The same applies to the Lwisukha dialect as shown in the examples in (10). The nouns in these examples have a high tone on the prefix, a falling tone on the stem-initial syllable and a low tone on the final syllable [H.HL.L]. The nouns are immediately followed by an adjective that has a high tone. The high tone on the adjective does not spread to the nouns because the nouns have a high tone and a low tone (HL). As discussed earlier in the introduction of this paper, a high tone and a low

tone block HTA. A high tone on the adjective only spreads where there is a toneless syllable. Therefore, the nouns in this example have a low tone on the surface and underlyingly. That is why we refer to the nouns in this section as HL nouns.

(10) Lack of high tone anticipation in HL nouns postmodified by adjectives carrying a high tone

HL nouns	Gloss	N+/H/ adjectives	Gloss
a) ʃí-kóòmbè	‘cup’	ʃí-kóòmbè ʃí-léjì	‘a good cup’
b) mú-sáàlà	‘tree’	mú-sáàlà mú-léjì	‘a good tree’
c) lí-túùndà	‘fruit’	lí-túùndà lí-léjì	‘a good fruit’
d) í-ṣéèndè	‘jigger’	í-ṣéèndè í-ndííṣì	‘a small jigger’

4.2 Lack of high tone anticipation in nouns postmodified by the adjective -lītòhò (‘heavy’)

The noun phrases discussed in Example (11) have nouns with different tone patterns and the adjective /-lītòhò/ that has low tones on all the syllables. The nouns postmodified by /-lītòhò/ maintain the same tone pattern, whether they are uttered in isolation or in a phrase.

(11) Lack of HTA in nouns postmodified by the adjective -lītòhò (‘heavy’)

Nouns	Gloss	N + /L/ adjectives	Gloss
a) ǎi-hòòndò	‘pumpkin’	ǎi-hòòndò ǎi-lītòhò	‘a heavy pumpkin’
b) mùù-ndù	‘person’	mùù-ndù mù-lītòhò	‘a heavy person’
c) lwíi-ka	‘horn’	lwíi-kà lù-lītòhò	‘a heavy horn’
d) líi-nù	‘tooth’	líi-nù ǎi-lītòhò	‘a heavy tooth’
e) mú-xáàná	‘girl’	mú-xáàná mù-lītòhò	‘a heavy girl’
f) lí-kóòndí	‘sheep’	lí-kóòndí ǎi-lītòhò	‘a heavy sheep’

4.3 Lack of high tone anticipation in nouns postmodified by the numeral -làlà ('one')

Example (12) shows that high tone anticipation is not triggered when nouns of different tone patterns are with the numeral -làlà that has low tones on all the syllables.

(12) Lack of HTA in nouns with numeral -làlà ('one')

Nouns	Gloss	N + /L/ numeral	Gloss
a) mùù-ndù	'person'	mùù-ndù mù-làlà	'one person'
b) mù-ḻimĩ	'farmer'	mù-ḻimĩ mù-làlà	'one farmer'
c) í-súřĩ	'bedbug'	í-súřĩ ʔn-dàlà	'one bedbug'
d) ʃĩ-βúǰĩ	'jerry can'	ʃĩ-βúǰĩ ʃĩ-làlà	'one jerry can'
e) ʃĩ-kóòmbè	'cup'	ʃĩ-kóòmbè ʃĩ-làlà	'one cup'
f) músáàtsà	'man/husband'	músáàtsà mù-làlà	'one man/husband'

5. CONCLUSION

In conclusion, different elements of the noun phrase in Lwisukha trigger different tonal rules or alternations. The high tone anticipation rule is triggered when adjectives (descriptive or numeral) with a high tone follows a noun. The high tone on the descriptive adjectives spreads leftwards to the toneless syllables of the noun. The adjectives with the stem /-léǰĩ/ ('good'), /-ŋgáǰĩ/ ('big'), /-láβù/ ('light skinned'), /tǰéǰĩ/ ('clever') and /-múǰĩ/ ('red'), discussed in this paper have a high tone on the stem initial syllable. All these adjectives trigger the high tone anticipation rule. In addition, numeral adjectives /sítà/ ('six') and /kúmĩ/ ('ten') that have a high tone on the first syllable also trigger the high tone anticipation rule. However, adjectives (descriptive or numeral) that have low tones on all the syllables do not trigger high tone anticipation. For example, the descriptive adjective /-lītòhò/ ('heavy') and the adjective numeral /-làlà/ ('one') do not trigger the high tone anticipation rule.

When a noun with a high tone and a final syllable that is toneless (HØ) is followed by an adjective or a numeral that has a high tone, high tone anticipation rule is triggered because the final syllable is toneless thus it receives a high tone but when a noun has a high tone and a low tone on the final syllable (HL) followed by an adjective (descriptive or numeral) that has a high tone, high tone anticipation rule is not triggered because the low tone blocks HTA. This means that a high tone spreads leftwards only to syllables that are toneless but not to syllables that have a high or low tone.

Future research on Lwisukha could investigate the tonal alternations that apply in other phrasal categories in Lwisukha, such as verb phrases. It could also investigate tonal rules in noun phrases and other phrasal categories in other Luyia dialects.

REFERENCES

- Ebarb, Kristopher, Green Christopher, Michael Marlo, David Odden and Mary Paster. 2015. "An Introduction to Luyia tone". Paper presented at the Annual African Linguistics 46 Conference, University of Oregon, March 2015.
- Everhart, Bailey, Michael Marlo, and Maurice W. Sifuna. 2015. "Bukusu noun phrase tonology". Paper presented at the Annual African Linguistics 46 Conference, University of Oregon, March 2015.
- Kisseberth, Charles and David Odden. 2003. *Tone in the Bantu languages*. London: Routledge.
- Marlo, Michael and David Odden. 2019. In Mark Van de Velde, Koen Bostoën, Derek Nurse and Gerard Phillipson. *The Bantu Languages*, 2ndedn. New York: Routledge.
- Marlo, Michael and Kenneth Steimel. 2015. "Wanga noun phrase tonology". Paper presented at the Annual African Linguistics 46 Conference, University of Oregon, March 2015.
- Paster, Mary and Kim Yuni. 2011. "Downstep in Tiriki". *Linguistic Discovery*, 9(1): 71-104.
- Yip, Moira. 2002. *Tone*. Cambridge: Cambridge University Press.

Authors' emails:

1. Sussy K. Nandama Sumbi
khaadi.nandama@ku.ac.ke/suenandama@yahoo.com
2. Jane A. N. Oduor
oduor_jane@uonbi.ac.ke/oduorjane@yahoo.com
3. P. I. Iribemwangi
iribe@uonbi.ac.ke