THE TONE PATTERNS IN THE KIKAMBA VERB COMPLEX

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Introduction

The description of tone in Bantu Languages has not been a popular subject for conference papers or for postgraduate research by local linguists in the local set up. This is particularly because tone is not given appropriate emphasis in the linguistic courses taught in our universities both at undergraduate and postgraduate levels. This continues to happen despite the fact that many African languages are tone languages. As a result, our graduates usually find themselves ill-prepared to handle issues of tone, even in their mother tongues. Though some of them may be able to provide pairs of words that differ minimally in tone, majority of them cannot say which melodies are associated with which segments in the words. In other words, they have not been trained to 'hear' and categorise tone.

In a comparative study of tone in Kikamba and nine other Central Kenya Bantu languages, Ford (l976:263) observes among the Bantu group of languages, "lexical, syntactic and segmental phonological differences are few though distinctive. The surface facts of tone are perhaps among the sharpest distinguishing characteristics". This is true of even dialects within one language. For example, when I look at the analysis of tone in Mutiga (2002), I have to keep reminding myself that she and I do not speak the same dialect of Kikamba.

As a preliminary, this paper describes the structure of the verb complex in Kikamba and discusses some pre-theoretical ways of setting references on the basis of which we can categorise the distinctive tone levels observed in a language. According to Kioko (1994) Kikamba has two level phonemic tones - High (H) and Low (L)- the combination of which gives six phonetic tones – High (H), Low (L), extra High (H^2), extra Low (L^2), Falling (HL) and Raising (LH). Assuming this description of tone in the language, this paper examines the interaction of the tone pattern of the various verbal affixes with that of the verb root.

Though the analysis is pre-theoretical, it assumes an autosegmental background where the tone melodies are represented at different tier and are linked to the tone carrying segments by association lines.

The Verb Complex in Kikamba

In summary the morphology of the verb in Kikamba can be presented as below.

1	2	3	4
Pre-root affixes	Root	Derivational affixes	Post-stem affixes

The pre-root affixes in **1** include: the Focus marker, the subject agreement, the negative marker, the tense marker and the object agreement.

1. Nĩ- tũ- a- mũ- nenga
   Foc-SA-Tns-OA-give
   We gave him/her

2. Tũ-i-na-mũ-nenga
   SA- Neg- OA-give
   We did not give him/her

The derivational affixes in **3** include the applicative, the passive, the stative, the reciprocal, the reversive, and the attenuative. Some of these can co-occur and when this happens the order is fixed (see Kioko 2005).

The post-stem affixes in **4** include the aspect marker, the verb final vowel and the imperative Plural affix as in the examples below:

3. Nĩ-tũ-a-mũ-neng-i-e
   Foc-SA-Tns-OA-give-Asp-FV
   We gave him/her

4. Nĩ- tũ- a- mũ- neng-a-a
   Foc-SA-Tns-OA-give-Asp-FV
   We were giving him

5. Mũ-neng-a-i
OA-give-FV-Impl
You (pl) give him/her

1.2 Establishing the Phonetic Tones

According to Kioko (1994) in Kikamba the two phonemic level tones have six phonetic realisations. These are exemplified below:

6. a. High (H) as in the words: ngó, nthĩ, ngyá
b. Extra High ($H^{2)}$ as in the words: ngũ , nzä,
c. Low (L) nde,
d. Extra Low (L^2) ngò, mbà,
e. Falling (HL) tâ, yâ
f. Rising (LH) ndũũ, thwau

The falling tone results from the association of two tones, a High and a Low to one tone carrying segment, while the rising tone said to be a case of associating a Low and High tone to one tone carrying unit is debatable because the examples given in Kioko (1994) seem to have two tone carrying units. Thus 'ta' and 'ya' can be represented as below.

7.

ta	ya
HL	HL

1.3 Verb Root Tones

Ford (1976) distinguishes between High toned and Low toned verbs in Kikamba on the basis of the tone of the initial vowel of the verb root. The verb root tone patterns, in the data we have considered, suggest a basic classification of verbs into High and Low tone verbs. In addition to this the verb final position in Kikamba is marked by the presence of a Low tone. As a result H verbs are realised on the surface as HL. Though the **imperative** form with a singular addressee is the simplest verb form segmentally since it has only one affix – the final vowel - this form is associated with a tone pattern that obscures the basic tone contrasts. The form of the verb that brings out the clear distinction of the basic tones is the **infinitive** form. This is because the infinitive is marked by the prefix **'kũ'** which is in low tone and does not seem to affect the basic tone pattern of the verb root. We have used

the imperative and infinitive verb forms to observe the patterning of the phonetic tones in the Kikamba verb.

To observe the finer patterns we used the imperative and the infinitive forms in the following four environments: infinitive forms used non-final positions; infinitive forms used in final positions or in isolation; imperative forms used in final position or in isolation; imperative forms used in non-final position.

8. Basic Verb Tone Patterns (The Infinitive)

	Non-final infinitive	**Final infinitive**	**Gross**
L	kũ-tila	kũ-tilà	to cut
	kũ-mea	kũ-meà	to grow
	kũ-kita	kũ-kità	to thatch
	kũ-veva	kũ-vevà	to breathe
	kũ-thamba	kũ-thambà	to bathe
	kũ-voya	kũ-voyà	to pray/beg
H(a)	kũ-tá	kũ-tä	to sell
	kũ-yá	kũ-yä	to eat
	kũ-n é	kũ-në	to give
	kũ-ũma	kũ-ũmä	to bite
	kũ-túma	kũ-tümä	to sew
	kũ-táva	kũ-tävä	to Scoop
H(b)	kũ-sóma	kũ-sömà	to read
	kũ-sémba	kũ-sëmbà	to run
	kũ-vánga	kũ-vängà	to arrange

The forms in column 1 reflect contrast between the two underlying level tones, H and L. The forms in column 2 are characterised by the occurrence of two derived tones: the extra Low and the extra High tones. This change seems to be realised at phrase boundaries; thus in the final position a Low tone is realised as extra Low while a High tone is realised as extra High. Kioko (1994) calls this process tone intensification. These changes can be captured by a Tone Intensification Rule that states that a level tone is intensified in clause final position. The forms in column 2 give us two types of High tone verbs: those where the

intensification affects the verb final vowel (types 'a' and 'b') and those in which the intensification affects only the stem tones (type 'c').

The Tone Intensification Rule can therefore be said to apply to all the verbs with same result except where affix tones affect the final tone pattern of the verb or where a particular verb form is associated with a specific melody, as we shall find to be the case with the imperative form below.

9. The Imperative

	Final imperative	Non-final imperative	Gross
L (a)	tilâ meâ kitâ	tilä meä kitä	Cut grow thatch
L (b)	véva thámba vóya	véva thámba vóya	breathe bathe pray/beg
H(a)	tâ yâ nê	tä yä në	sell eat give
H(b)	ũma túma táva sóma sémba vánga	ũma túma táva sóma sémba vánga	bite sew scoop read run arrange

Looking at the same verbs in the imperative form gives us five surface forms: two types from the Low tone verbs – those that become LHL in final imperative and L extraH in non-final imperative; and those that become HL in final imperative and L extraH in non-final imperative. The High tone verbs categorise into two in the imperative form: those that are HL in final imperative but extra H in non-final imperative; and those that are HL in both environments.

The changes accompanying the imperative form confirm the observation of Kioko (1994) that the imperative in this language comprises an H replacive tone pattern. When the imperative tone pattern falls on the L(a) (analysed as LL) it replaces the rightmost L tone, and one L tone remains to the left unaffected. In the two syllable verbs in this group the introduced H falls on the last tone carrying unit producing a fall because of the verb final L. (see the example (10(a) below). In L verbs with three tone carrying units, e.g. ũkíta the introduced H falls on the second tone carrying unit and the verb final L is realised on the final segment (see examples below).

10. (a) tila + imperative H _____ tila [tilâ].
L L L H

(b) ũkita +imperative H _____ ũkita [ũkíta]
L L L H

The L `b' verbs are analysed as underlyingly L therefore, the application of the imperative tone replacement rule replaces the only stem tone and thus the difference between these verbs and the High tone verbs is lost (example 11 below)

(11) veva +imperative H _____ veva [véva].
L H

The introduction of the imperative H thus neutralises the difference between L (a) and H verbs.[1]

The imperative tone pattern has no effect on H tone verbs with two tone carrying units but one syllable verbs are realised with a falling tone in final imperative and an extra High in non-final imperative.

[1]This neutralisation has also been observed to occur in other Bantu Languages (Sietsema 1989:200).

The tone patterning in the infinitive and the imperative forms in Kikamba give five verb surface tone patterns, as exemplified in the combined table below:

12. The Infinitive and the Imperative

	Non-final infinitive	Final infinitive	Non-final imperative	Final imperative	Gross
L (a)	kũ-tila kũ-mea kũ-kita	kũ-tilà kũ-meà kũ-kità	tilâ meâ kitâ	tilä meä kitä	(to) cut (to) grow (to) thatch
L (b)	kũ-veva kũ-thamba kũ-voya	kũ-vevà kũ-thambà kũ-voyà	véva thámba vóya	véva thámba vóya	(to) breathe (to) bathe (to) pray/beg
H(a)	kũ-tá kũ-yá kũ-n é	kũ-tä kũ-yä kũ-në	tâ yâ nê	tä yä në	(to) sell (to) eat (to) give
H(b)	kũ-ũma kũ-túma kũ-táva	kũ-ũmä kũ-tümä kũ-tävä	ũma túma táva	ũma túma táva	(to) bite (to) sew (to) Scoop
H(c)	kũ-sóma kũ-sémba kũ-vánga	kũ-sömà kũ-sëmbà kũ-vängà	sóma sémba vánga	sóma sémba vánga	(to) read (to) run (to) arrange

1.4 **Tones in the Complex Verb forms**

In this section we will examine the tone patterns of the inflected forms of some of the verbs given above with a view to establishing the tone patterns associated with the verbal affixes such as tense, agreement forms and derivational morphemes.

1.4.1 **Tone in tensed Verbs**

Tense forms co-occur with certain aspect forms and therefore the two will be discussed together. Kioko (2005) identifies the tense slot in the verb complex as the position between the object agreement prefix (when it is present) and the subject agreement prefix, while the aspect position is between the verb stem and the Final Vowel. Below we will provide examples of the tone patterns associated with the tense forms, taking one verb form for each tone group outlined above.

The examples below will make use of the focus marker nĩ, which is invariably in High tone and the first person agreement pronominal -n- which has no tone bearing unit. The form n has been chosen because it makes the tense tone more transparent. It is possible to argue, on the basis of examples such as those in Past C, that the first person pronominal form comprises a floating H tone that attaches to the tense tone. However, though we will show below that verbal concords are in High tone, this does not seem to be the tone realised on the tense form in examples where the verbal concord does not have a tone-bearing unit.

The following verb stems, whose basic tone is represented here, will be used to exemplify the affix tones and their effects on the basic verb tone.

(13) (a) túm- (HH) (sew)
(b) sóm- (H) (read)
(c) sémb- (H) (run)
(d) til- (LL) (cut)
(e) ũkit- (LL) (fight)
(f) vev- (L) (breathe)
(g) yá (HH) (eat)
(h) tá (HH) (sell)

In examining the tone patterns associated with the tense forms, we will use the categorisation provided in Kioko (2005: pp.32-33), where there are three past tense distinctions and three future tense distinctions.

1. **Tone in the Past Tenses**
   a. **Past A.**

tense	Aspect.
a [â]	0
HL	H

This tense form is marked by the vowel -a-, a tone pattern of HL on this segment and a H stem tone which is mapped onto the Final Vowel producing a fall when combined with the verb final Low tone.

(14). (a) nĩ-n-â-sóm-â "I read" (a short while ago)
(b) nĩ-n-â-túm-â "I sew" "
(c) nĩ-n-â-til-â "I cut" "
(d) nĩ-n-â-ũkit-â "I fought" "
(e) nĩ-n-â-sémb-â "I ran" "
(f) nĩ-n-â-vev-â "I breathed" "
(g) nĩ-n-â-y-â "I ate" "

b. Past B.

Tense	aspect.
0	i
H	LH

(Past time covering today and yesterday)

The past **B** tense is marked by the tone pattern H-LH. The initial H of this pattern replaces the rightmost stem tone. In the verbs analysed as LL this initial H replaces the second L as in (24 c), giving the tone pattern LH instead on the verb instead of the basic LL. The L of this tense pattern falls on the aspect segment and the H is mapped on the verb final vowel producing a fall because of the verb final L.

In verbs analysed as having a single L underlying tone, the initial H tone replaces the only stem tone, thus the difference between these verbs and the H verbs is neutralised at the surface in this tense (e.g. (d)).

On the H verbs the initial H produces no noticeable effect and the following LH pattern is mapped on the verb in a manner similar to that discussed above for the LL verbs above.

(15) (a) nĩ_-n-sóm-i-ê "I read"
(b) nĩ-n-túm-i-ê "I sew"
(c) nĩ-n-ũkít-i-ê "I fought"

(d) nĩ-n-vév-i-ê" I breathed"

c. Past C.

Tense		Aspect.
na	[nâ]	i
HL		L

The third past tense form has HL-L tone pattern. The HL pattern falls on the tense segment na while the L falls on the aspect affix. The exception to this is in (d) and (e) where the suffix vowel in addition carries the stem tone after vowel fusion. The change of the verb final L to an extra Low tone is in accordance with the Tone Intensification Rule mentioned above.

(16) (a) nĩ-n[2]-nâ-sóm-i-è
(b) nĩ-n-nâ-túm-i-è
(c) nĩ-n-nâ-vév-i-è
(d) nĩ-n-nâ-t-é-è
(e) nĩ-n-nâ-ĩ-è

4. Past D.

Tense	aspect.
a [â]	i
HL	H

The fourth past tense form is associated with a HL-H tone pattern. The HL falls on the tense segment and the following H replaces the rightmost of the verb stem tones and spreads to the aspect segment. In (a), which was analysed above as underlying H, this tense pattern replaces the stem H producing no phonetic change. In a L verb it replaces the stem tone and is therefore realised as the stem tone (example (d), and in the LL verbs only the rightmost L is affected thus the stem tone becomes LH as in examples (c).

[2]In speech a **ĩ** vowel is inserted in this slot and it takes a High tone which will be shown to characterise verbal concords.

The rightmost H of this pattern is associated with the last tone carrying unit thus producing a fall because of the verb final L. The H tone on the penultimate vowel i is thus as a result of rightward spreading of H.

(17) (a) nĩ-n-â-sóm-í-ê
(b) nĩ-n-â-túm-í-ê
(c) nĩ-n-â-til-í-lê
(d) nĩ-n-â-vév-í-ê
(e) nĩ-n-â-t-é-ê
(f) nĩ-n-â-ĩ-ê

2. Tone in the Present Tense.

The tense segment kũ is in low tone. Since the tone pattern associated with this tense form does not affect the stem tone and the verb final position, the forms readily undergo the tone intensification process discussed earlier and exemplified below.

Tense	aspect
kũ	0
L	

(18) (a) nĩ-n-kũ-söm-à
(b) nĩ-n-kũ-tüm-ä
(c) nĩ-n-kũ-til-à
(d) nĩ-n-kũ-kit-à
(e) nĩ-n-kũ-vev-à
(f) nĩ-n-kũ-t-ä
(g) nĩ-n-kũ-y-ä

Tone in the Future Tense

Kioko (2005) recognises three future tenses in Kikamba. We will examine the tone patterns associated with each one of these present tenses.

a. Future A

tense	aspect
ka [kâ]	0
HL	

This tense is associated with an HL tone pattern which falls on the tense segment. Because there are no tone changes on the stem tone or on the verb final position, the verbs undergo intensification as predicted above.

(19) (a) nĩ-n-kâ-söm-à
(b) nĩ-n-kâ-tüm-ä
(c) nĩ-n-kâ-til-à
(d) nĩ-n-kâ-t-ä
(e) nĩ-n-kâ-y-ä
(f) nĩ-n-kâ-ũkit-à

b. Future B.

tense	aspect
ka	0
L	LH

For verbs in the future B form, the tense segment is in Low tone and it is accompanied by a pattern that affects the stem tones of verbs that have a single H underlying tone like in examples (a) and (b) and the final verb tone in all the verbs. The differences concerning the effects of this pattern on the stem is found in the underlying tones of the particular verbs. This tense form seems to have a floating L tone that gets attached to the stem tone. In the Low tone verbs the change is not phonetically distinct, in the H tone verbs the attachment of the Low tone produces falling stem tone and in the HH verbs a Low tone attached to two HH on one tone-bearing unit does not surface. The change at the final position is reminiscent of what was discussed of the Past A, B and C above- the H is associated with the final tone carrying unit producing a fall due to the verb final low tone.

(20) (a) nĩ-n-ka-sôm-â
(b) nĩ-n-ka-sêmb-â

(c) nĩ-n-ka-túm-â
(d) nĩ-n-ka-táv-â
(e) nĩ-n-ka-til-â
(e) nĩ-n-ka-kit-â
(f) nĩ-n-ka-y-â
(g) nĩ-n-ka-t-â

c. Future C

Tense	Aspect
ka [kâ]	0
H	HH

The tense form is in falling tone (this is a re analysis of Kioko (1994) who had analysed this tense form as having a high tone) and the other tone pattern associated with this tense comprises a H tone which attaches to the final verb tone and a replacive H which replaces the rightmost of the stem tones. In the H and HH verbs this does not produce a phonetic change on the stem tone. In the LL verbs (d and e) one stem L remains to the left of the introduced Hs. In the single L verbs the replacive tone replaces the basic tone and thus these verbs are similar to the basic H verbs in this tense, for example (f).

(21) (a) n-kâ -sóm-â
(b) n-kâ -sémb-â
(c) n-kâ -túm-â
(d) n-kâ -til-â
(e) n-kâ -kit-â
(f) n-kâ -vév-â
(g) n-kâ -t-â
(i) n-kâ -y-â

1.4.2 Tones in Verbal Concords

First we will examine the tone patterns of subject-verb agreement forms. To do this we will use the past C tense form, because it does not fuse or coalesce with the agreement morpheme, and the verb sóma. The syntactic environment in the example is non-final. The forms used are in the order: focus marker-subject agreement -tense-object agreement-verb root-aspect-final vowel.

(22) (a) nĩ-tũ-nâ-sóm-i-è "we read"

(b)	nĩ-ũ-nâ-sóm-i-è	"you/cl.3 read"
(c)	nĩ-má-nâ-sóm-i-è	"they read"
(d)	nĩ-kĩ-nâ-sóm-i-è	"she (cl.7) read"
(e)	nĩ-ká-nâ-sóm-i-è	"s/he (cl.11) read"
(f)	nĩ-mũ-nâ-sóm-i-è	"you(pl) read"
(g)	nĩ-ĩ-nâ-sóm-i-è	"it (cl.5,9) read"
(h)	nĩ-í-nâ-sóm-i-è	"they (cl.8,10) read"
(i)	nĩ-ũ-nâ-sóm-i-è	"he/she read"
(j)	nĩ-ĩ-nâ-sóm-i-è	"they (cl.4) read"

These examples show that the subject agreement morphemes are invariably in High tone. However, there are two cases that need special mention and these are the third person verbal concord -ũ-, in (i) and the class 4 verbal concord -ĩ-, in (j) which appear in Low tone. We propose that this is motivated by a need to maintain a difference between these forms and other similar forms. For example, the subject agreement in (i) needs to be differentiated from the subject agreement in (b) which has the same form and the form in (j) from that in example (g).

The same pattern occurs with object agreement morphemes i.e they are in H tone except where the difference is motivated by factors similar to those mentioned on subject agreement form above.[3] For the object prefix we will make use of the basic forms (non-final infinitives).

(23)	(a)	kũ-ĩ-sóm-a	to read it (cl.5,9)
	(b)	kũ-ká-sóm-a	to read it (cl.11)
	(c)	kũ-mũ-sóm-a	to read you (2nd pl.)
	(d)	kũ-kĩ-sóm-a	to read it (cl.7)
	(e)	kũ-tũ-sóm-a	to read it (cl.12, 1st.sing)
	(f)	kũ-má-sóm-a	to read it (cl.6, 3rd.sing)
	(g)	kũ-ũ-sóm-a	to read it (cl.4,14)
	(h)	kũ-i-sóm-a	to read it (cl.8,10)

[3] -mũ for example, is in the expected High tone for the second person plural but in Low tone for the third person singular.

4.1.3 Tone in Verbal Extensions

We have observed that the verbal extensions are invariably in Low tone as the four examples below show.

(33) (a). **The Causative -ĩ/ethy-**

kũ-sóm-ethy-a
kũ-túm- ĩthy-a
kũ-ũkit- ĩthy-a
kũ-til- ĩthy-a
kũ-vev-ethy-a

(b) **The associative/reciprocal -an-**

kũ-sóm-an-a
kũ-túm-an-a
kũ-ũkit-an-a
kũ-til-an-a
kũ-vev-an-a

(c) **The Stative -ĩ/ek-**

kũ-sóm-ek-a
kũ-túm-ĩk-a
kũ-ũkit-ĩk-a
kũ-til-ĩk-a
kũ-vev-ek-a

(d) **The attenuative/Distributive -ang-**

kũ-sóm-ang-a
kũ-túm-ang-a
kũ-_kit-ang-a
kũ-til-ang-a
kũ-vev-ang-a

(e) **The passive -w-**

kũ-sóm-w-a
kũ-túm-w-a
kũ-_kit-w-a
kũ-til-w-a

kũ-vev-w-a

Tone in the Post-Stem Suffixes

The post stem suffixes include the aspect marker, the verb final vowel, and the imperative plural. We have already discussed the tone patterns associated with the aspect forms in the section on tense above. If not affected by tone patterns associated with other segments in the verb complex, the final vowel takes the verb final floating tone. It is thus plausible to argue that this segment is toneless and thus acquires its surface tone by association.

The imperative plural form is in High tone but may be realised with a falling tone if it is in clause final and with an extra High tone in non-final imperatives. Because this affix is part of the imperative form of the verb, which has been shown to be associated tone pattern it is not easy to determine its basic tone pattern.

4.5 Conclusion

The discussion in this paper has shown that the tone pattern accompanying the imperative form of the verb has effects across the entire verb word. The tense/aspect tone patterns have also been shown to affect not only the tense and aspect forms but also the basic verb root tone. This raises question on the traditional distinction of tone languages and intonation languages. What seems to be at work in these cases is a phenomenon similar to the rise and fall in pitch that is classified as intonation yet Bantu languages have been classified as tone languages.

The other issue that calls for further investigation is the relationship between the melodies classified as High tone in these patterns and primary stress. Could it be that what is appearing as changes in the tone pattern of the verb are cases of the assignment of the stress patterns related to these verbal segments?

References

FORD, K.C. (1976). "Tone in Kikamba and the Central Kenya Languages". In *African Linguistics.* Vol.7, No.3.

KIOKO, A.N. (1994) Issues in the Syntax of Kikamba: A Bantu Language. PhD. Thesis Monash University – Australia.

KIOKO, A. N. (2005) Theoretical Issues in the Grammar of Kikamba: A Bantu Language. Lincom Europa: Muenchen

SIESTEMA, B. M. (1989). *Metrical Dependencies in Tone Assignment.* M.I.T. Massachusetts.