TONE IN KIKAMBA AND THE CENTRAL KENYA BANTU LANGUAGES

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The forms and functions of pitch variation in Kikamba are examined, together with the similarities and differences noted in ten closely-related Bantu dialects. Two phonetic systems of tone are described involving two basic tone levels, which are expandable either by a process of down-step or by the formation of an extra-high (and optionally an extra-low) tone. In all the dialects, tone is both lexically distinctive and serves to reinforce particular aspects of syntax, details of which are presented. Some comparative evidence is cited, and the relationship between the two phonetic systems is considered.

1. Introduction

Kikamba is a Bantu language of Kenya, spoken by over 1 million people over a wide area east of Nairobi as far as, in places, the Coast. The following description is based primarily on the speech of Mr. Michael Mülwa of Mbiuni Sub-location, Mbuumbuni Location, Machakos District. Material was also checked with Mr. Boniface Kithitú of Kitui. While particular attention will be paid to what is ultimately one idiolect of Kikamba, reference will be made to general tonal features of the group of languages/dialects including Kikuyu, Kikamba, Embu, Mbeere, Cuka, Muthambi, Miiitine, Mvimbí, Imenti, Tharaka and Tigania. All are mutually-intelligible to a high degree, except for Kikamba, where the loss of two consonants proves to be a more noticeable barrier to close mutual-intelligibility with the other dialects.¹

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Among the 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, but even here, as will be shown, the similarities of basic form and function are great; we can thus see more clearly the peripheral differences. It may be that what we will suggest as general tonal features of this group of languages may prove to be significant characteristics of other groups of Bantu languages.

Kikamba has seven distinctive vowel qualities, which may be long or short, again distinctively: [i e a ñ o u] and [iː eː aː ñː oː uː]. Two like vowels occurring together represent distinct syllables bearing distinct tones, which contract to a single quality though of double length. A maximum of three consecutive like vowels has been found to date; these contract to form a triple length vowel. As pointed out by Whiteley and Mūlī [1962], therefore, four degrees of vowel length may be distinguished phonetically:

(1) túva [túva] 'pay wages' nísimo [níːːna] 'speak'
    tú:va [tú:va] 'get blunt' syóóóka [syóːːka] 'slip, slide'

Combinations of unlike tones on any sequence of consecutive vowels automatically form gliding tones:

(Mīltīne), Erastus Rweria (MwImbī), Annah Klambati and Mūthurī Kyugū (Imenti), Geoffrey Mūthenja (Tigania), and Felix Mang'ūrū (Tharaka). Note on the transcription: all symbols have their IPA values, except for the following, individual conventions: γ = [j] 'voiced palatal approximant'; a combination of nasal plus consonant is to be interpreted as a prenasalized consonant, e.g. [kekāːmbāː]. Phonetic tones are marked [x] 'extra-high level'; [~] 'high level'; [~] or unmarked 'low level'; [x~] 'extra-low level, sometimes falling'. Combinations of these tone-marks are used on single short or long vowels to indicate gliding tones, e.g. [~] 'high-low glide'; [x~] 'extra-high to low glide'. In the case of Kīkūyū and Maasai, the extra-high level is not employed, while downstep is marked [!]. The dialect of Kīkūyū described here is that of Gīakanja, about 8 kms. from Nyeri town, though it is fairly representative of what are called the northern dialects (see Clements and Ford: in preparation).
Such sequences of up to eight consecutive vowels (see Whiteley and Müli [1962]) often arise from historical consonant-loss, e.g. eio 'banana' (cf. Kikuyu [iriyo]) but kalilo 'small banana'. Consonant-loss is important in accounting for the contemporary situation where all vowels belong non-predictably to one of two series: mutable and immutable. Immutable vowels can be shown on comparative evidence to have derived historically from CV syllables by initial-consonant loss. The immutable vowels block particular processes of vowel contraction. Compare, for example, the following:

(3) kwe:nda 'to love, like' /ko+ɛ:nda/ (mutable [ɛ])  
    koɛ:nda 'to go' /ko+ɛ:nda/ (immutable [ɛ])

2. The Tones of Nouns

Although it will be shown eventually that all phonological words of any category are structured tonally on the same patterns and alter their tone patterns according to the same general principles, we shall begin with a description of nouns since they exhibit the most complete set of distinct basic forms and conditioned varieties. The language makes use of four distinct phonetic tone levels, though the analysis will indicate how they represent what might be viewed as an underlying and probably historical two-tone distinction. The expanded phonetic tonal register of extra-high, high, low, and extra-low tones is employed before particular syntactic boundaries, the details of which will be exemplified in subsequent sections.

2.1. Phonetic tonal forms. The following examples presuppose a classification based on two factors: the quality of final tone(s), and the patterning of tone-changes that itself implies a non-predictable sub-typing (marked A and B). The columns 1-4 represent the different forms of nouns that are found in different syntactic environments, some notes on which follow the examples.
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<tr>
<td>h.</td>
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<tr>
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<td></td>
<td>mo:nzāō:ne</td>
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<td>mo:nzāō:ne</td>
</tr>
</tbody>
</table>
(4) cont.

i. \(-H#(A)\)

\(n\z\)á \(\times n\z\)á \(\times n\z\)á \(\times n\z\)á 'outside'

\(m\o tw\)é \(m\o tw\)é \(m\o tw\)é \(m\o tw\)é 'head'

\(k\a t\u:nd\)ú \(k\a t\u:nd\)ú \(k\a t\u:nd\)ú \(k\a t\u:nd\)ú [female name]

j. \(-H#(B)\)

\(\o g\)á \(\o g\)á \(\o g\)á \(\o g\)á [type of tendon]

\(m\o k\)á \(m\o k\)á \(m\o k\)á \(m\o k\)á 'wife, woman'

\(k\a t\u:nd\)ú \(k\a t\u:nd\)ú \(k\a t\u:nd\)ú \(k\a t\u:nd\)ú 'small gathering'

A summary of the syntactic environments represented by columns 1-4 is as follows (it must be noted that the choice of tonal forms 1-4 is not conditioned by any phonetic characteristics of the surrounding context):

Column 1: tones of nouns when qualified within the noun-phrase (i.e. by an adjective, numeral or associative marker in a possessive construction);

Column 2: tones used in all places in declarative statements (including subject), except in the place immediately following a positive verb; these forms are used in all places in imperative sentences; section 5 will generalise their function in coordinate and subordinate sentences;

Column 3: tones used immediately following a positive declarative verb when another item follows in the same sentence;

Column 4: tones used immediately following a positive declarative verb sentence-finally.

2.2. Underlying tonal forms. It is not possible to predict the membership of sub-classes of A and B which must be recognized as underlingly different. We may take as basic either the form 2 (thus recognising four underlying levels of tone), or the forms 1 (ignoring gliding tones which are largely predictable—see section 2.3), so that we recognise just two underlying levels and a diacritic classification feature corresponding to A/B. The majority of items belong to sub-class A. We will thus require the following rules of tonal register expansion, given the feature specifications:
\([X] [^\cdot] [-] [^\cdot]\]

\begin{align*}
\text{high} & \quad + \quad + \quad - \quad - \\
\text{extreme} & \quad + \quad - \quad - \quad + \\
\end{align*}

(R1) \([+\text{syllabic}] \rightarrow [+\text{extreme}] / _____ ([^-\text{high}]) +
\\
(\text{where} + \text{for Class A includes the boundaries 2, 3, and 4 above; and for Class B the boundaries 3 and 4} )

A special rule will account for the final tone of \(-H\#B\) items in environment 4:

\(\text{R2) } [+\text{high}] \rightarrow \left[+\text{high} \quad -\text{high}\right] / V _____]_B \ #

The final derived forms of \(-HL\#\) items will be predicted in part by the processes of gliding-tone formation expressed below, and in part by the following assimilation rule:

\(\text{R3) } \left[+\text{extr} \right] \rightarrow \left[+\text{extr} \quad +\text{extr}\right] / \left[+\text{high}\right] _____

2.3. **Gliding tones.** Only falling glides are possible on single vowels (rising tones being a combination of a low + high on successive syllables where the two syllabic nuclei are adjacent); and these falling tones are invariably associated with long vowels, with the exception of the \([^\cdot]\) and \([X]\) tones which are accounted for by R2 and R3 above. The gliding tones that are related to long vowels are predictable as follows: two kinds of long vowels must be distinguished, the inherent long vowel, and that lengthened by position (before a prenasalised consonant) or by a process of glide-formation or vowel-contraction:

1) **Long low-toned vowels always glide penultimately** (whether inherently long or lengthened by position) if a low tone \([^\cdot]\) follows:

(5) \begin{align*}
\text{kwe\ö:nda} & \quad '\text{to love}' \quad /\text{nda}/ \quad '\text{love}' \\
\text{koe\ö:nda} & \quad '\text{to go}' \quad /\epsilon:\text{nda}/ \quad '\text{go}' \\
\text{kwe\ö:nda\ö} & \quad '\text{to grow thin, ill} \quad /\text{onza}/ \quad '\text{grow thin, ill}'
\end{align*}

(the forms in slants are intended to suggest more abstract representations; in fact, all utterance-initial and utterance-final vowels in Kikamba must be short.)
ii) Long high-toned glide penultimately only if inherently long and followed by a low tone:

(6) konɛ:X:ŋɔ: 'to give' /né:ŋɔ:/ 'give'
    kwɛ:kɔ: 'to do' /é:ka/ 'do'
    kwɔ:ka 'to build' /áka/ 'build'

iii) Long low-toned vowels cannot occur pre-penultimately and be followed by a lower tone; glide-tone-formation is thus blocked.

iv) Long high-toned vowels glide pre-penultimately only if inherently long and followed by a low tone:

(7) koɔ:ŋo:la (ndeɔ) 'to succeed in throwing sticks through a rolling hoop' /ɔ:ŋo:la/
    kwɔ:ŋo:la 'to fill with water' /ɔŋo:la/

While these generalisations emerge, it must be noted that there exists a small number of counter-examples, whose gliding tones are not predictable on this basis. Some of these have falling glides on long vowels but before a following high tone: e.g. mbɔ:X: 'flying ants'. Among the forms that cannot be generalised are many of the verb forms, where gliding-tone formation is suppressed in specific grammatical environments:

(8) kwɔ:tɛ 'touch!' [imperative singular]
    né:nɔ:kwɔ:tɛ 'I have touched' [recent perfect]
    né:ŋwɔ:tɛ 'I touched' [recent simple past]

2.4. General features of noun tones. Certain details of Kikamba noun tones are generalisable for the whole group of dialects.

   i) The distinction of three tonal classes of words (-H#; -HL#; -LL#), based on the quality of final tones, is maintained by all the dialects. Neutralisations of the sub-classification A/B have taken place as follows:

(9) a. Tigania:
     5 classes: -H#; -HL#A,B; -LL#A,B

b. Mbitine and one dialect of Imenti (Muthuri Kyugû):
     4 classes: -H#; -HL#A,B; -LL#

c. Tharaka and one dialect of Imenti (Annah Kikmbati):
     3 classes: -H#; -HL#; -LL#
ii) Four syntactic environments have been enumerated above to account for the maximal differences of tonal form in Kikamba nouns. We note that there are never four different tonal forms for any one noun, but that overall the distinctions are worth making. The other dialects make the following, related distinctions, using tone to reinforce syntactic structure:

(10) Kikuyu and Embu
   a. tones before item within the same noun-phrase (adjective, cardinal numeral, associative marker)
   b. tones of item not immediately following a positive declarative verb and not sentence-finally
   c. as (10b), but sentence-finally
   d. tones of item immediately following a positive declarative verb, but not sentence-finally
   e. as (10d), but sentence-finally

(11) Mbeere
   a. tones before item within the same noun-phrase
   b. tones of subject
   c. tones of item in any other non-sentence-final position, not immediately following a positive declarative verb
   d. tones used finally except after a positive declarative verb
   e. tones used for item immediately following a positive declarative verb, but not sentence-finally
   f. as (11e), but sentence-finally

(12) Cuka
   a. tones before item within the same noun-phrase, except a cardinal numeral qualifier
   b. tones before a cardinal numeral
   c. tones of item not immediately following a positive declarative verb and not sentence-finally
   d. as (12c), but sentence-finally
   e. tones of item immediately following a positive declarative verb, but not sentence-finally
   f. as (12e), but sentence-finally

(13) Mwimbi
   a. tones before item within the same noun-phrase
   b. tones used non-finally in any sentence
c. tones used finally in a positive sentence
d. tones used finally in a negative sentence

(14) Muthambi
a. tones used before item within the same noun-phrase
b. tones used non-finally in a negative sentence
c. tones used finally in a negative sentence
d. tones used non-finally in a positive sentence
e. tones used finally in a positive sentence

(15) Imenti, Tharaka, Tigania and Mitine
a. tones used before item within the same noun-phrase
b. tones used non-finally in any sentence
c. tones used finally in any sentence

(We note that in Tigania forms (15c) are used additionally before a cardinal numeral qualifier within a noun-phrase.)

iii) Only Kikuyu, Embu and Muthambi display the flattening process, whereby the final -H#B tones are lowered sentence-finally when not immediately following a positive declarative verb (examples in Ford [1975b]). Kikuyu differs from the other dialects in one significant respect: whereas the others mark tonal distinctions before boundaries either by expanding the tonal register to four levels or not, Kikuyu marks the same distinctions either by introducing a downstep feature (of both high and low tones) to alternate with certain processes of tone-change (to be described) across the boundary, or not. The following examples illustrate some aspects of this; summaries of the relevant syntactic boundaries are given in section 3.5 ii below.
As indicated earlier, the system of tone in Kikuyu differs from that of the other dialects in its manifestations. Whereas the other dialects alternate two and four levels of tone, Kikuyu distinguishes two levels together with a process of downstep, which effectively increases the number of actual levels indefinitely. Since downstep is syntactically conditioned, the number of phonetic levels in any sentence depends on the number and type of constituents.

iv) Kikuyu possesses processes of high-tone spreading. Only one other dialect, Cuka, has a comparable process. We note that Kikuyu, with almost two million speakers, is by far the largest of the group of dialects. The Kikuyu-speaking region includes the capital, Nairobi; and this language is used both for educational purposes and more widely as the language of religion in surrounding dialect areas (though not in Ukambani). Kikuyu consequently has more prestige, and it is not unlikely that other dialects might have assimilated in the past (and will probably assimilate in the

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2 The downstep before kipaa between the main and subordinate clauses contrasts with the utilisation by the other dialects of an extra-high tone. The citation forms of the relevant verbal words are:

Cuka: ndētē:re  
Mūthambi: ndarē:tē:re  
Imenti: mbētē:re  
Tigania: mwaŋka  
Tharaka: īndarē:tē:re

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Tharaka: īndarē:tē:re
future) aspects of Kikuyu speech. Generally in Kikuyu, where a down-step does not intervene across a constituent boundary, a high tone preceding the boundary will spread to a following low tone (called simple tone-spreading):

(17) māda:ko 'games'
    né māda:ko '(they're) games' /né/ [topicaliser]
    but na māda:ko 'and games' /na/ [connective]

Where the same tonal sequences occur across a boundary marked by a down-step, a related process of high-tone spreading takes place. Features of this process are that the high tone spreads to any number of consecutive low tones, and that the downstep moves across the same spread of tones (a fuller analysis of the system of tone in Kikuyu, on which this summary is based, is provided in Clements and Ford [in preparation]):

(18) /ndináróra mwayáhiná/ 'I didn't watch weakling'
    ndináróra 'mwayáhiná' DS to mark the constituent boundary
    [ndináróra mwayáhiná] Tone-spreading with DS-movement

Compare the following examples of the processes, given the underlying form /moγeranyá/. This item belongs to the class of words whose final high tone(s) is subject to flattening in certain environments, including the citation form:

(19) moγeranyá 'examiner'
    né moγeranyá '(he's) examiner'
    ndináróra moγeránýá 'I didn't watch examiner'

Investigation of these processes reveals that in positive statements the item immediately following the verb (or the last constituent of a noun-phrase in this position) will be marked so that words of the flattening class will incorporate a downstep at the boundary. In negative statements and non-statements, or if any other position is involved (such as preceding the verb or not following immediately
after the verb), then no downstep is present, though simple tone-spreading may be triggered. In the following examples, the connective /na/ can be seen to have clitic status:

(20) /ndo:niré moyëranýa na ɲjoyóná/ 'I saw examiner and Njūguna'
    ndo:niré moyëranýa 'na ɲjoyóná DS to mark the boundary
    ndo:niré moyëranýa 'na ɲjoyóná Simple tone-spreading
    [ndo:niré moyëranýa ná ɲjoyóná] Spreading with DS-movement

Kikuyu also employs a process of tonal dissimilation, whereby final unstable high tones (a non-predictable sub-class — see Ford:1975b) become low before a high tone following across a constituent boundary. The following high tone may have been so formed by one of the processes of high-tone spreading. The dissimilation process is not operative where a downstep is present across the boundary, though it regularly occurs if the downstep has been moved. Certain restrictions on the simple spreading process, which relate to the initial sequence of tones and the coalescence either of a CV noun prefix with vowel-initial roots, or of an N-prefix with both consonant- and vowel-initial roots, and which are documented in Ford:1975b, are presupposed. The following examples illustrate the dissimilation process:

(21) /né aheiré ɲjoyóná onzeñe/ 'he gave Njūguna greatness'
    nē aheiré ɲjoyóná 'onzeñe DS to mark the boundary
    nē áheiré ɲjoyóná 'onzeñe Simple tone-spreading
    nē áheiré ɲjoyóná ónzeñe Spreading with DS-movement
    [nē áheiré ɲjoyóna ónzeñe] Unstable tone dissimilation

(22) /né aheiré ɲjoyóná njatá/ 'he gave Njūguna star'
    nē aheiré ɲjoyóná 'njatá DS to mark the boundary
    [nē áheiré ɲjoyóna 'njatá] Simple tone-spreading

v) Kikuyu is unique among the dialects under consideration in another respect, in that a form of 'tone-shift' has taken place historically. Some correspondences will indicate their course in reversing certain high
It is pertinent to recall that the tone system of Kikuyu now holds the low + high sequence to be marked when it occurs word-initially, as the constraints on single-raising, referred to above, indicate:

<table>
<thead>
<tr>
<th>Kikuyu</th>
<th>Kikamba</th>
<th>Tharaka</th>
<th>Cuka</th>
</tr>
</thead>
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<td>'oil, fat'</td>
<td>mayutá</td>
<td>mauițò</td>
<td>mayúta</td>
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<td>'well'</td>
<td>yešiímá</td>
<td>kešiímá</td>
<td>kešiímá</td>
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<td>ke:ndá</td>
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<td>'ten'</td>
<td>ikomí</td>
<td>ekómi</td>
<td>ekómi</td>
</tr>
<tr>
<td>'large (adj.)'</td>
<td>-nénê</td>
<td>-nénê</td>
<td>-nénê</td>
</tr>
<tr>
<td>'buy! [imper.]'</td>
<td>yorá</td>
<td>oá</td>
<td>yorá</td>
</tr>
<tr>
<td>'to draw (water)'</td>
<td>yotáha</td>
<td>kotává</td>
<td>yotáa</td>
</tr>
<tr>
<td>'to milk'</td>
<td>yokamá</td>
<td>kokamá</td>
<td>yokama</td>
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</tbody>
</table>

The points of difference noted above are clearly significant at the phonetic level. A close examination of the fundamental functions of tone in the language, together with a knowledge of the particular conditioning factors, reveals that the tone system of Kikuyu is at a deeper level very similar to that more obviously shared by the other dialects. Subsequent sections will point to additional uses of tone that support this conclusion.

vi) An important segmental distinguishing characteristic of Kikamba has already been hinted at — the loss of the consonants [r] and [y]. The following comparative data will reinforce this suggestion:

<table>
<thead>
<tr>
<th>Kikuyu</th>
<th>Kikamba</th>
</tr>
</thead>
<tbody>
<tr>
<td>'cook!'</td>
<td>rúya</td>
</tr>
<tr>
<td>'go sour!'</td>
<td>yayáta</td>
</tr>
<tr>
<td>'grunt!'</td>
<td>yorómá</td>
</tr>
<tr>
<td>'fence round!'</td>
<td>iríya</td>
</tr>
<tr>
<td>'grumble!'</td>
<td>neyéna</td>
</tr>
<tr>
<td>'hill'</td>
<td>kerema</td>
</tr>
</tbody>
</table>

These facts are discussed in detail in Ford [1975a]; reference may also be made to Whiteley and Múli [1962] and Farnsworth [1957].
3. **The Tones of Verbs**

3.1. **Basic forms.** Kikamba distinguishes verbs with basic low or high tones; additionally, roots with initial long vowels of both types regularly bear distinctive tone patterns. They are exemplified in their positive imperative singular forms and their infinitive nominalisations (prefix ko-).

(25)

a. **High-toned root**

<table>
<thead>
<tr>
<th>Short initial vowel:</th>
<th>Infinitive</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Imperative</strong></td>
<td></td>
</tr>
<tr>
<td>yà</td>
<td>koyà</td>
</tr>
<tr>
<td>óma</td>
<td>koðma</td>
</tr>
<tr>
<td>ómá: nga</td>
<td>koðma: nga</td>
</tr>
<tr>
<td>Long initial vowel:</td>
<td></td>
</tr>
<tr>
<td>ñga</td>
<td>koñga</td>
</tr>
<tr>
<td>ñga: nga</td>
<td>koñga: nga</td>
</tr>
</tbody>
</table>

[Note that there is a vowel-shortening process, by which any initial or final vowel must be short; length is therefore covert in the above imperative forms.]

b. **Low-toned root**

<table>
<thead>
<tr>
<th>Short initial vowel:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>tìlà</td>
<td>kotìlà</td>
</tr>
<tr>
<td>ninì: nga</td>
<td>koninì: nga</td>
</tr>
<tr>
<td>tinééa</td>
<td>kotineéa</td>
</tr>
<tr>
<td>Long initial vowel:</td>
<td></td>
</tr>
<tr>
<td>kò: mba</td>
<td>kokò: mba</td>
</tr>
<tr>
<td>ò: ndéma</td>
<td>kotò: ndéma</td>
</tr>
<tr>
<td>tò: mbatò: mba</td>
<td>kotò: mbatò: mba</td>
</tr>
</tbody>
</table>

3.2. **Variations in verb forms.** Declarative verb forms differ tonally in certain cases when sentence-final and when non-final. Both positive and negative forms show the same alternations, except when the utterance-final, intonationally marked [~] reflex of a -H#B word is involved. When it is realised that this tone has two non-final forms, [~] and [x], which represent, respectively, a positive declarative and either negative declarative
or non-declarative environment, we can see clearly the relationship be-
tween the tones of verbal words and the tones of nouns as described in
section 1. The variations in verb tones may be tabulated as follows:

\[
\begin{array}{|c|c|c|}
\hline
\text{Environment} & 1 & 2 \\
\hline
\text{LLA, B} & \text{[- -]} & \text{[- -]} & \text{[- -]} \\
\text{HLA, B} & \text{[- -]} & \text{[- -]} & \text{[X X]} \\
\text{HAA} & \text{[- -]} & \text{[- -]} & \text{[- -]} \\
\text{HAB} & \text{[- -]} & \text{[X]} & \text{[- -]} \\
\text{LLA, B} & \text{[- -]} & \text{[- -]} & \text{[- -]} \\
\text{HLA, B} & \text{[- -]} & \text{[- -]} & \text{[X]} \\
\hline
\end{array}
\]

where the environments are:

1. positive non-final
2. negative non-final, and any non-declarative (imperative and
   subordinate) form
3. any final

Some examples of the alternations are given below:

\[(27) \quad \text{Present habitual} \]
\[\text{né ngámaá 'I milk'} \quad \text{né:ngámaá ndá:mbé 'I milk cows'} \]
\[\text{ndí:kámáá 'I don't milk'} \quad \text{ndí:kámáá ndá:mbé 'I don't milk cows'} \]
\[\text{Past habitual} \]
\[\text{ndý:x:kámáá 'I didn't used to milk'} \quad \text{ndý:x:kámáá ndá:mbé 'I didn't used to milk cows'} \]
\[\text{Today past} \]
\[\text{ndí:nákámáá 'I didn't milk'} \quad \text{ndí:nákámáá ndá:mbé 'I didn't milk the cows'} \]
\[\text{Past perfect} \]
\[\text{nénéná:kámé:té 'I had milked'} \quad \text{nénéná:kámé:té ndá:mbé 'I had milked the cows'} \]

If we extend the data to include complex and compound sentences, we
find examples of verb forms which are strictly analogous to the four forms
established for nouns. Thus, before certain internal clause/sentence
boundaries, the verb tone may be characterised as follows:
The choice of forms 2 and 3 is conditioned by the form of the verb — forms 3 for negative declarative and non-declarative, and forms 2 for positive declarative only. Some examples are as follows:

(a)

a. **Complement sentence:**

motó: aká:syá kaná áoı'e eiò (cf. aká:syá 'he will say')

Mütüa will say that he bought a banana

b. **Causal sentence:**

ngáúá nō:ndō áoı'e leu (cf. ngáúá 'I will cook')

I will cook because he bought the food

c. **Conditional sentence:**

éōëwän̓ ngá:kám̓ ngá:yà (cf. ngá:kám̓ 'I will milk')

If I milk I will eat

d. **Simultaneous sentence:**

kakōl̓ aká:mbón̓ ngékám̓ kât̓:nà (aká:mbón̓ 'he will see me')

Kakuli will see me I milk the kid

'Kakuli will see me milking the kid.'

kakōl̓ ndá:na:mbón̓ ngékám̓ kât̓:na (ndá:na:mbón̓ 'he did not see me')

'Kakuli did not see me milking the kid.'

e. **Purpose sentence:**

nénō:kā nékanā néue mokát̓e (nénō:kā 'I came')

I came in order that I might bake bread

ndíns̓:kā nékanā néue mokát̓e (ndíns̓:kā 'I didn't come')

'I didn't come in order to bake bread.'
3.3. Exceptional tonal forms. With the exception of very few items (such as 'today'), all words in Kikamba have the same basic phonetic tonal structure: the high/non-high opposition is used in all syllables except the penultimate and final, when the range of possibilities widens to four levels in specific cases. The range of alternatives (excluding gliding tones, which are predictable in penultimate and final syllables except in verbal words) may be summarised as follows:

<table>
<thead>
<tr>
<th>Preceding</th>
<th>Penultimate</th>
<th>Final</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A common form which bears an unchanging extra-high tone is the negative formative \( t^\ddagger \). This item is used in forming the negative declarative tenses, and we can thus explain why these tense forms regularly break the conditions on tonal word-structure outlined above, e.g.

(31) Past today: nd\(\ddagger\)nak\(\ddagger\)m\(\ddagger\) 'I didn't milk' /N + t\(\ddagger\) + na + k\(\ddagger\)m + a/

When placed in context with a following item, the word-final pattern will alter according to general rules, but the extra-high tone of the negative formative remains exceptionally constant:

(32) nd\(\ddagger\)nak\(\ddagger\)m\(\ddagger\) m\(\ddagger\)b\(\ddagger\) 'I didn't milk the cows.'

3.4. Tonal paradigms. It is necessary to view the tone patterns of the various verb tenses as basic formulae which are open to specific modification depending on the type and tone of the subject-prefix, the basic tone-class and type of the verb root, the presence or absence of object prefixes, and the interplay of vowel and tone contraction, but which cannot be viewed simply as the derived forms of strings of morphemes, unless we allow an abnormally large amount of variation in their tonal realisations. Related data are similarly treated in Maddieson et al. [1973]. Compare the following Kikamba forms:
278

(33)  

a. **Present perfect** (1st person singular forms):  

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>né:ngámë:të</td>
<td>ndákámë:të /káma/ 'milk' [class 1]</td>
<td></td>
</tr>
<tr>
<td>néngwá:të:të</td>
<td>ndákwá:të:të /kwá:ta/ 'touch' [class 1]</td>
<td></td>
</tr>
<tr>
<td>né:mënöökë:të</td>
<td>ndávöökö:të /vööko/ 'attack' [class 1]</td>
<td></td>
</tr>
<tr>
<td>né:nööite:të</td>
<td>ndáööite:të /ööta/ 'drown' [class 2]</td>
<td></td>
</tr>
</tbody>
</table>

We note that in the present perfect, class 2 forms with long initial vowels (e.g. látáyá 'fetch') pattern with class 1 roots, in opposition to class 2 forms with short initial vowels (e.g. ööta 'drown'). In the past perfect, however, class 2 forms pattern similarly in opposition to the class 1 forms. Comparing the two class 1 forms, vööko 'attack' and káma 'milk', we note how the patterning takes account of the extra syllable in the former by extending the pattern accordingly; the pattern is extended differently in both tenses.

We also find that long-initial-vowel roots of both tone classes are regularly distinguished tonally; high-toned forms are distinguished by the presence or absence of a gliding tone in the past perfect forms above, while the low-toned forms are kept distinct in the remote past:

b. **Past perfect**  

<table>
<thead>
<tr>
<th>Positive</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>né:néná:kámë:të</td>
<td>ndínná:kámë:të</td>
</tr>
<tr>
<td>né:néná:vöökö:të</td>
<td>ndínná:vöökö:të</td>
</tr>
<tr>
<td>né:néná:ööite:të</td>
<td>ndínná:ööite:të</td>
</tr>
</tbody>
</table>

3.5. **General features of verb tones.** i) All the dialects reinforce tonally the distinctions between both sub-classes of high- and low-toned verb roots,
i.e. those with initial long vowels and those with initial short vowels. These distinctions are clearly seen in the positive imperative and infinitive nominalisation forms, as well as in particular tenses. Some examples are as follows:

(35)

a. **High-toned roots with initial short vowel**

<table>
<thead>
<tr>
<th>Kikuyu</th>
<th>Cuka</th>
<th>Mwindi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ṛuya</td>
<td>Ṛuya</td>
<td>Ṛuya</td>
</tr>
<tr>
<td>koruya</td>
<td>koruyə</td>
<td>koruya</td>
</tr>
<tr>
<td>kunekera</td>
<td>kunekera</td>
<td>kuneke</td>
</tr>
<tr>
<td>yokunekera</td>
<td>yokunekera</td>
<td>yokunekera</td>
</tr>
</tbody>
</table>

b. **High-toned roots with initial long vowel**

<table>
<thead>
<tr>
<th>Ṛọta</th>
<th>Ṛọta</th>
<th>Ṛọta</th>
</tr>
</thead>
<tbody>
<tr>
<td>korọta</td>
<td>korọta</td>
<td>korọta</td>
</tr>
</tbody>
</table>

c. **Low-toned roots with initial short vowel**

<table>
<thead>
<tr>
<th>Yorá</th>
<th>Yorá</th>
<th>Yorá</th>
</tr>
</thead>
<tbody>
<tr>
<td>kororá</td>
<td>kororá</td>
<td>kororá</td>
</tr>
<tr>
<td>yorána</td>
<td>yorána</td>
<td>yorána</td>
</tr>
<tr>
<td>kororana</td>
<td>kororana</td>
<td>kororana</td>
</tr>
</tbody>
</table>

d. **Low-toned roots with initial long vowel**

<table>
<thead>
<tr>
<th>Qọ:kyə</th>
<th>Qọ:kyə</th>
<th>Qọ:kyə</th>
</tr>
</thead>
<tbody>
<tr>
<td>yorọ:kyə</td>
<td>yorọ:kyə</td>
<td>yorọ:kyə</td>
</tr>
</tbody>
</table>

(ii) Verbs regularly bear the same tonal alternative forms as nouns, and they alternate in similar fashion according to final tone pattern and syntactic content, though these syntactic environments are in certain cases different. There seems to be a high degree of uniformity in this conditioning; for supporting evidence of this see Appendix 1.

4. **Tones in Other Word-classes in Kikamba**

It can be shown that words in other word-classes bear basic tone patterns that alternate regularly according to the same principles discussed so far. Thus, an adjective or numeral, when functioning as a nominal qualifier (in which case it follows the noun in question) or as a complement after
a verb, may bear any of the tonal forms 2, 3 or 4. Some cardinal numeral
qualifiers in Kikamba, with their tone classes, are as follows: numerals
1 - 5 carry concord prefixes, high-toned except for classes 1, 4 and 9,
which (as in all the dialects considered here, and in other Bantu lan-
guages) are low-toned.

(36)  -mwe -H#A 'one'
       -éle -H#B 'two'
       -tató -HL#A 'three'
       -nà³ 'four'
       -tató:nò -HL#A 'five'

Examples in context:

(37) a. Tonal forms 4:
    né mo:ndo omwe 'it's one person'
    né ando élé 'it's two people' (where the prefix a- contracts
    with -élé)
    né ando átató 'it's three people'
    né ando ñá 'it's four people'
    né ando átató:nò 'it's five people'

b. Tonal forms 3:
    né ando élé váá 'there are two people here'

Examples can be given to indicate that the same is true not only for
adverbs and conjunctions in Kikamba, but also for items of all word-classes
in other dialects. Some Kikamba examples are as follows (tonal forms are
indicated in parentheses beneath the word in question):

(38) a. Adjective: né mokúvé 'he's short'
    (4)
    né mokúvé monò 'he's very short'
    (3) (2)

³ This form may be -LL#A with a low-toned prefix, or -HL#A with a high-
toned prefix.
5. **Tones in Complex Sentences**

The tones of verbs before various sentence boundaries have been exemplified in section 3. In coordinate and subordinate sentences in Kikamba, the same variations in tonal forms are found as in main clauses or simple sentences, subject to one major constraint: that the forms 3 and 4 are restricted to follow positive declarative verbs only. If the verb form is inherently subordinate (i.e. restricted to occur only in subordinate sentences), then the forms 2 must be used in all places in the subordinate sentence. Kikamba, like many other Bantu languages, possesses verb forms that can be used without conjunctions to indicate forms of coordination and subordination. Some examples are seen in sentences employing positive declarative verb forms and hence maintaining the forms 3 and 4 immediately following the verb.

(39) a. **Complement sentences:**

\[
\text{motöå} \text{áísye} \text{kaná} \text{áoíe} \text{eio} \quad \text{"Mütũa said that he bought the banana."}
\]

Compare the negative:

\[
\text{motöå} \text{áísye} \text{kaná} \text{nđăn̄aoa} \text{eio} \quad \text{"Mütũa said that he hadn't bought the banana."}
\]

b. **Simultaneous ke- tense:**

\[
\text{kakólë} \text{anâ:mwó:nye} \text{áikámá} \text{tote:nâ} \quad \text{"Kakûli saw him milking the kids."}
\]

Note that the positive-declarative forms are used where the subjects of the main and subordinate sentences are identical (this is a general feature of all the dialects that maintain these tonal distinctions):
he was leaning on a stick while herding kids

Again, where the object of the main clause and the subject of the subordinate is overtly expressed (other than as a prefix to the main verb), then the forms 2 must follow the subordinate verb. To generalise, only one item may bear the forms 3 or 4 in a construction that is not viewed as two separate units (like a conditional sentence); if there is an item following the main verb before the subordinate, then, given that the verb is positive declarative, the forms 3 will be used; any item then following the subordinate verb will bear the tonal forms 2. If no item intervenes after the main verb, then the forms 3 (or 4 if utterance-final) will follow the subordinate verb. Compare the following:

(41) anâ:mvó:nye mò:lwà akékámá totê:na
    (3)   (2)

'He saw Mülwa milking the kids.'

Note also the following conditional form which maintains the modal tone-reinforcement because the subordinate sentence employs a positive declarative verb (its form is indicated in parentheses):

(42) ēé̃ew̃ x̃gâ:kámá totê:nà x̃gâ:yâ
    (indefinite future) (3)

'If I milk the kids, I will eat.'

Some examples follow of subordinate forms which neutralise the tonal distinctions after the verb, employing inherently subordinate tenses:

(43) a. **Emphatic sentence:**
    evûkû né yû oné:ngīe mó:lwà
    book it give (2)

    'It was a BOOK he gave to Mülwa.'

b. **Consecutive sentence:**
    nen̄ôkyc nenâúá mokâtê na nenâ:yâ mbo:sò
    come bake (2) and eat (2)

    'I came and baked bread and ate some beans.'

c. **Purpose sentence:**
    nen̄ôkā x̄n̄e:nâ x̄ne mokâtê
    (2)

    'I came in order to bake bread.'
d. Conditional sentence:

\[ \text{nà:káма́ katč:na ɔ:ně kakšlè akà:sènà} \]

(2)

'If I milk the kid tomorrow, Kakùlì will be surprised.'

Again, these facts are generalisable for the whole group of dialects, subject to the restrictions imposed on the variety of tonal forms by each particular dialect. Thus, Tharaka and Imenti have simplified the oppositions to only three. In the rest, however, similar tonal reinforcement of positive declarative forms is employed.

6. Imperatives

The forms of imperative expression are non-positive-declarative and involve only the tonal forms 2 following them. They additionally alternate the sentence-final [^] tone, where used, to [x] in context, like negative declarative and other non-declarative verb forms.

(44) a. Positive: káma

káma katč:na 'milk!' 'milk the kid!' (2)

b. Negative: ndoka:kámè

ndoka:kámè katč:na 'don't milk!' 'don't milk the kid!' (2)

Compare also the following:

(45) ndoḗ mba:kè

(2)

'buy me some snuff!'

ndoḗ mba:kè mbéú

(1) (2)

'buy me some nice snuff!'

ndoḗ mba:kè ya sumù:ne

(1) (2)

'buy me 50 cents' worth of snuff!'

né:nà: moká no:mbá

(2) (2)

'give the wife a house!'

These are general features of all the dialects. Another factor, exemplified in the forms in section 3.5, is that the tones of positive imperative verb forms (compared with the infinitive nominalisations, which bear declarative tones) regularly have unique patterns that may involve extra-high non-final tones and level (non-falling) final low tones. These
patterns, where used, are inherently peculiar to imperative forms, though again variations according to verb class and sub-type are predictable, given the basic paradigm.

7. Interrogative Expressions

Interrogatives can usefully be divided into those which involve an overt question word (WH-questions for convenience), and those that do not, but involve tonal modification only.

7.1. WH-questions. When the question word is sentence-initial, the emphatic forms of the verb are used (which are inherently subordinate), so that the forms 2 only are used after the verb. When the question word follows the verb (usually sentence-finally), the declarative verb forms are used, so that the tonal forms 3/4 are employed in a positive environment.

\[\text{(46) } \text{nóo óyíe katë:na} \quad '\text{Who stole the kid?}'\]
\[\text{óyíe katë:nà naao} \quad '\text{He stole the kid with whom?}'\]
\[\text{motò: óyíe katë:nà áta} \quad '\text{How did Mütùa steal the kid?}'\]
\[\text{ánè:ngíe mó:lwa} \quad '\text{What did he give to Mūlwa?}'\]

7.2. Questions without a question word. In Kikamba, such questions employ an expanded tonal register, so that high tones are higher than in statements and commands (given that there is no special raising of pitch for paralinguistic purposes). Only two tone levels are utilised in any position: \([\text{x}]\) and \([\text{−}]\). The rule for deriving these tones from underlying forms is simple:

\[\text{(47) Question rule: } /\text{H}/ \rightarrow [\text{x}]\]

Gliding-tone formation takes place as in declarative sentences. Compare the following base forms and their realisations in statements and direct questions:

\[\text{(48) a. } \text{−H/} /\text{ndò:to}/ \quad '\text{dream'}\]
\[\text{[ndò:to]} \quad \text{(Statement)}\]
\[\text{[ndò:to]} : \quad \text{(Question)}\]
Where the tonal forms above are identical in their tone-marking for both statement and question forms, it must be remembered that the interrogative tones are invariably higher than their non-interrogative counterparts. The interrogative forms of verbs and all other words are derived in the same manner:

Examples of simple sentences:

(50) moká né moa:sâ  'the wife is tall'
mokâ nê moa:sâ  'is the wife tall?'
7.3. Generalisations for the dialect group. The functions of tone in WH-questions in Kikamba are the same for all dialects, though again Imenti and Tharaka have neutralised the basic tonal oppositions, both between forms found sentence-finally or not, and between items immediately following a positive declarative verb or not.

With regard to non-WH-questions, tone is utilised more noticeably in regularly being the sole marker of the question. The use of a raised tonal register, as noted in Kikamba, is common for all speakers, though in some other respects the facts outlined above represent some unusual features compared to the other dialects. The following points should be noted.

i) Of the group, only Kikamba involves tone-marking on more than the final element in the interrogative sentence.

ii) Kikuyû differs from the rest of the dialects, as already seen, in certain details, and one of these affects non-WH-questions. The downstepping which can mark the syntactic boundary between certain main and subordinate clauses is restricted to negative environments in such questions. A sentence is "negative" in this sense when the first verb of a consecutive series or the main verb in a sentence with subordination is negative.

iii) Kikuyû differs again in marking non-WH-questions by processes which involve tone-lowering, while all other dialects mark questions by tone-raising. Compare the following Kikuyû examples with those for Kikamba given above.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>né kâng'ri</td>
<td>né kâŋ'ri</td>
</tr>
<tr>
<td>né njatá</td>
<td>né njátá</td>
</tr>
<tr>
<td>né bíríbíri</td>
<td>né bíríbíri</td>
</tr>
<tr>
<td>né móyëranyà</td>
<td>né móyëranyà</td>
</tr>
</tbody>
</table>

iv) All dialects except Kikamba employ different question forms (for at least one tone-class of word) depending on whether the sentence polarity is positive or not (again, citation forms are treated as non-positive; it will be recalled that citation statement forms have tonal
forms 2, as all subject items do). Compare the Kikuyu non-positive forms of the items in (51):

(52) **Statement**

<p>| | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ndiró:ňá káŋeri</td>
<td>ndiró:ňá káŋeri</td>
<td>'didn't I see Kang'eri?'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot; njáťá</td>
<td>&quot; njáťá</td>
<td>'didn't I see a star?'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot; bíříbiří</td>
<td>&quot; bíříbiří</td>
<td>'didn't I see chillies?'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot; móřeranyá</td>
<td>&quot; móřeranyá</td>
<td>'didn't I see the examiner?'</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Conclusion

Kikuyu can be assumed to have undergone certain sound changes, most of which are shared by neighbouring dialects. Thus, whereas prenasalised voiceless stops are found in the northern group of dialects, Kikuyu has lost these sounds by voice-assimilation in nasal-compounds, as have Embu, Mbeere, and Kikamba; e.g.

(53) **Kikuyu** Embu Kamča Cuka Mwimbí Tharaka Imenti

<table>
<thead>
<tr>
<th>firewood</th>
<th>roko</th>
<th>rokó</th>
<th>okó</th>
<th>rokó</th>
<th>rokó</th>
<th>rokó</th>
</tr>
</thead>
<tbody>
<tr>
<td>pl.</td>
<td>ñgo</td>
<td>ñgo</td>
<td>ñgo</td>
<td>ñko</td>
<td>ñko</td>
<td>ñko</td>
</tr>
<tr>
<td>breast</td>
<td>mno:ndo</td>
<td>mno:ndo</td>
<td>mno:ntó</td>
<td>mno:ntó</td>
<td>mno:ntó</td>
<td>mno:ntó</td>
</tr>
<tr>
<td>heart</td>
<td>ngoró</td>
<td>ngôrô</td>
<td>ngôrô</td>
<td>nkorô</td>
<td>nkorô</td>
<td>nkorô</td>
</tr>
<tr>
<td>person</td>
<td>mno:ndo</td>
<td>mno:ndo</td>
<td>mno:ntó</td>
<td>mntó</td>
<td>mntó</td>
<td>mntó</td>
</tr>
</tbody>
</table>

Unique to Kikuyu, however, is the tone-shift, exemplified in (23) of section 2.5. above, whereby LHL words have shifted to LLH. A possible source of this shift may be historical close-contact with the Maasai who occupied land adjacent to that settled by the Kikuyu. The most conservative Kikuyu dialects, both tonally and segmentally, are in the northern area. Benson [1964] marks specially a large number of forms attested only in Northern Kikuyu, together with a number of loanwords from Maasai. Some of the words peculiar to Northern Kikuyu are also loanwords from Maasai; e.g.

(54) **payaitilo** "good or bad but plentiful beyond description — originally a Maasai battle-cry meaning 'I have come, hold on, they shall not pass'"
Maasai is a Nilotic language (see Tucker and Mpaayei [1955]), and the phonetic forms of tone involve basically two distinct levels and a process of downstep between adjacent high tones. In non-questions, a sentence-final low tone becomes extra-low [̃]. The major function of tone is to distinguish the subject from the non-subject (indirect and direct object and the citation form). Various alternations take place:

<table>
<thead>
<tr>
<th>(55)</th>
<th>Absolute</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>ēmbārtā</td>
<td>ēmbartā</td>
</tr>
<tr>
<td>b.</td>
<td>ighapētā</td>
<td>ighapētā</td>
</tr>
<tr>
<td>c.</td>
<td>ighağē</td>
<td>ighağē</td>
</tr>
<tr>
<td>d.</td>
<td>entitō</td>
<td>entitō</td>
</tr>
<tr>
<td>e.</td>
<td>enkītēŋ</td>
<td>enkītēŋ</td>
</tr>
<tr>
<td>f.</td>
<td>enkītōk</td>
<td>enkītōk</td>
</tr>
<tr>
<td>g.</td>
<td>isirkōn</td>
<td>isirkōn</td>
</tr>
<tr>
<td>h.</td>
<td>ēlōŋō</td>
<td>ēlōŋō</td>
</tr>
<tr>
<td>i.</td>
<td>ēlarripōk</td>
<td>ēlarripōk</td>
</tr>
<tr>
<td>j.</td>
<td>ēltvānānī</td>
<td>ēltvānānī</td>
</tr>
<tr>
<td>k.</td>
<td>ēlme'ūt</td>
<td>ēlme'ūt</td>
</tr>
<tr>
<td>l.</td>
<td>ēlkīrōbē</td>
<td>ēlkīrōbē</td>
</tr>
</tbody>
</table>

The subject forms neutralise the distinctions of the absolutes, and several forms of tone-change are involved. Several classes involve what is called tone-reversal; thus, LLH in (55f.) becomes LHL in the subject form; HHHHL of (55i.) becomes LLLL. Furthermore, the inventory of possibilities for alternating tone patterns to mark the cases is increased by reversing the absolute and subject patterns to mark a different class. Thus, (55d.) and (55k.) are so reversed; and so are (55a.) and (55i.), and (55e.) and (55j.). Often (55h.) displays the alternative realisations of the high-low sequence.

Maasai is thus a possible source, through contact, of some of the facets of the Kikuyu tone system (the tone-shift and the phonetic system of two
levels with downstep) which distinguish it from the rest of the Central
Kenya Bantu languages.

We note that Clements (1976) describes an analogous situation in re-
spect of certain Ewe dialects (Niger-Congo, Kwa). Anglo Ewe marks certain
constituent-structure boundaries (in fact very similar ones to those exem-
plified above in respect of the group of Bantu languages) by a preceding
extra-high tone (EH). Other dialects instead incorporate a downstep feature
across the same boundaries. Clements notes that these two processes
achieve the same phonetic result, viz.

(56) $\text{EH} + \text{H} \quad \text{or} \quad \text{H} + !\text{H} = [- - ]$

and suggests that the historical development might be from the downstep to
the fourth-level stage by a fossilization of the distinction between the two
like tones across the boundary.

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APPENDIX 1

Mwímbí

Verb forms 1 Verb plus item in its own sentence, including all simple sentences, and before the following subordinate sentences:
    simultaneous ke- prefix tenses
    áte complement sentences
    néöando causal sentences
    mběrē ya 'before' sentences
    kć:ndā purpose sentences

Verb forms 2 (Pos.)

Verb forms 4 (Neg.) Sentence-final verb form before:
    kĩnā 'until' sentences
    consecutive and conjoined (na) sentences
    verb in concessive (na tense) sentence before the main clause
    verb in conditional clause before main clause
    verb in relative clause before main clause

Verb forms 3 (Pos.)

Verb forms 5 (Neg.) Verb used utterance-finally.

Embu

Verb forms 1 Verb plus item in its own sentence, including all simple sentences, and before the following subordinate sentences:
    simultaneous sentences
    áte complement sentences
    néöando causal sentences
    mběrē ya 'before' sentences
    něywō purpose sentences
    ngĩnā 'until' sentences
    wanayotwēka concessive sentences
Verb forms 3
Verb before the following environments:
- negative verb plus consecutive and conjoined sentences
- negative relative verb plus main clause
- negative conditional verb plus main clause

Verb forms 5
Verb in the following environments:
- positive verb plus consecutive and conjoined sentences
- positive relative verb plus main clause
- positive conditional verb plus main clause.

Imenti
Verb forms 1
Verb plus item in its own sentence, including all simple sentences, and before the following subordinate sentences:
- simultaneous sentences
- áte complement sentences
- tonto causal sentences
- kinya kèdènà concessive sentences

Verb forms 2
Verb before the following subordinate sentences:
- mwanjà 'until' sentences
- na, ènde conjoined sentences
- mbèrè ya 'before' sentences
- kènda purpose sentences

A subordinate relative or conditional tense before a main clause

Verb forms 3
Any verb form used sentence-finallly.

Tigania
Verb forms 1
Verb plus item in its own sentence, including all simple sentences, and before the following subordinate sentences:
- áte complement sentences
- néonto causal sentences
- kinya kèdènà concessive sentences
- mbèrè ya 'before' sentences
- kènda purpose sentences
Verb forms 2
Verb before the following:
  mwaŋká 'until' sentences
  na, ŋende conjoined sentences
  consecutive tenses
A subordinate relative or conditional tense before a following main clause

Verb forms 3
Any verb form used sentence-finally.

Mlitine
Verb forms 1
Verb plus item in its own sentence, including all simple sentences, and before the following subordinate sentences:
  simultaneous sentences
  mwaŋká 'until' sentences
  kipā kēdrwā concessive sentences
  mbɛrɛ 'before' sentences
  kesndā purpose sentences
Verbs in certain tenses only (not generalisable) before:
  na, ŋende conjoined sentences
  āte complement sentences
  néonto causal sentences

Verb forms 2
Verbs in the remaining tenses before:
  na, ŋende conjoined sentences
  āte complement sentences
  néonto causal sentences
A subordinate relative or conditional tense before a following main clause

Verb forms 3
Any verb form used sentence-finally.
Mbeere

Here verb forms 1 are used in all non-sentence-final environments, including:

- verb before item in its own sentence, and before the following subordinate sentences:
  - simultaneous sentences
  - consecutive sentences
  - kipa ya 'until' sentences
  - ate complement sentences
  - neondo wa causal sentences
  - wanarérya concessive sentences
  - mbëre yá 'before' sentences
  - né kënda purpose sentences

- any relative or conditional tense before a following main clause.