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SAFWA[1] AS A RESTRICTED TONE SYSTEM

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1. Some remarks on prosodic systems

Confronted with a language like Safwa, which permits only one prominent[2] syllable per word[3] most linguists would probably tend to use the label stress rather than tone. This is because they largely operate with simplified box-model typologies like the following:

Stress language	one distinction per word
Tone language	one distinction per syllable

In some cases the claim is even stronger and it is said that in a stress language, stress or intensity is used, and in a tone language, tone or pitch is used, stress and tone being phonetically distinct.

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[1] Safwa is a Bantu language, spoken in an unknown number of varieties around Mbeye (in Tanzania), and classified by Guthrie as M 25. See for more details Elise Kootz-Kretschmer, Die Safwa, 3 volumes, Berlin, 1926-29. My data are exclusively from Ilaambo, a village between Mbeya and the Poroto mountains to the South. I had access to a manuscript grammar by Bishop J. Van Sambeek (finished in 1933), which proved very helpful in the elicitation. My main informant was Celestine K. Mwachusa, the best informant I have ever worked with. Research was carried out between September 14-October 5, 1966, and financed by a grant from the Netherlands Foundation for the Advancement of Tropical Research (WOTRO) under no. W. 417-5. The results have been privately circulated in the form of a surface grammar under the title: A Grammar of Safwa. Preliminary draft by J. Voorhoeve, based on previous research by J. Van Sambeek, checked by C. K. Mwachusa. All data on prosodic features were obtained during the research period. A first draft of this paper has been discussed during a colloquium on prosodic systems at Leiden University, 9-11 September, 1972 (see conference report in SAL 3.3:449-450).
I am grateful to valuable criticisms made by participants, especially by Dr. Thilo C. Schadeberg.

[2] The term prominence is used throughout this paper as a cover term, which does not force the author to make a decision concerning the phonetic correlates (intensity and/or pitch). A prominent syllable is distinct from a non-prominent one by some prosodic feature(s). While I have used the feature [TONE] in the Safwa rules to be presented, Safwa prominence includes impressionistically both greater intensity and higher pitch.

[3] The only exception to the general rule that only one syllable per word can be prominent will be discussed in Section 2.

Since I assume that pitch is an important component of both stress and tone, it is difficult to postulate an absolute distinction between the two phenomena in the phonetic output. One has to consider the possibility that the labels stress and tone rather reflect underlying distinctions, and symbolize different functions of prosodic distinctions in the language.

McCawley's unpublished 1964 paper enriched the original tone vs. stress dichotomy by narrowing down the scope of the label Tone, to be attached only to those languages demanding a prosodic specification for every syllable of every morpheme in the lexicon. His boxes are ordered in the following way:

Bound accent	No syllable lexically specified
Partially free accent	One fixed syllable per word specified
Free accent	One free syllable per word specified
Tone	Every syllable specified

The main division is constructed between Pitch Accent Languages (the first three boxes) which use Accent reduction rules, and Tone Languages (the last box) which use Tone assimilation rules. One could with the same right draw the main division between the first box (languages with rule defined prosodies) and the last three boxes (languages with lexically difined prosodies).

In his 1970 paper, McCawley suggests that some languages (Japanese dialects, Ịjọ, Ganda) do not fit into these boxes. These langauges show both Accent reduction rules and Tone assimilation rules, although the first always seem to precede the latter. This observation already questions the box-model typology.

I would like to add another observation, which makes clear that the distinction between the first two boxes is not so obvious either. More often than not we find borderline cases, in which one cannot state without hesitancy whether the language uses lexically defined or rule defined prosodies. Sranan, the coastal English-based Creole language of Surinam (former Dutch Guiana) favors penultimate stress, but a minority of lexical items (mainly Portuguese or other non-English origin) shows

ultimate stress:

(1) kabá (/ P acabar)
pasá (/ P passar)
piná (/ P penar), etc.

This has even created a minimal pair:

(2) bári (/ E bawl)
barí (/ P barril)

One could regard the language as a Bound Accent Language and indicate the lexical items which do not follow the general rule of penultimate stress placement by a rule feature. But it would also be possible to regard the langauge as a Partially Free Accent Language and mark all the ultimate syllables: barí (P / barril) vs. bari (E / bawl). If the ultimate syllable is marked, it will be stressed, if not, the preceding syllable will be.

Gambian Mandinka has been described as a language in which all lexical items should be marked as belonging to one of two different patterns: Level or Moving Accent. "These names have been chosen because in most realizations of the former the pitch of the voice remains level throughout the word, while in the latter the voice may rise, fall or remain level according to circumstances." (Rowlands [1959:21]). In certain grammatical constructions, the first lexical item determines the pattern of the whole phrase. In the following examples an acute accent over the first vowel represents the Level Accent, and absence of the acute accent over the first vowel the Moving Accent. Numbers indicate pitch contours, 1 being the lowest level:

(3)	sóli	'leopard'
	jata	'lion'
	kuloo	'skin'
	sóli-kuloo /2 2 2 2/	'leopard skin'
	sóli-kulu baa /2 2 2 2 2/	'a big leopard skin'
	sóli-kulu-tio /2 2 2 2 2-2/	'a leopard skin owner'
	jata-kuloo /1 1 2 2/	'lion skin'
	jata-kulu baa /1 1 1 1 2/	'a big lion skin'
	jata-kulu-tio /1 1 1 1 2-2/	'a lion skin owner'

Both languages, Sranan and Gambian Mandinka, can be described in almost identical terms:

(a) one can pick out one pattern as normal and indicate all lexical items which do not follow this pattern as being exceptional, or

(b) one can mark one syllable of the lexical item (the final one for Sranan and the initial one for Gambian Mandinka) and leave the others unspecified.

Our linguistic intuition indicates solution (a) as correct for Sranan, and solution (b) as correct for Mandinka. This intuition seems to be based primarily on numerical proportions. Solution (b) is preferred if the markings are distributed in an almost equal proportion.[4] Solution (a) is preferred if the exceptions are really exceptional and show a low proportion on the total of lexical items involved.

This observation indicates that there seems to exist a gradual transition between the first two boxes in McCawley's typology, just as there is between the last two boxes.

This may force us to leave all box-model typologies and to move in the direction of a scalar model with defined extremes: all vowels specified for prosodic distinctions on the one hand, and no vowels specified for prosodic distinctions on the other hand. I wonder if the extremes are really as common as the box model suggests. Are there Bound Accent Languages which do not need to mark exceptions (like barábara in Swahili) or Tone languages without restrictions in the distribution of tone over the syllables (like the absence of high tone in Bantu nominal prefixes)? Such a question is only important within a box model. The extremes in a scale model are intended to represent theoretical possibilities which are not expected to be found.

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[4] On 200 Bantu roots of the type CV(V)C (Guthrie's reconstruction) Dr. Thilo C Schadeberg counted 114 items with H and 86 items with L tone. The same count on the basis of Meeussen's compilation of all lexical reconstructions before Guthrie indicates 121 with H and 79 with L tone. These proportions are regarded as almost equal. The disproportion may indicate L as the marked category in Proto Bantu.

The present paper shows that in Safwa the prominence patterns can be related to a tonal or prosodic distinction in one vowel of each word (actually the word final vowel). If Safwa is described in this way as a restricted tone system, the surface manifestation of prominence can be accounted for in a very general way. In the final section of this paper, the possibility that this Safwa restricted tone system developed historically from an unrestricted tone system is discussed.

2. A restricted set of data

I shall not present the complex set of data all at once. The surface manifestation of prominence is so complex in the verbal tenses, that a simultaneous demonstration of verbal and non-verbal constructions might leave the reader bewildered. I shall therefore only demonstrate non-verbal constructions in this section, which will lead to a set of rules, to be used in the analysis of verbal constructions later.

In general, only one syllable per word can be prominent in a surface representation. Only one exception to this rule has been observed in the language. The immediate action tense shows two prominent syllables in the same construction:

(4) twáganábale 'We went at once.'
agánábale 'He went at once.'

This tense can be analyzed as a complex form, consisting of the recent consecutive of the verb -g-an 'to love' which is used as a grammatical morpheme to form the immediate action tense: twaágana 'we loved' or aagána 'he loved', plus the infinitive with fixed prominence on the initial syllable: ábale 'to go'. The rules of vowel reduction[5] should be applied to the first syllable as if there is no intermediate

[5] A rule of vowel reduction operates in the word final syllable and in all syllables preceding the third mora on underlying long vowels, on conditioned long vowels (preceding nasal complex or following a semi-vowel), and on long vowels produced by a merging of two short vowels without deletion of an underlying intermediate consonant, be it only h. The result can be observed without being made explicit in examples (23) and (24) as far as underlying long vowels are concerned, and in the last derivation of (27) for a long vowel produced by a merging of two short ones.

word boundary. The rules for vowel elision should be applied as if there is an intermediate word boundary. The two prominent syllables also indicate the existence of an intermediate boundary. We should therefore accept for this tense only the existence of a reduced word boundary, which only permits vowel reduction, but no prominence reduction.[6]

Complete deletion of an intermediate word boundary with subsequent prominence reduction can be demonstrated in:

(5) aminógiitu 'our teeth'

The underlying forms are ámiino 'teeth' and giitú 'our', resulting regularly, after deletion of the intermediate word boundary, in the cited surface representation.

The non-verbal constructions show three possible positions of the prominent syllable: Penultimate (PU), Ante-Penultimate (APU), and a phonologically conditioned variation between Word-Final or Ante-Pre-Stem-initial position (WF). This will be demonstrated by the following sets of examples.

(6) PU (a restricted set of 62 nouns and some pronouns):

imboómbo	'a work'
ipiliipílí	'pepper'
imbíla	'fox'
išitála	'a bed'
niíni	'I, other reduplicated personal pronouns'
iípo	'there'
ábaši bámo	'some women'
ámasiku galiínga	'how many days'
abéne	'they themselves'
ábaši beéne	'the women only'

---

[6] I would like to suggest the following summarized derivation: /tu-a-g-an-a ≠ a-hu-bal-é/, changed by rules 11, 12, and 13 into /tu-á-g-an-a ≠ á-hu-bal-e/. Subsequent rules change this into /twaágana ≠ ábale/. The rules for vowel elision before word boundary produce /twaágan ≠ ábale/. The intermediate word boundary is at this stage deleted and the rules of vowel reduction apply to produce [twáganábale].

I regard these as exceptional to be marked by a rule feature or in some other way. They do no all receive the same kind of explanation. Some items have underlying forms with a long final vowel, which is reduced by a very general rule of vowel reduction, but counts as two morae for the rules of prominence placement. This is clearly the case in the reduplicated forms as piiiipʃi (from underlying /pi:i:-pi:i:/) or niʃni (from underlying /ni:-ni:/), but also in iʃpo (from underlying /i:-pa-o/). Other items might represent recent loans from stress languages like Swahili or Nyakyusa: išitála (from Nyakyusa ikitála). Some morphemes like -ene 'self', -ope 'also', and -g- 'to speak' contain consonants which do not permit a preceding long vowel. See for example the difference with -ene 'only' in (6). In the previous description (see note 1) I regarded these as underlying double consonants. It might very well be that in these cases an underlying /abéene/ (with APU prominence) surfaces as abéne (with PU prominence). The exceptional prominence seems related to the exceptional consonant.

(7) APU (an unrestricted set of nominal and pronominal forms):

amʃina	'holes'
amapáaŋga	'swords'
aabʃibi	'bad people'
aahoóndya	'the Nyakyusa'
umwana wáane	'my child' with loss of intermediate word boundary
ʃipa	'here'
umwana úula	'that child' with loss of intermediate word boundary
ábaši bábili	'two women'
šʃiihu	'which one' cl. 7
imboómbo iʃzyo zyúunti	'all those works'
umwéhale	'another one' cl. 1

NB: some long vowels (produced by a late deletion of an intermediate consonant, as in these examples aa from underlying aba) are not subjected to the rules of vowel reduction. See also note 5.

(8) WF (an unrestricted set of nouns and pronouns; the stem initial boundary indicated by =):

ámi=ino	'teeth'
gámi=ino	'the very teeth'
mi=inó	'it is teeth'
pí=dala	'on the way'
áha=paanga	'a small hawk'
áa=legeembanu	'weak people'
áma=sangalila	'charcoal'
in=kóombe ím=bisi	'uncooked beans'
in=kóombe m=bisí	'the beans are uncooked'
úmwe=enda ún'=šamamu	'a red cloth'
úmwe=enda n'=šamamú	'the cloth is red'
gi=itú	'our'
aminógi=itu	'our teeth'
áma=loongo ga=né	'40'
be=enú bahíinzile	'who have come?'
baanzáfwe b=opé	'they will die also'
ába=anji bali hwí	'where are the others'

One can formulate a purely phonological condition to account for the variation between word-final and ante-pre-stem-initial prominence. Nominal and pronominal constructions consist of a stem, preceded by an obligatory prefix and an optional initial element, which might be an augment, a pronominal prefix for emphasis, or a locative. This optional element always occupies the ante-pre-stem-initial position. If the construction is used predicatively, the optional element cannot be present, which leaves the ante-pre-stem-initial position empty. In such a case the ultimate syllable is prominent, unless the intermediate word boundary is deleted (e.g. in possessive and demonstrative constructions) and as a result a new ante-pre-stem-initial position becomes available to receive prominence.[7]

[7] /a-ma=inó ≠ ga=itú/ is after deletion of the intermediate word boundary and application of rule 15 which changes every high tone in a word to low except the word final one, transformed into /a-ma-ino-ga=itú/. If rules (12) and (13) apply to this output, the result is /a-ma-inó-ga=itu/ which produces [aminógiitu].

3. Analysis of the preceding data

If I am right in considering PU prominence exceptional, a two-way distinction between APU and WF prominence seems to exist in all non-verbal constructions. The choice between these two possiblities depends on the stem and should be marked in the lexicon. The analyst has to decide whether he prefers to attribute this distinction to some suprasegmental accentual feature of the stem or to a segmental feature on one of the stem vowels. The two analytical procedures are associated with two different theories about the nature of prosodic features: are they inherent (vocalic) features, or rather suprasegmental ones (associated with the syllable, the morpheme or some other linguistic unit other than the segment). My general position is that the inherent feature theory should be preferred, until disproven, as long as one has no idea about the nature of suprasegmental features, which do not fit into any general phonological theory. A second argument in favor of the inherent feature theory is the excessive power of a suprasegmental feature. If complete prosodic configurations can be attached to morphemes, the description of the prosodic system of a language becomes trivial and uninteresting. There are no limits to the possibilities, which reduces all distributional arguments to zero.

One of the conditioned variants of the prosodic pattern WF is final high tone. It seems therefore sensible to associate this prosodic pattern with a final high tone in the underlying structure. The other prosodic pattern, APU, would then best be associated with a final low tone. This last pattern can be produced by the following simple rule:

(9) [+voc] --> [+tone] / [——] [ ] [-tone] #

Only syllabic segments are represented in the rule. One could insert optional consonant segments in between, if one prefers to state the full environment.

This rule proves too simple in case of monosyllabic stems. These express the basic prosodic distinctions in a slightly different way:

(10)

	Polysyllabic stems		Monosyllabic stems	
APU	amá=fuko	'bags'	aamá=ji	'eggs of lice'
	ama=páanga	'swords'	uubú=la	'intestines'
WF	áma=futa	'fat'	aáma=bo	'wars'

One might consider a rule which doubles the final vowel of monosyllabic stems (like the rule which lengthens automatically the initial vowel in case of monosyllabic stems only as seen in (7)), or to adapt rule (9) in such a way that the stem initial boundary counts as one mora:

(11) [+voc] --→ [+tone] / [——] $\left\{ \begin{matrix} [\\ = \end{matrix} \quad] \right\}$ [-tone] ≠

The two prosodic patterns indicated by WF cannot very well be produced by one rule. If the rule is triggered off by a final [+tone] segment, as we supposed before, the ante-pre-stem-initial prominence should overrule the final high tone. This should be executed by a high tone deletion rule. The following rules may do the job:

(12) [+voc] --→ [+tone] / [——] [ ] = X [+tone] ≠
if X does not contain a stem initial boundary

(13) [+tone] --→ [-tone] / [+tone] X [——] ≠
if X does not contain [+tone]

If rule (12) fails to apply (because there is no ante-pre-stem-initial position available), rule (13) also can not apply, and the final high tone is realized in the surface representation.

Rule (12) seems a rather mechanical rule. Why should the ante-pre-stem-initial vocalic segment be prominent in case of a final high vowel? The rules could be phrased in a more natural way, reflecting a possible diachronic development (see section 8). But there is no reason to believe that all of the natural diachronic stages are to incorporated into the synchronic analysis. That is why I regard the set of rules (11), (12), and (13) as a valid part of the Safwa grammar.

I have still to give an account of one other rule. I assume a lexicon in which all word final vowels are marked for [TONE]. Example (5) has shown that deletion of an intermediate word boundary entails deletion of a preceding tone specification:

(14) ≠ a-ma=inó ≠ ga=ane ≠
a-ma-ino-ga=ane (by deletion of the intermediate word boundary and subsequent application of rule (15))
a-ma-ino-gá=ane (by rule (9))
[amino gáane] 'my teeth'

The same result cannot be obtained by an adapted rule (13), which deletes the result of rule (12) in the first element. Example (5) makes clear that this adapted rule (13) should apply before rule (9) can apply. This proves the existence of the following rule, preceding rules (11), (12), and (13):

(15) [+voc] --→ [-tone] / ≠ ____ [ ] ≠

All the proposed rules (15, 11, 12 and 13 in this order) are executed as high tone production and deletion rules. It might be more satisfactory to regard [-tone] as a neutral or non-tonal segment, but this would not fit in the phonological model used.

4. First expansion of the set of data (verb constructions with regular prosodic patterns)

Regular patterns are found in those verbal constructions which are influenced by a vocalic prefix of classes 1 and 9, a vocalic verbal suffix (causative -i- or passive -u-) or a vowel-final verb stem, the use of the continuative marker -ag- or -ang-, or by a pronominal object. These do not always exert the same influence on all verbal tenses and will be discussed later. Verbal constructions with fixed prominence on one of the morphemes will also be treated later.

Verbal tenses are defined by formula, which make use of the following abbreviations, cited in the order in which they appear in the verb form: SP = pronominal subject prefix; NE = negative marker si or sa; TM = tense marker; OP = pronominal object prefix; VS = verb stem; SU = verbal suffix; FI = final element, defining with the TM the different tenses.

The following regular prosodic patterns have been observed:

(16) PU

(i) Negative recent perfect [SP-NE-gaa-VS-a]

tusigabajíla 'we could not'

tusigabuúla 'we have not told'

(ii) Negative recent consecutive [SP-NE-a-VS-a]

tusaayúla 'and we did not yawn'

(17) APU

(i) (Negative) remote perfect [SP-(NE)-ha-VS-ile]

uhajeéndile	'you walked'
tuhogéepe	'we feared'
tusihabulíile	'we did not untie'

(ii) Subjunctive [SP-x-VS-e]

tuúbale	'let us go'
tubuúzye	'let us ask'

NB: x stands for a lengthening of the preceding vowel if in a position where it is not reduced because of the general vowel reduction rule.

(iii) Present [SP-hu-VS-a]

bahwiítiha	'they believe'
ím'bala	'I am going'

NB: -hu- is regularly deleted before a consonant.

(iv) Recent consecutive [SP-a-VS-a]

baábala	'and they went'
bagáluha	'and they returned'

(v) (Negative) remote consecutive [VP-(NE)-ha-VS-a]

bahadaámuha	'and they woke up'
asaabuúlaga	'and he did not tell'

(vi) (Negative) past continuous [SP-(NE)-mwii-VS-a]

nimwiíbala	'I was going today'

(vii) (Negative) future [SP-(NE)-hayi-VS-a]

inhayíbala	'I will go'
insaayíbala	'I will not go'

(viii) (Negative) potential [SP-(NE)-gaa-VS-a]

ingaábala	'I can go'
apa visigaába ivíintu	'where there can be no food'

NB: the verb stem 'to be' should have an underlying form ba: vi-si-gaa-ba-a, which includes this form in the APU pattern also.

(ix) Imperative singular [VS-a]

bóomba	'work'
zubá	'climb'

NB: the imperative is more complex. The initial vowel of a vowel initial verb stem is lengthened and prominence is expressed on the following vowel: iitʃha 'believe'. We can offer no explanation for this phenomenon. See also iinzá 'come'.

(18) Pre-APU (fourth mora from final word boundary)
Recent perfect [SP-VS-ile]
batʃhiine 'they have agreed'
úgojile 'you have killed'
NB: this is the only tense which shows this prosodic pattern.

5. Analysis of the preceding data

The prosodic patterns of the verbal constructions are never associated with a prosodic difference in the verb stem, but only with the specific tenses used. The final element of a verb form defines partly the verb tense (together with the tense marker). It is therefore possible to regard the final element or the final vowel as responsible for the prosodic pattern, just as in the non-verbal constructions.

The imperative singular in (17ix) shows that the APU pattern should not be produced by a final [-tone] segment. The form zubá indicates that we are in the presence of a WF pattern which shows the variant possibilities of ante-pre-stem-initial and word final position. This variation can only be produced if zubá and bóomba have the underlying structures /zub=á/ and /boomb=á/. This means that the stem initial boundary of non-verbal constructions should be equated with the final morpheme boundary in verbal constructions. This is only possible when we accept that all morpheme boundaries between non-verbal stems and following elements are deleted (if at all present) and that in both types of constructions the rules operate on a final morpheme boundary. If this is true, the three different patterns can be produced by the following final elements:

(16i) and (16ii) by =a (monosyllabic with [-tone]);
(17i) by =ile (disyllabic with final [-tone]);
(17ii) by =é (monosyllabic with [+tone]);
(17iii)-(17ix) by =á (monosyllabic with [+tone]);
(18) by =ilé (disyllabic with final [+tone]).

One could also set up a disyllabic final element =aa (with final [-tone]) to account for (16i) and (16ii). The regular prosodic patterns in verbal constructions can be produced by the given rules (11), (12), and (13) if only = is not interpreted as a stem initial boundary, but as a final morpheme boundary.

6. Second expansion of the set of data (verb constructions with irregular prosodic pattern)

A number of verbal constructions have fixed prominence on some morpheme or in a position defined in relation to some morpheme. The following exhaustive list can be presented:

(19i) Infinitive [a-hu-VS-a] with prominence on the initial vowel a-

ábale 'to go'

ápalamaansye 'to show'

áhwoogope 'to fear'

NB: the element hu is deleted before a consonant.

(19ii) Subjunctive with pronominal object (cf. (17ii)), with prominence on the syllable preceding the pronominal object.

túzifise 'let us hide them'

(19iii) Imperative singular with pronominal object [OP-VS-e], with prominence on the last vocalic segment.

ndaanjé 'show me'

(19iv) Imperative plural [VS-i], with prominence on the last vocalic segment.

balají 'go all of you continually'

(19v) An irregular negative subjunctive with continuous marker [SP-NE-VS-CO-e], with prominence on the negative marker.

usíboombaje 'you should not work'

(19vi) (Negative) remote future subjunctive [SP-(NE)-haa-VS-e], with prominence on the first vowel of the TM háa.

tuhábuuzye 'shall we ask?'

tusaházifisaje 'shall we not hide them?' cl. 10

No examples are presented for some complex tenses using the infinitive (19i) or the subjunctive with pronominal object (19ii). See for one example the immediate action tense in (4).

Several tenses permit a continuative marker (CO) -ag- or -ang- which causes a shift of regular prominence to the following vocalic segment, if preceded by a vowel. This is demonstrated by the following pairs of examples (with and without this shift of prominence):

(20) Influence of CO

(20i) Negative recent consecutive (cf. (16ii))

asabalága	'and he was not going'
asabonesyaagá	'and he was not showing'

(20ii) Recent consecutive (cf. (17iv))

nabálaga	'and I was going'
nabunganyaága	'and I was accumulating'

NB: the last example has been constructed and not elicited. I failed to find the crucial examples in my data.

(20iii) Subjunctive (cf. (17ii))

uleétage	'you may bring'
tubuzyaáje	'let us be asking'

(20iv) (Negative) remote consecutive (cf. (17v))

ahiímbaga	'and he was singing/learning at school'
asaabonesyaága	'and he did not show'

(20v) (Negative) future (cf. (17vii))

inhayibálaga	'I will be going'
asaayibuzyaága	'he will not be telling'

NB: I could not find in my notes the crucial examples with both SP cl. 1 or 9 or both SP of some other class.

(20vi) Potential (cf. (17viii))

ingabálaga	'I may go'
zigabaánga	'they may be' cl. 10

(20vii) Imperative singular (cf. (17ix))

šímaga	'keep dancing'
lyaánga	'eat'

A similar phenomenon can be observed in the recent perfect with a vowel preceding the final element =ilé, which also produces a shift in prominence to the following vocalic segment:

(21) Recent perfect (cf. (18))

úgojile	'you have beaten'
tubuziízye	'we have asked'

Finally, a verbal prefix of classes 1 and 9 causes a shift of prominence to PU if followed by a vowel initial or zero tense marker. The following tenses are affected:

(22i) Recent consecutive (cf. (17iv))

zyaábala	'and they went'
yaabála	'and it went'

NB: this also affects the complex tense (immediate action) which has been treated in (4).

(22ii) Recent perfect (cf. (18))

úgojile	'you have killed'
ahomíle	'he has beaten me' cl. 1

This section has completed the set of data on prosodic patterns in Safwa with an exhaustive list of all irregular patterns in the verbal constructions.

7. Analysis of the preceding data

The shift of prominence demonstrated in (20) and (21) is the most interesting and frequent phenomenon. In the recent perfect (21) the vocalic segment preceding the final element =ilé is repeated after the il-part of this final element: tu-buul-i-ilé has to be transformed first into tu-buul-i-il-i=é. The reality of this operation is revealed by the regular change of l into z before i, and by the semivowel y in the surface representation, clearly from underlying i. If during this operation the morpheme boundary is also copied, we will find regularly a final element =ilé after consonant, but =é after vowel. This accounts for the shift in prominence:

(23) ≠ tu-buul-i=ilé ≠

tu-buul-i-il-i=é	(by the copying rule)
tu-buul-i-íl-i=é	(by rule (12))
tu-buul-i-íl-i=e	(by rule (13))
[tubuziízye]	(by a set of general non-prosodic rules)

I would like to propose tha same kind of solution to account for the shift of prominence in (20). There is some reason to expect this. The continuative marker (CO) occupies the same (pre-final) position as the il-part of the final element =ilé. CO and il are mutually exclusive (a continuative marker is not possible in the perfect tenses). This special pre-final position might be unstable and apt to be separated from the final element by a vocalic verbal suffix or any other preceding vowel.

However, no proof can be presented for the reality of the copied vowel in these cases. I assume therefore that only the vocalic feature is copied without any of the accompanying positional features:

(24) ≠ a-gaa-fu-ang=á ≠
a-gaa-fu-ang-[+voc]=á (by the copying rule)
a-gaa-fu-áng-[+voc]=á (by rule (12))
a-gaa-fu-áng-[+voc]=a (by rule (13))
[agafwaánga] (by a set of general non-prosodic rules)

This solution presupposes the possibility of underspecified segments in the underlying representations. One problem in relation to the remote perfect will be treated in section 8.

I would like to produce all instances of final prominence in the same way by the non-application of rules (12) and (13). This would affect the examples (19iii) and (19iv). This makes necessary the deletion of certain morpheme boundaries. The same kind of solution will be applied to the infinitive (19i). In these three cases one has to assume that the stem initial boundary coincides with the last morpheme boundary, just as in non-verbal constructions. There is some reason to regard the infinitive in Bantu as a non-verbal construction:

(25) ≠ a-hu=ogopé ≠
á-hu=ogopé (by rule (12))
á-hu=ogope (by rule (13))
[áhwoogope] 'to fear'

(26) ≠ n=laangé ≠

[ndaanjé] 'show me' after non-application of (12) and (13)

≠ =balagí ≠

[balají] 'go all of you continually' after non-application of rules (12) and (13)

NB: the segmental difference of the final element =á (with preceding morpheme boundary) of the imperative singular without object may give some support to this solution.

The last three instances of fixed prominence in (17ii), (17v), and (17vi) offer big problems. I can only propose a very tentative solution in assuming that a stem initial boundary here functions as a word boundary, which is deleted before the application of rule (13):

(27) ≠ tu=zi ≠ fis=é ≠

tú=zi ≠ fis=é	(by rule (11))
tú=zi-fis=é	(by deletion of the word boundary)
tú=zi-fis=e	(by rule (13))
[tűzifise]	'let us hide them'

≠ u=sí ≠ boomb-ag=é ≠

u=sí ≠ boómb-ag=é	(by rule (12))
u=sí-boómb-ag-é	(by deletion of word boundary)
u=sí-boomb-ag-e	(by rule (13))
[usíboombaje]	'you should not work'

≠ tu-ha=a ≠ buul-i=é ≠

tu-há=a ≠ buúl-i=é	(by rule (11) and (12) respectively)
tu-há=a-buúl-i=é	(by deletion of word boundary)
tu-há=a-buul-i=e	(by rule (13))
[tuhábuuzye]	'shall we ask?'

This solution is offered as tentative and may very well have unacceptable consequences. One serious counter-indication is the fact that in all unquestionable cases of word boundary deletion, it triggers off rule (15) and precedes rules (11) and (12). In the preceding account, word boundary deletion follows rules (11) and (12).

The most difficult problem is presented in (22). If the pronominal subject prefix second person singular is represented by underlying hu, identical with the pronominal object prefix second person singular, we might try to attribute the effect to the vocalic nature of the prefixes of classes 1 and 9 (a- and i- respectively), if they themselves are followed by a vocalic or zero tense marker. This condition should transform the final elements =á and =i|é into =áa and =i|ée repectively. One could also attribute the shift of prominence to the tonal difference in Proto-Bantu between the prefixes of classes 1 and 9 ([-tone] in PB) and all other prefixes ([+tone] in PB). Both hypotheses seem to lead to some very unnatural rules.

8. Some diachronic and synchronic problems

If one compares the reconstructed tones of PB with the restricted underlying prosodic distinctions of Safwa, it becomes abundantly clear that the tonal distinctions of PB have been preserved in the initial syllable of a word final morpheme only:

(28)

PB	Safwa surface representation	lexical representation	
-pɥko	a-má=fuko	=fuko	'bag'
-kɥ́ta	á-ma=futa	=futá	'fat'
-bogó	i-ĩm=bogo	=bogo	'buffalo'
-kúdú	á-a=kulu	=kulú	'elder brother'

The shift of a tonal distinction from first to last syllable of a morpheme, regardless of the number of syllables, does not seem a realistic development. I rather assume that all syllables assimilated to the tone of the initial syllable by some diachronic rule like:

(29) [+voc] --> [αtone] / = [αtone] ____ ≠

The development of the Proto-Bantu prosodic system into the restricted Safwa system should have passed the following stages:

(a) As a first step we have to accept the deletion of all possible morpheme boundaries following a stem initial boundary in non-verbal constructions only. The same deletion which has been

accepted to account for the anomalies in (25) and (26) should have taken place at a later stage and not be confused with this one.

(b) In the second place, all following vocalic segments of the final morpheme should have assimilated to the tone of the first vocalic segment according to rule (29).

(c) Thirdly, all tonal distinctions preceding a word final vocalic segment should have been neutralized according to rule (15).

(d) If the final vocalic segment is [-tone] we find APU prominence (with polysyllabic final morpheme) or PU prominence (with monosyllabic final morpheme) according to rule (11).

(e) If the final vocalic segment is [+tone], the second vocalic segment preceding final morpheme boundary is prominent and overrules a following [+tone] segment according to rules (12) and (13).

These stages show in what way the original prosodic distinctions of PB may have been restricted. Stage (c) may have had a preceding intermediate state in which only those tonal distinctions preceding the final morpheme were neutralized, which would facilitate a more natural account of rule (12). It may be that this hypothetical stage preceded stage (b) and was later generalized after stage (b).

Stage (b) might not figure any longer in the grammar of Safwa, swept away by the generalization of rule (15): not only the vocalic segments preceding the final morpheme, but also those preceding the final vocalic segment were neutralized. There has been found, however, one slight indication of a possible synchronic reality of stage (b) and the corresponding rule (29) in the remote perfect.

This tense was defined as [SP-ha-VS-ile], with a disyllabic final element =ile (with final [-tone]). If preceded by a vocalic suffix, the vowel is copied after the il-part, just as in the recent perfect (with FI =ilé). This would inevitably lead to the following

derivation:

(30) ≠ tu-ha-buul-i=ile ≠
tu-ha-buul-i-il-i=e (by the copying rule)
tu-ha-buul-i-il-ʃ=e (by rule (11))

which would lead to the incorrect surface representation tuhabuziizyé instead of the correct [tuhabuziʃzye]. The desired result could only be produced by a final element =é. If we could accept rule (29) in the grammar, we could set up the following underlying forms for the perfect tenses:

(31) Recent perfect =ʃilé (unchanged by rule (29)) and
Remote perfect =ilé (changed by rule (29) to =ile).

The last change is not executed if a vocalic element is inserted between il and é. This solution would have serious consequences for all the underlying representations in the lexicon.

Rule (15) (reflecting stage (c)) cannot be phrased as a word-structure condition, because it should not be reapplied after rules (11), (12), and (13). Rule (15) could be avoided altogether if rules (11) and (12) should produce a new feature [PROMINENCE], after which all underlying tonal distinctions would be deleted. Here again we would deviate in an unacceptable way from the chosen model.

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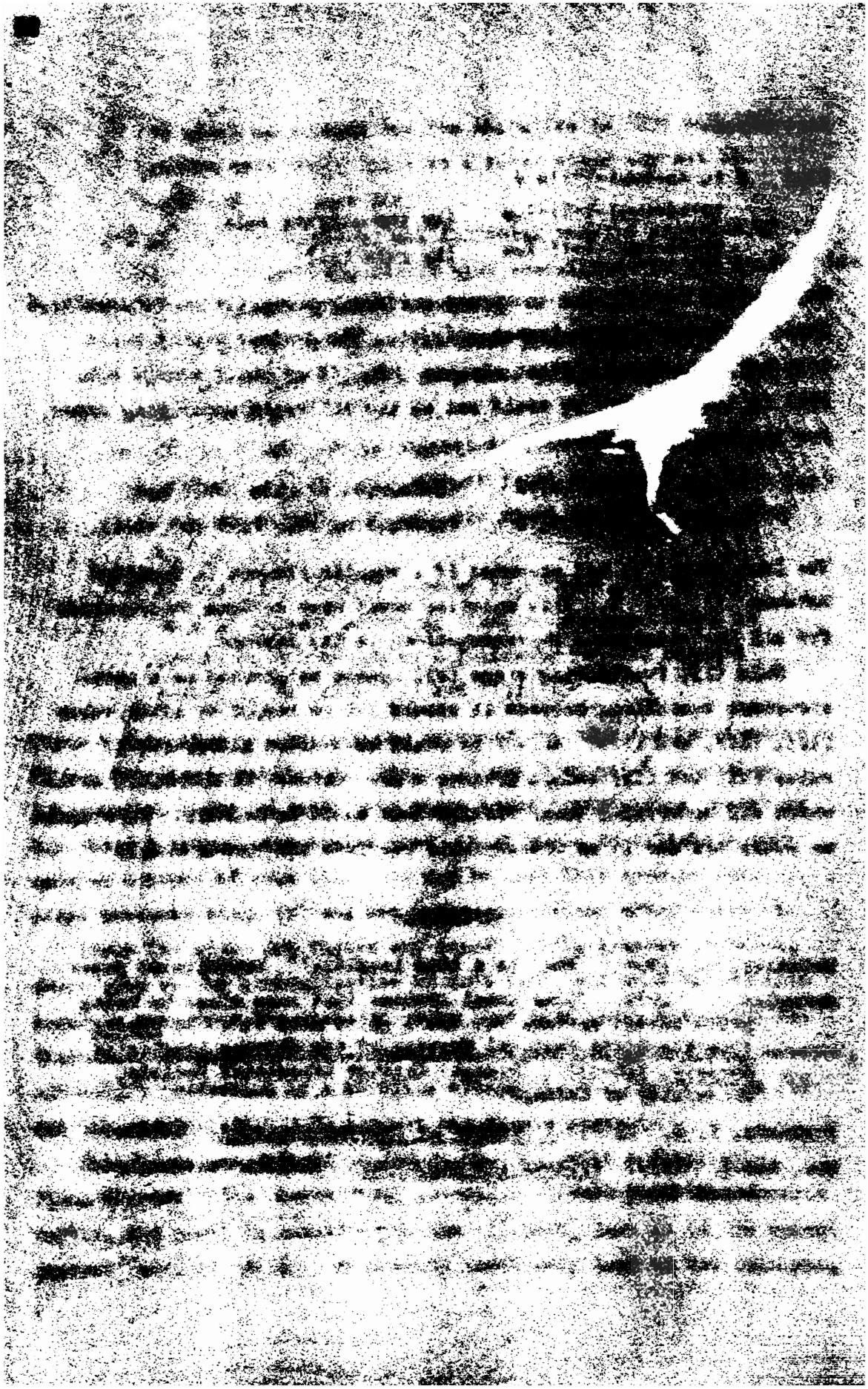

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KINGA: A RESTRICTED TONE SYSTEM

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0. Introduction

In this paper I shall present a possible description of the tone system of Kinga.[1] By doing this I hope to contribute to the discussion of a more general question: a language might clearly make use of a prosodic feature, eg. high tone, in underlying structure, but the use of this distinction might be more or less heavily restricted. Languages of this kind present descriptive and typological problems (cf. Chapter 1 of Woo [1969]). Restricted tone systems also raise a historical-comparative question. Even closely related languages may display considerable differences as to the nature and extent of these restrictions. That means that historical linguistics must account for the possibility of a language to lose or acquire (some) tonal distinctions.

Both problems are eminently apparent in Eastern Bantu, as can be seen in the following statement about the Bantu languages of zone G (M. Guthrie [1948:50]): "Lexical tone on the radical occurs only in Groups 20 and 60, while nominal suffixes have a lexical tone only in Groups 10 and 20. There is grammatical tone in each of these three groups; eg. in GOGO (11), where the fact that any given tense of a certain shape can only have one tone-pattern shows that there is no lexical tone on the radical, there are three tenses distinguished by tone-patterns alone...In Groups 30 and 40 there is neither lexical nor grammatical tone in most cases."[2]

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[1] Kinga (ɪkɪkɪŋga) is a Bantu language spoken in the Livingstone Mountains in the Southern Highlands of Tanzania. In Guthrie's classification it is identified as G. 65. Kinga has been described previously but without reference to tone by R. Wolff [1905]. There is also a short article by E. Kähler-Meyer [1969]. I myself stayed in Kingaland from January to May, 1967, and the results of my fieldwork were published privately [1971]. I have since had many opportunities to discuss the prosodic system of Kinga within the department of African languages at Leiden University, and what I shall present here is what I have learned from these discussions. I am especially grateful to Professor A. E. Meeussen and to Professor Jan Voorhoeve to both of whom I owe much more than just what might be good in this paper.

[2] For further exemplification and theoretical treatment of the

1. Presentation of the data

1.0. A description of Kinga must have a stage at which every word will have one and only one syllable segment that bears a high tone. This high tone may occur in one out of three possible positions:

(i) on the ante-penultimate (APU), or
(ii) on the pre-stem initial (PSI), or
(iii) on the penultimate (PU) syllabic segment.

These positions must be counted in moras, not in syllables. Long vowels will be regarded as two vowels (cf. 2.1). Those (non-canonical) words consisting of only one syllable to the right of the stem initial boundary (=) will not be dealt with here.

1.1. Nouns, including infinitives (cl. 15).

1.1.1. APU:

ʊkʊ=háama		'to migrate (from somewhere)'
ʊkʊ=lɛ́ɛta		'to bring'
ʊkʊ=vónɔka		'to become visible'
/ʊkʊ=vónia/[3] >	ʊkʊ=vónya	'to show'
/ʊkʊ=vónua/ >	ʊkʊ=vónwa	'to be seen'
ʊkʊ=válɪla		'to count'
ʊkʊ=púlɪka		'to hear'
ʊkʊ=pʊlíkɪla		'to wait'
/ʊkʊ=pʊlɪhília/ >	ʊkʊ=pʊlɪhíca	'to listen'
ʊkʊ=gúbika		'to cover'
ʊkʊ=gubíkila		'to cover (appl.)'
ʊkʊ=gubilíŋana		'to become covered'
ʊkʊ=gubiliŋánya		'to cover'
ʊkʊ=gubúkula		'to uncover'

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two problems that may lead to the notion of "reduced tone systems", see J. Voorhoeve's paper on Safwa in this issue.

[3] Forms given between diagonal bars, eg. /ʊkʊ=vónia/ are in some respect deeper than (systematic) phonetic, though not necessarily (systematic) phonemic. The > sign is used ambiguously to indicate both synchronic and diachronic derivations, where "derived" could mean either by P-rule/sound change or by morphological derivation.

ʊkʊ=géenda	'to walk'
ʊkʊ=geendélela	'to walk around'
ʊkʊ=céeŋga	'to build'
ʊkʊ=vúʊmba	'to shape'
ʊkʊ=túʊŋga	'to make a line'
ʊkʊ=hwaánana[4]	'to become similar'
ʊkʊ=hwaanánya	'to make similar'

The inclusion into this pattern of verbals with the causative and passive extensions +i+ and +ʊ+, respectively, is possible if we count moras before applying the rule that does away with the syllable status of these segments.

All infinitives with three or more moras to the right of the pre-stem initial boundary can be assigned to this pattern. This leaves us with infinitives of the shape ʊkú=CVCa which are ambiguous because the ante-penultimate is here identical with the pre-stem initial mora; eg.:

ʊkú=vala	'to count'
ʊkú=heka	'to laugh'
ʊkú=vonɛ	'to see'
ʊkú=pala	'to scratch'

Nouns from other classes are also common with this pattern:

ɪlɪ=déede 5/6	'bee (spec.)'
ɪkɪ=gáanza 7/8	'palm (of hand)'
ɪkɪ=gélelo 7/8	'measure'
ɪkɪ=géendo 7/8	'hind leg'
ʊŋ=góoŋgo 3/4	'back'
ɪlɪ=gúlɪlo 5/6	'market'
ɪkɪ=gubíkilo 7/8	'cover, lid'
ɪŋávata 9/10	'bug'
ɪlɪ=kʊválɪlo 5/6	'(big) road'
ɪkɪ=págalo 7/8	'roof (of granary)'
ʊtʊ=válɪlo 12/13	'hour'
ʊm=boombi 1/2	'worker'

[4] There is no rising tone in surface forms. A rule has to specify vv́

1.1.2. PSI:

Nouns of all classes (except infinitives) are common with this pattern too.

ʊ́ŋ=galagala	1/2	'liar, cunning person'
	3/4	'lie'
ɪlí=gaaŋga	5/6	'stone'
ʊlʊ́=geeŋge	11/10	'slope'
ʊvʊ́=gɪɪmbɪ	14	'beer'
ʊ́ŋ=gogolo	1/2	'old person'
´=golovoonde	adj.	'bent'
ʊhʊ́=kaaŋgɪga	11	'rainbow'
ɪlí=kʊʊmbʊhʊ	5/6	'hoe'
ʊhʊ́=pagalile	11/10	'roof'
ɪkí=pɪlɪlɪ	7/8	'flute'
ʊ́n=tavaaŋgwa	1/2	'enemy'
´=valaasu	adj.	'white'

1.1.3. There is also a large group of "ambiguous" nouns, all having the shape ´=CVCV.

ʊhʊ́=gaga	11/10	'leg (of animal)'
ɪlí=gala	5/6	'feather'
ʊ́ŋ=gane	1/2	'someone being loved'
amá=gasi	6	'water'
íŋgoha	9/10	'spear'
ʊvʊ́=gono	14	'sleep'
ʊvʊ́=gʊle	14	'something being bought'
amá=kala	6	'charcoal'
ʊ́ŋ=kɪla	3/4	'tail'
ʊvʊ́=lema	14	'crippledness'
ɪlí=vega	5/6	'shoulder'
ínzala	9	'hunger'

1.1.4. PU:

This pattern is so rare (with nouns; for verbal forms see below) that I have some doubts about my own data. On the other hand, the

high frequency of animal names in this group might not be chance. Some words might also be loans from Nyakyusa (eg. 'bed') where the penultimate regularly receives high tone.

ʊlʊ=gósu	11/10	'tree (spec.)'
ɪŋgúbe	9/10	'pig (wild or domestic)'
ɪŋgwéhe	9/10	'wild hog (spec.)'
ɪlɪ=hóve	5/6	'crow'
ɪlɪ=húve	5/6	'foam'
ɪndáma	9/10	'heifer'
ɪsɪ=lʊlíma	5/6, 7/8	'beans'
ɪndʊ́lʊ	9/10	'liana (spec.)'
ɪkɪ=lʊváka	7/8	'bird of prey (spec.)'
ɪméne	9/10	'goat'
ɪŋávu	9/10	'cat'
ʊlʊ=ɲéti	11	'slipperiness'
ɪsaanzágu	9/10	'cheetah'
ɪlɪ=séku	5/6	'duck'
ɪkɪ=síki	7/8	'half-burnt piece of wood'
ɪlɪ=sukulúnu	5/6	'elbow'
ɪkɪ=tála	7/8	'bed'
ʊvʊ=tóŋu	14	'fruits of a tree (spec.)'

This list contains all my examples of short penultimate with high tone. In some words I might have missed noting down length in this position as it receives some automatic lengthening (with high tone becoming falling) before a pause. I have however written down length without falling tone in some words, eg. ʊlʊ=bʊ́:ge (cl. 11/10) 'feather'; these may or may not be instances of the pattern PU.

1.1.5. Three kinds of words present particular problems. First, just as verbs may be built from roots with vocalic extensions, nouns too may end (on the surface) in the sequence semivowel-vowel. In these cases, the semivowel is to be counted as a mora, though it is not syllabic

in the surface forms, eg.:

ʊhʊ=gilʃmwa 11	'grass (spec.)'
ʊhʊ=haasɪhíco 11	'first installment of bride wealth', < /ʊhʊ=haasɪhílio/
ama=háswa 6	'lungs'
Ili=ɲegési 5/6	'caterpillar (spec.)' < /Ili=ɲegéli/; cf. =ɲégela 'to itch' < /=ɲegélia/ 'to make itch'
ʊhʊ=saagányo 11	'thought'
ʊhʊ=savúlwa 11	'thread'
IkI=topóci 7/8	'hiccup', cf. =tópola 'to have hiccups'
ʊhʊ=vujíco 11	'revenge', cf. /=vujília/ > =vujíca 'to revenge'; ´=vuja 'to return'

The normal agentive noun, however, (though the last consonant undergoes the same sound changes that can be observed in causative verbs) does not have an extra mora, eg.:

ʊn=téles i 1/2	'cook', < /ʊn=téleki/, cf. =téleka 'to cook'

Secondly, there is the group of compound nouns in which we find some words which seem to have aberrant placement of high tone. The process of forming compound nouns is unproductive today, and it is not clear which rules it once followed. The full list of my examples of "irregular" (?) compound nouns is given below:

Ikyámeembe 7/8	'end of breastbone'
Ilikaaŋgaláambwa 5/6	'tick'
IgʊgúswaVa 9a/10a	'grass (spec.)'
Iŋgálaape 9/10 (?)	'war-born'
amakákaala 6	'rubbish' (compound?)
Iɲalúbalama 9a/10a	'skin of animal, dry and hard'
ʊɲamíguguIu 1a/2	'dirty person'
ʊɲáŋaani 1a/2	'quarrelsome person'
IkIɲávʊʊge 7/8	'something sharp and pointed'
ʊɲambúda 1a/2	'robber'
ʊlʊɲantíVu 11/10a	'runner of a pumpkin (spec.); a kind of plaited rope'
ʊɲakʊloléla 1a/2	'overseer'

Thirdly, vowel-initial stems undergo special rules of vowel contraction, but these shall not be treated in this paper. Finally, some very few words seem to be aberrant without any apparent reason. These are:

ɪmɪ=dógooda	4	'secrete from eye or ear'
ʋʋʊ=dúaadwa	14	'fear'
ɪlɪ=gódoovwe	5/6	'ass'[5]

1.2. Verbal forms

Inflected verbal forms show clear occurrences of all three patterns set up above. The choice of a particular pattern is mainly dependent on the "tense", not on the shape of the (extended) root.

1.2.1. Tenses following pattern APU

(1) Present.

/tʊ+ʃ=lola/ > twʃ=lola	'we are looking'
tʊ+kʊ+vá=lola[6]	'we are looking at them (cl. 2)'
ndɪ=púlɪka	'I am hearing'
ndɪ=pʊlɪ́kaga	'I am continuously hearing'
ndɪ=bée'ə	'I am refusing'
i+kʊ+va=héeha	'he is speaking against (or: badly about) them'
i+kʊ+va=vʊʊ́lɪla	'he is talking to/about them'

The formative +i+ is only present in forms that meet the following two conditions: (i) no object infix, and (ii) stem of the shape =CVCa.

(2) General negative. All forms are identical with those of tense (1), except that they are preceded by the formative +na+. The /a/ of this formative is deleted if followed by a vowel.

na+twʃ=lola	'we do not look'
na+ndɪ=púlɪka	'I do not hear'
na+tʊ+kʊ+va=héeha	'we do not speak against them'

[5]Note that all three words contain (i) only voiced consonants, and (ii) they all contain the somewhat marginal consonant /d/.

[6]The formative /kʊ/ appears before an object infix in the following tenses: (1) present, (2) general negative, and (14) negative present, and

(3) Durative past. This tense always occurs with the pre-final (durative) formative +ag+.

/ndɪ+a=cóvaga/ >	
ndyaa=cóvaga or ndaa=cóvaga	'I was (always) saying'
/a+a+va=pʊlíkaga/>	
aa+va=pʊlíkaga	'he (always) heard them'
/a+a+va=pʊlɪhɪlíaga/>	
aa+va=pʊlɪhɪcága	'he was (always) listening to them'
/ndɪ+a=beélaga/ >	
ndaa=beélaga	'I was (always) refusing'
/a+a+va=vʊ́ʊ́laga/ >	
aa+va=vʊ́ʊ́laga	'he was (always) telling them'

It can again be noted that certain forms seem to follow the pattern PU in their surface form. This is the result of a "contraction-palatalization rule" saying: C[VCV # --> C_iVCV #.[7]

(4) Narrative.

ʊ+ká=cova	'you said'
ʊ+ka+cí=vona	'you saw them (cl. 10)'
tʊ+ka+va+vónaga	'we saw them continuously'
va+ka=háama	'they migrated'
a+ka+va=héeha	'he spoke against them'
/a+ka+va=vʊ́ʊ́lia/ >	
a+ka+va=vʊ́ʊ́ca	'he asked them'
/a+ka+va=pʊlɪhɪlíaga/>	
a+ka+va=pʊlɪhɪcága	'he listened to them continuously'

---

also between the proclitic boundary (cf. 1.2.5) and an object infix.

[7] The symbol C_i represents a "palatalized" consonant, eg. k + i --> s; l + i --> c. # represents word boundary.

(5) Remote past.

/ndɪ+a=cóvile/ >
ndaa=cóvile 'I talked'
/tʊ+a+vʊ=lólile/ >
twaa+vʊ=lólile 'I saw it (cl. 14)'
/ndɪ+a=beélile/ >
ndaa=beélile 'I refused'
/ndɪ+a+va=púlike/>
ndaa+va=púlike 'I heard them'
/a+a+va=heéhile/ >
aa+va=heéhile 'I spoke against them'
/ndɪ+a+va=pʊlɪhɪílie/ >
ndaa+va=pʊlɪhiíce 'I listened to them'

(6) Narrative perfect.

va+ka=cóvile 'they said'
ndɪ+ka+va=púlike 'I heard them'
ndɪ+ka=beélile 'I refused'
a+ka+va=heéhile 'he spoke against them'
/tʊ+ka+va pʊlɪhɪílie/ >
tʊ+ka+va=pʊlɪhiíce 'I listened to them'

1.2.2. Tenses following pattern PSI

(7) Future.

tʊ+laá=cova 'we shall say'
tʊ+laa+vá=vona 'we shall see them'
tʊ+laá=haama 'we shall migrate'
tʊ+laa+vá=heeha 'we shall speak against them'
ndɪ+laá=covaga 'I shall say continuously'
a+laa+vá=pʊlɪka 'he will hear them'
a+laa+vá=pʊlɪkaga 'he will hear them continuously'
a+laa+vá=pʊlɪhɪcaga 'he will listen to them continuously'

(8) Remote adhortative. This "tense" denotes a request to do something but not immediately and/or at the place of speaking.

ndɪ+ká=cove	'I may say'
ndɪ+ká=covage	'I may say (at some length)'
ndɪ+ká=beele	'I may refuse'
ndɪ+ká=beelage	'I may refuse continuously'
ʊ+ka+kí=lole	'you may look at it (cl. 7)'
ʊ+ka+vá=pʊlɪke	'you may hear them'
ʊ+ka+vá=vʊʊlɪle	'you may tell them'
ʊ+ka+vá=pʊlɪhɪce	'you may listen to them'

(9) Negative subjunctive. This tense expresses prohibition, impossibility and negative immediate future. All forms are identical with the preceding tense (8) except that the formative +na+ precedes them.

na+ndɪ+ká=cove	'I should/may/can/shall...not say'
na+tʊ+ka+vá=vʊʊlɪle	'we should/may/can...not tell them'
na+tʊ+ka+vá=pʊlɪhɪce	'we should/may/can...not listen to them'

(10) Negative future. All forms are identical with their positive counterparts of tense (7), except that they are preceded by +na+ and end in /e/.

na+tʊ+laá=haame	'we shall not move (migrate)'
na+laa+vá=heehe	'we shall not speak against them'
na+ndɪ+laá=covage	'I shall not say continuously'
na+laa+vá=pʊlɪhɪcage	'We shall not listen to them continuously'

(11) Conditional.

ndɪ+ŋgá=cove	'if I said'
ndɪ+ŋgá=pʊlɪke	'if I heard'
ndɪ+ŋgá=beelage	'if I refused (again and again)'
ndɪ+ŋgá=beele	'if I refused
ʊ+ŋga+vá=vone	'if you saw them'
ʊ+ŋga+vá=heehe	'if you spoke against them'
ʊ+ŋga+vá=pʊlɪke	'if you heard them'
ʊ+ŋga+vá=vʊʊlɪle	'if you told them'
ʊ+ŋga+vá=pʊlɪhɪcage	'if you listened to them continuously'

1.2.3. Tenses following pattern PU

(12) Negative narrative. The forms of this tense are in minimal contrast with those of the negative subjunctive (tense 9).

na+ndɪ+ka=cóve	'I did not say'
na+ndɪ+ka=beéle	'I did not refuse'
na+va+ka+tʊ=vóne	'they did not see us'
na+tʊ+ka+va=vʊ́ce	'we did not ask them'
na+tʊ+ka+va=pʊlɪkáge	'we did not hear them'
na+tʊ+ka+va=pʊlɪhɪcáge	'we did not listen to them'

If we compare the forms =vʊ́ce < =vʊʊlíe and =pʊlɪhɪcáge < =pʊlɪhɪliáge with those from the positive counterpart of this tense we notice that we arrive at parallel surface forms even though the tenses follow different patterns, ie., APU (tense 4) and PU (tense 12). Kinga obviously has a surface constraint that does not permit high tone on a word final syllable. The "contraction-palatalization rule" mentioned under tense (3) will also have to state: $VC_i\acute{V}\ \# \rightarrow \acute{V}C_iV\ \#$.

(13) Negative durative past. Unlike its positive counterpart (tense 3), this tense may occur with or without the formative +ag+.

/na+ndɪ+a=cóve/	
> na+ndaa=cóve	'I was not saying'
na+ndaa=beéle	'I was not refusing'
na+ndaa=cováge	'I was not saying continuously'
na+ndaa=beeláge	'I was not refusing continuously'
na+ndaa+va=vóne	'I was not seeing them'
na+twaa+va=heéhe	'we were not speaking against them'
na+twaa+va=pʊlíke	'we were not hearing them'
na+twaa+va=pʊlɪhíce	'we were not listening to them'
na+twaa+va=pʊlɪhɪcáge	'we were not listening to them continuously'

(14) Negative present.

na+twi=lóli	'we are not looking'
na+tʊ+kʊ+va=lóli	'we are not looking at them'
na+ndɪ=pʊlíki	'I am not hearing'
na+tʊ+kʊ+va=pʊlɪkági	'we are not hearing them'

na+ndɪ=beélɪ	'I am not refusing'
nɪ+kʊ+va=heéhɪ	'we are not speaking against them'
nɪ+kʊ+va=vɯlɪ́lɪ	'we are not talking to them'

The occurrence of +ɪ+ is governed by the same conditions as in the present (tense 1).

(15) Negative perfect.

na+ndɪ=covɪ́lɪ	'I have not said'
na+ndɪ=beelɪ́lɪ	'I have not refused'
na+ndɪ+va=covɪ́lɪ	'I have not said to them'
na+ndɪ+va=heehɪ́lɪ	'I have not spoken against them'
na+tʊ+va=pʊlɪ́kɪ	'we have not heard them'
na+tʊ+va=pʊlɪhɪɪ́cɪ	'we have not listened to them'

(16) Negative narrative perfect.

na+ndɪ+ka=geendɪ́lɪ	'I did not go'

(17) Negative remote past.

na+ndaa=geendɪ́lɪ	'I was not going'

1.2.4. Opaque tenses

The following three tenses do not as a whole follow just one pattern but rather each tense splits up into forms following different patterns.

(18) Polite adhortative.

(i) Forms clearly following pattern APU are all those with more than two syllables following the stem initial boundary.

ʊ+ŋga=cóvaga	'you may say'
ʊ+ŋga=beélaga	'you may refuse'
ʊ+ŋga+va=pʊ́lɪka	'you may hear them'
ʊ+ŋga+va=pʊlɪ́kaga	'you may hear them continuously'
ʊ+ŋga+va=vɯ́lɪla	'you may talk to them'

(ii) Forms clearly following pattern PSI are those built from (unextended) stems of the shape =CVV(N)Ca.

ʊ+ŋgá=beela	'you may refuse'
ʊ+ŋga+vá=heeha	'you may speak against them'

(iii) Forms built from verbals with the shape =CVCa are ambiguous: they might be assigned to either pattern APU or to PSI. Of course, this ambiguity could also be seen in parallel forms of other tenses, but there it has always been possible to find one pattern accounting for all forms of one tense.

ʊ+ŋgá=cova	'you may say'
ʊ+ŋga+vá=lola	'you may look at them'

(19) Subjunctive.

(i) Forms clearly following pattern APU are all those which have more than two syllables after the stem initial boundary and which do not have an object infix.

a=pʊ́lIke	'he may hear'
a=cóvage	'he may speak continuously'
a=gódoke	'he may return'
cI=haámbʊke	'they (cl. 10) may change'
a=haanzánye	'he may mix'

(ii) Forms clearly following pattern PSI are, firstly, all those having more than two syllables following the stem initial boundary and having an object infix, and, secondly, all two-syllable verbals of the shape =CVV(N)Ce.

a+vá=pʊlIke	'he may hear them'
a+vá=pʊlIkage	'he may hear them continuously'
a+vá=vʊʊlage	'he may tell them continuously'
a+vá=pʊlIhIcage	'he may listen to them continuously'
á=beele	'he may refuse'
a+vá=heehe	'he may speak against them'

(iii) Again, forms built from verbals of the shape =CVCe are ambiguous as to which pattern they follow.

á=cove	'he may speak'
ʊ+vá=lole	'you may look at them'

(20) Perfect.

(i) Verbal forms which have in this tense three or more syllables following the stem initial boundary the penultimate of which consists of two moras follow pattern APU. The class of verbs building such perfect forms may be regarded as identical with the verbs having either a causative or a passive extension.

tʊ=taamiʃnye	'we have been living together'
va=lʊʊndamiʃnye	'we have gathered (trans.)'
a+va=saamwiʃse	'he has greeted them'

(ii) All other forms of this tense follow pattern PSI.

ndí=covile	'I have said'	
ndí+beelile	'I have refused'	
tʊ+vá=lolile	'we have looked at them'	
a+vá=heehile	'he has spoken against them'	
a+vá=pʊlike	'he has heard them'	
tʊ́=teeŋgwe	'we have started'	k =teéŋg la
á=hevite	'he has ground'	k =héveta
tʊ́=hekye	'we are happy'	k =hékela

(iii) I only know one single example that could be regarded as ambiguous as to which pattern it follows:

á=bihe or: á=bie 'he has gone (somewhere)' < ʊkʊ=bɪha

1.2.5. The proclitic boundary ≠.

Forms of all tenses may occur with an additional formative, ie. +pi+, or +ci+, or even +pi+ci+. The position of these formatives is between the tense marking infix and the object infix (if those formatives are parts of the word). I shall regard these special formatives as being followed by a special "proclitic" boundary ≠. Words containing such a boundary always follow pattern APU; eg. from tense (10) Negative Future which

normally follows pattern PSI:

na+tʊ+laa+vá=vʊʊlIle	'we shall not tell them'
na+tʊ+laa+cl≠kʊ+va=vʊ́lIle	'we shall not tell them there'

2. Outlines for analyzing pitch

2.1. Long or double vowels?

Following Chomsky and Halle, I shall distinguish long and short vowels by a feature [LONG] in the surface phonetics. Underlyingly, however, there are strong indications that long vowels must be analyzed as sequences of two (identical) vowels. The assignment of high tone also involves counting one long vowel as equal to two short vowels. Therefore I shall treat high tone assignment at a stage that precedes the reinterpretation of double vowels as [+long] units. This reinterpretation might be regarded as a universal convention not adding to the complexity of Kinga grammar (cf. Woo [1969:26].

2.2. The (dis)solution of pattern PU.

The assignment of high tone to the next to last mora of a word (pattern PU) has been shown as of rather restricted occurrence. Besides in a marginal (and doubtful?) group of nouns we find it regularly in a group of negative tenses. This group includes firstly all tenses with the final vowel i. Secondly, it occurs in two (negative) tenses with the final vowel e. This peculiar limitation of the occurrence of pattern PU suggests regarding these tenses as containing an underlying final sequence of two vowels:

tense (15), (16), (17):	*+ile+i+	>	+iiii+
tense (12), (13):	*+a+i+	>	+ee+
tense (14):			+ii+

Adopting these word-final two-vowel sequences we gain a major overall simplification in the description of Kinga tone and can now include all forms following pattern PU into the pattern APU, eg.:

na+ndɪ=covǐ‖i	'I have not said'
na+ndɪ+ka=cóvee	'I did not say'
na+ndɪ=pʊlǐkii	'I am not hearing'

The double vowel will later undergo length reduction as Kinga does not permit long vowels in word final position. The few nouns following pattern PU can also be described as having a lexical representation ending in a two-vowel sequence. This would not lead to any further complications, eg.:

ɪ‖i=hóvee	'crow'
ɪŋávuu	'cat'

2.3. The reduced tone system of Kinga.

Having included pattern PU into pattern APU, we are now left with just a two-way distinction of words, both nouns and verbs. Which pattern a certain word follows will have to be marked in the lexicon for nouns, and will depend (mainly) on the "tense" (thus never be lexically defined) with verbals. Many linguists would prefer to describe this state of affairs in terms quite distinct from those used for "real" or "full" tone languages (cf. Voorhoeve, in this issue).

Within the framework of generative phonology there are several ways to describe the high tone assignment for a language like Kinga. For instance, each word could carry a (rule?) feature that determines whether a high tone is assigned to APU or PSI position. For underived nouns such a feature would have to be part of the entry in the (first) lexicon, for all other words it would have to be assigned after the formatives are placed into strings, maybe in the "second lexicon".

However, for Kinga I prefer a different solution. I think it can be shown that in Kinga the choice between the two possible tone patterns is determined by some inherent quality of the final vowel or a word. This can most readily be seen with nouns that are derived from verbal radicals. Whereas no connection can be found between noun class and tone pattern, there is a strong correspondence between the tone pattern and the final vowel used for the building of nominal stems.

Examples:

(1) Final vowel /a/ - pattern APU - infinitives (cl. 15)

ʊkʊ́=gona	'to sleep'
ʊku=vʊ́ʊla	'to tell'
ʊku=géenda	'to walk'
ʊku=púlɪka	'to hear'
ʊku=puɪ́kɪla	'to wait'

(2) Final vowel /o/ - pattern APU - instrumental nouns

ɪŋéeŋgo 9/10	'long knife (to cut grass with)' < =héeŋga
ʊku=koómbana iŋóombo	'to hold each other at the wrists'
ɪli=céeŋgo 5/6	'pole (to build with)' < =céeŋga
ɪkɪ=pépelo 7/8	'pipe (for smoking)' < ′=pepa
ɪmoóndelo 9/10	'hammer' < =póonda

(3) Final vowel /i/ - pattern APU - agent nouns

ʊn=céeŋgi 1/2	'builder' < =céeŋga
ʊn=dágʊci 1/2	'diviner' < =dág la
ʊn=dɪɪndɪ́lɪci 1/2	'watch-man, supervisor' cf. =lɪ́ɪnda 'to stay somewhere and be well'
=loóŋgoci adj.	'first' < =loóŋgola 'to go ahead'
ʊm=póonzi 1/2	'blacksmith' < =póonda

(4) Final vowel /e/ - pattern PSI - patient nouns

ʊvʊ́=hevete 14	'flour' < =héveta 'to grind'
ʊvʊ́=heeŋga 14	'piece of land cleared from grass' < =héeŋga 'to cut grass'
ʊ́ŋ=koombe 3/4	'pliers' cf. ʊku=koómbana iŋóombo (above)
ʊvʊ́=ceeŋga 14	'village' < =céeŋga 'to build'
′=valace adj.	'holy' < =valáca 'to make clean' cf. =válala 'to become clean'

Verbal tenses too show this dependence of tone pattern from the final vowel. (We still leave aside opaque tenses and the influence of the proclitic boundary ≠.)

Examples:

(5) Final /a/	Pattern APU	Tenses (1) - (4)
(6) Final /ile/	Pattern APU	Tenses (5) - (6)
(7) Final /a/	Pattern PSI	Tense (7)
(8) Final /e/	Pattern PSI	Tenses (8) - (11)
(9) Final /ee/	Pattern APU	Tenses (12) - (13)
(10) Final /ii/	Pattern APU	Tense (14)
(11) Final /iiii/	Pattern APU	Tenses (15) - (17)

What exactly is now this inherent quality of the final vowel that determines the choice between APU and PSI high tone assignment? Though it is obvious that it has to be some prosodic feature it is difficult to define it phonetically, as it never surfaces directly on the segment itself. But as it results in a high tone on some other segment I shall call this feature [HIGH].

The next question is which pattern depends on a final [+high] and which on a final [-high]. I shall link the pattern PSI with an underlying final [+high] vowel, for it seems to be the more marked pattern. It is not only less frequent, it also depends on more information, ie. the position of both word and stem-initial boundary. Also, words containing the proclitic boundary ≠ and thus displaying a greater complexity in structure all follow pattern APU; in other words, where the two patterns are neutralized only pattern APU survives. If a word does not receive the specific or marked "accentuation" in PSI position, it follows one of the few universally wide-spread accent patterns: it receives high tone in APU position, which again points to this pattern as being the unmarked member of the pair.[8]

In underlying representation words will now have to be marked either [+high] or [-high] on the last vocalic segment. All preceding vocalic segments will redundantly be marked [-high]. This is exactly

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[8] I have not provided historical evidence for this analysis, since it is not clear to me how such evidence is relevant in a synchronic solution. However, it is interesting to note that Proto-Bantu word-final H and L correspond to my Kinga analysis, whereas the PB distinction H vs. L on non-word-final vowels has no regular correspondence in Kinga. Thus, pattern APU is linked to words with final low tone, and pattern PSI to words with final high tone (in Proto-Bantu).

why Kinga is being described as having a strongly "reduced tone system": a tone system is "reduced" to the extent that tonal distinctions are--underlyingly--restricted to certain positions in formatives or formative strings.

3. Opaque tenses

In section 1.2.4 three tenses were described in which we observed a split into two patterns, ie. APU and PSI. The conditions for the split were different in each of the three tenses. It may be noted that no PU forms were involved in those (opaque) tenses. What we have to state then is rules that change final [+high] vowels into [-high]--or vice versa.

3.1. Polite adhortative (tense 18).

There are several ways to describe the switching between APU and PSI forms. Verbals containing one or more extensions attached to the radical follow pattern APU; non-extended radicals follow pattern PSI.

If we regard the switching as a partly non-phonological readjustment rule, of which the application is specifically restricted to this tense, we can describe the change of the final vowel as either from [+high] to [-high] or from [-high] to [+high].

(a) á - → a / EXT + ____] POL. ADH.
(b) a --→ á / RAD + ____] POL. ADH.

It is, of course, possible to replace the formative class labels by formulas that show the possible sequences of segments. But it seems to me that at a stage where grammatical information as detailed as the label of a specific tense is available the labels of formatives would be available too.

Making use of certain asymmetry in the set of possible word final vocalic segments we can avoid referring to the grammatical information of the tense label. So far we have used the following word final sequences:

v̀	v́
vv̀	-

Of course, it would be difficult to detect a final sequence vv́, for its surface representation should be identical with that of simple v́. But here we could use this sequence and reduce it if the verbal radical is extended.

(c) á --> Ø / EXT + a____ #

An alternative formulation would be:

(c.1) aá --> { á / RAD +____ # }
{ a }

Like before, RAD can be replaced by a purely phonological formula:[9]

(c.2) aá --> { á / = (C) V (V) C ____ # }
{ a }

I should like to add that the Polite Adhortative is a disappearing tense and only a few of my informants felt competent to give examples of its use. I do not have forms of verbals with only one extension consisting of only one vocalic segment (ie. causative or passive).

3.2. Subjunctive (tense 19).

Subjunctive forms follow pattern PSI unless both of the following conditions are met:

(i) there is no object infix; and
(ii) the verbal stem is extended.

Using grammatical information in the form of formative class labels this rule can be formalized as follows:

é --> e / # VP ∗ RAD + EXT_1 + ____ #

The formative labels could again be replaced by sequences of segments.

In principle it is possible to devise an alternative solution starting from a final [-high] vocalic segment. This would be changed into [+high]

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[9] The second V does not have to be bracketed as optional. Surface forms like [ʊ+ŋgá=cova] can be derived in two ways:

(i) ʊ+ŋga=covaá --> ʊ+ŋga=cová
(ii) ʊ+ŋga=covaá --> ʊ+ŋgá=cova

if either one of the following two conditions are met:

(i) a formative intervenes between verbal prefix and radical; or
(ii) the radical is not followed by an extension (or: is directly followed by the final).

With this solution we could totally abandon the final element /é/ (found in tenses 8 through 11) in favor of final /e/, because the tense markers would take care of the change from [-high] to [+high]. However, I prefer a special subjunctive rule where the change is from high to non-high.

3.3. Perfect (tense 20).

Forms of this tense follow pattern PSI unless the final /ile/ is preceded by a vocalic extension.

$$\acute{v} \longrightarrow v \;/\; +V+VC \_\_\_\_ \#$$

Again, an alternative rule could be formulated stating the change in the opposite direction.

The rule as stated here has to apply before the incorporation of the vocalic extensions into the final /ilé/:

$$+ i + ile \# \text{ --- } + i + ilie \#$$
$$+ \upsilon + ile \# \text{ --- } + \quad + ilue \#$$

It seems possible that the influence of the vocalic extensions is a residue of a time when tonal contrasts in Kinga were not yet reduced to word final position. (Comparative evidence shows that passive *ú and causative *ſ are tonally distinct from all other verbal extensions. (cf. Meeussen [1967:92]).)

3.4. An epilogue to the analysis of tone.

In my opinion the rules proposed here do not reflect directly what has happened historically. There are indications that the processes neutralizing the prosodic qualities of all but the word final vowels had originally been operating in the "stem" part of the word only, ie. to the right of the stem initial boundary. (The agglutination between formatives in pre-stem position seems to be much less tight than between a root and its extensions and suffixes.)

It is technically possible to describe the high tone placement of Kinga as an interaction between high and low final vowels on one side and high and low tense markers on the other side. This would not be implausible historically, and there is even some synchronic evidence pointing in this direction. The fact that the three tenses without a (surface) tense marker are all "irregular" in one way or another is in need of more explanation than has been offered so far. Also, one might like to write a description of Kinga where the formative +laa+ exerts an influence that produces PSI high tone assignment, thus not leaving the connection "+laa+ requires PSI" unaccounted for.

4. Summaries

4.1. Summary of tense formulas.

The following tense formulas show only the negative prefix +na+ (if present), the tense marker (if any), and the verb final formative.

(1) Present: (i) a
The formative +i+ is only present in forms that meet the following two conditions: (i) no object infix, and (ii) the stem has the shape =CVC+. Because this tense requires an object infix to be preceded by the formative +ku+ it could most economically be described as containing the proclitic boundary ≠ following the verbal prefix.

(2) General negative: na (i) a
Both remarks made under tense (1) are also valid for this tense.

(3) Durative past: a ag+a

(4) Narrative: ka a

(5) Remote past: a ile

(6) Narrative perfect: ka ile

(7) Future: laa á

(8) Remote adhortative: ka é

(9) Negative subjunctive: na ka é

(10)	Negative future:	na	laa	ǵ
(11)	Conditional:		ŋga	ǵ
(12)	Negative narrative:	na	ka	ee
(13)	Negative durative past:	na	a	ee
(14)	Negative present:	na	(i)	ii

Both remarks made under tense (1) are also valid for this tense.

(15)	Negative perfect:	na		iiii
(16)	Negative narrative Perfect:	na	ka	iiii
(17)	Negative remote past:	na	a	iiii
(18)	Polite adhortative:		ŋga	aǻ
(19)	Subjunctive:			ǵ
(20)	Perfect:			iiǵ

4.2. Summary of rules

(1) POL. ADH. rule:

$$aǻ \longrightarrow \begin{Bmatrix} ǻ \\ a \end{Bmatrix} / = (C)\ V\ (V)\ C \_\_\_\_\ \#$$

(2) SUBJ. rule:

$$ǵ \longrightarrow e\ /\ \#\ (C)\ V = (C)\ (V)\ V\ C + (VC)_1 + \_\_\_\_\ \#$$

(3) PERF. rule:

$$[+high] \longrightarrow [-high]\ /\ +\ V\ +\ VC \_\_\_\_\ \#$$

These three rules are clearly very early rules and are unordered with respect to each other.

(4) PROCL. rule:

$$[+high] \longrightarrow [-high]\ /\ \neq X\ [\text{——}]\ \#$$

This is only the prosodic part of the rule. The proclitic boundary also requires that an object infix be preceded by the formative +kʊ+ (cf. section 1.2, tense (1), footnote, and section 1.2.5).

(5) PSI rule:

[-high] --> [+high] / [——] = X [+high] #

(6) APU rule:

$$[-high] \longrightarrow [+high] \;/\; \left\{ \begin{array}{l} [\text{——}]\ (C)\ [\quad]\ (C)\ [-high]\ \# \\ \#\ (C)\ [\text{——}]\ C\ [\quad]\ \# \end{array} \right\}$$

The second part of this rule takes care of high tone assignment in words with less than three syllabic segments, eg., the imperative: cóva 'speak!'

(7) $\begin{bmatrix} +syll \\ \alpha high \\ \beta low \\ \gamma back \\ \delta tense \end{bmatrix} \longrightarrow \emptyset \;/\; \begin{bmatrix} +syll \\ \alpha high \\ \beta low \\ \gamma back \\ \delta tense \end{bmatrix} [\text{——}]\ \#$

(8) [+high] --> [-high] / [——] #

(9)

$$[-high] \longrightarrow [+high] \;/\; \left\{ \begin{array}{l} [\text{——}]\ [+cons] + \begin{bmatrix} +syll \\ +high \end{bmatrix} + [\quad]\ \# \\ \qquad\qquad + \begin{bmatrix} +syll \\ +high \end{bmatrix} + [\text{——}] \end{array} \right\}$$

This is the prosodic part of the "contraction-palatalization" rule mentioned in section 1 under the tenses (3) and (12). It doubles a high tone from a mono-segmental extension onto the syllabic segment to the reight unless this segment is word final, in which case the high tone is doubled to the left. Later, the extension will lose its syllabic quality and thereby also its tone.

(10) [-high] --> [+high] / [——] [+high]

This rule changes a low-high rising sequence to a level high tone.

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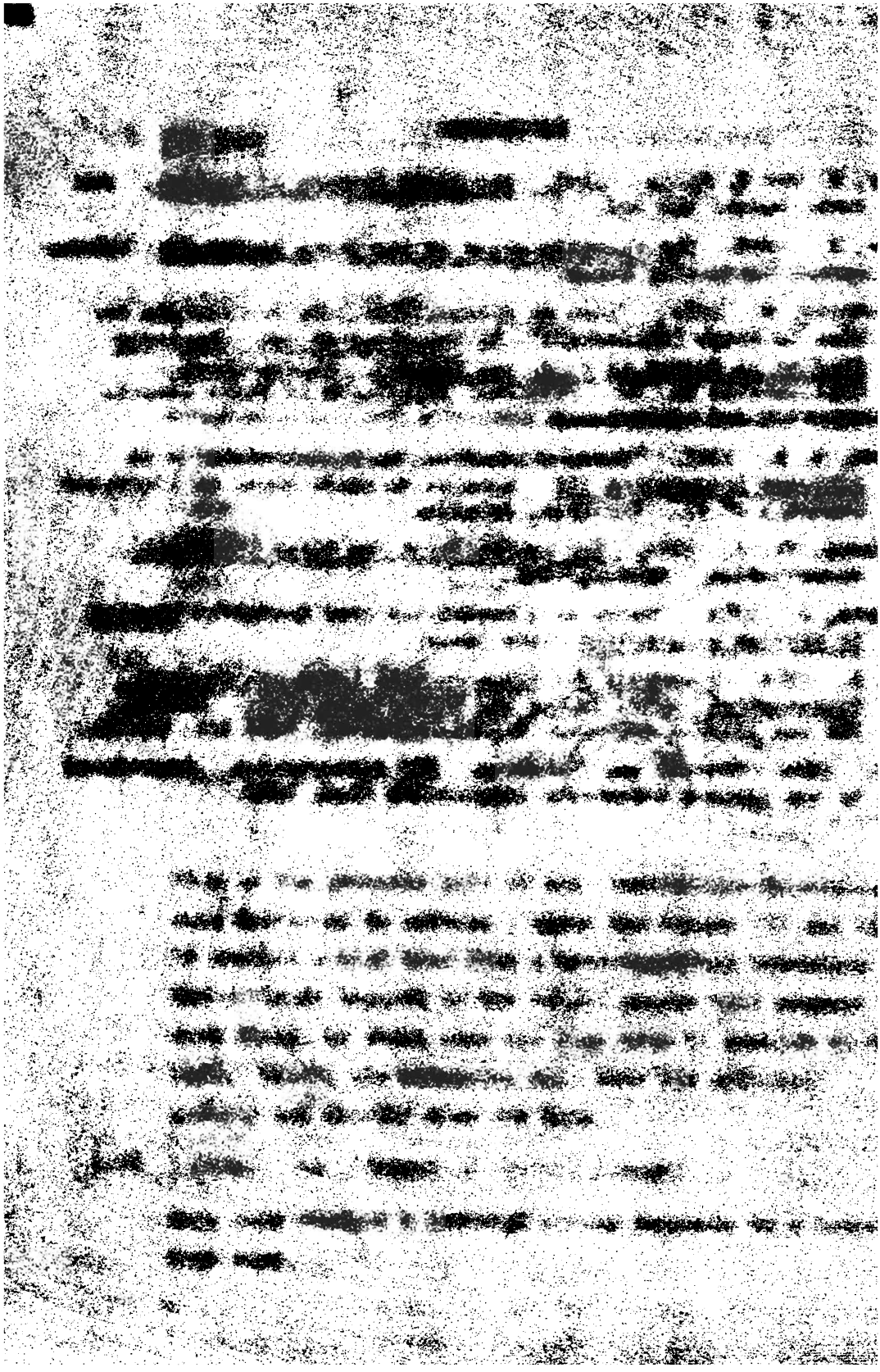

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SPEECH-TONE AND OTHER FORCES IN TSONGA MUSIC

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The Tsonga, a Bantu-speaking people of Mozambique and the Northern Transvaal, represent an anomaly among southeastern African groups in that, while showing certain affinities with the Nguni, they possess no extensive heritage of pastoral folklore and did not participate in that period of Nguni history when clicks were absorbed into the language (Tsonga is clickless).

Tsonga speech-tone patterns have both syntactical and semantic significance--the meaning of similar Tsonga words may vary according to the rise or fall of individual syllables, examples of which are given below.

(´ = high, ` = low, ^ = falling)

bávà 'to be bitter'
bàvá 'father'

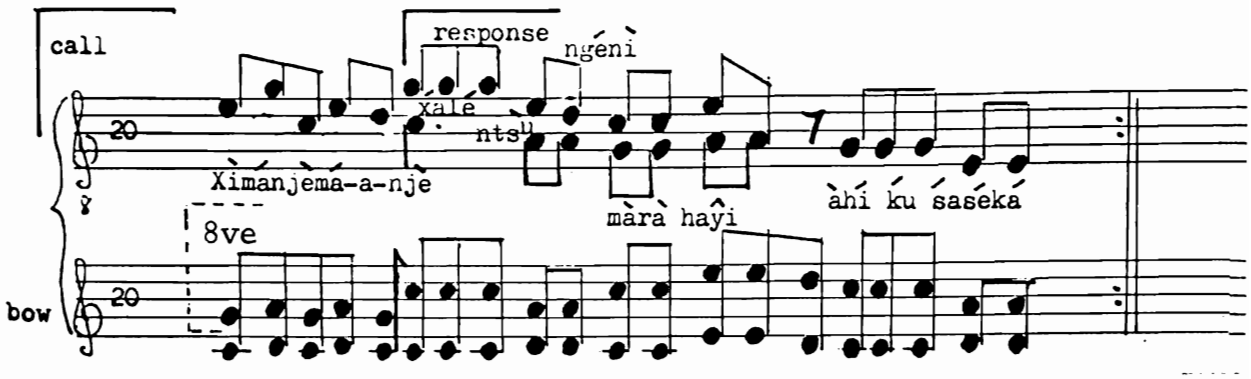
bòfù 'blind person'
bòfú 'pus'

bvǐmbá 'an aromatic shrub'
bvǐmbá 'to seal with a lid'

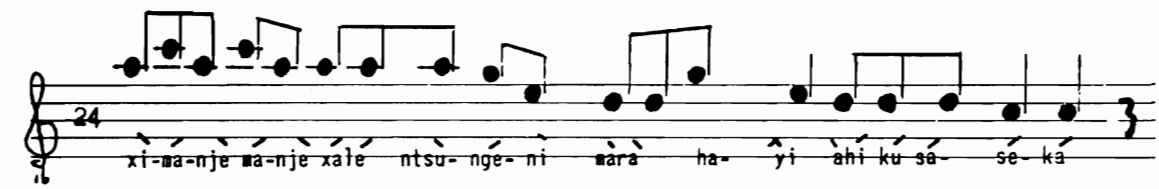
In the following different versions of five songs (tape-recorded by the writer during field work in 1968-70 under grants from the Wenner-Gren Foundation for Anthropological Research and the University of Witwatersrand), speech-tone markings were supplied by linguist C. T. D. Marivate of the University of South Africa, Pretoria.

Song 1. Xìmánjèmánjè xálé ntsùngéni màrà hâyi àhí kú sáseká

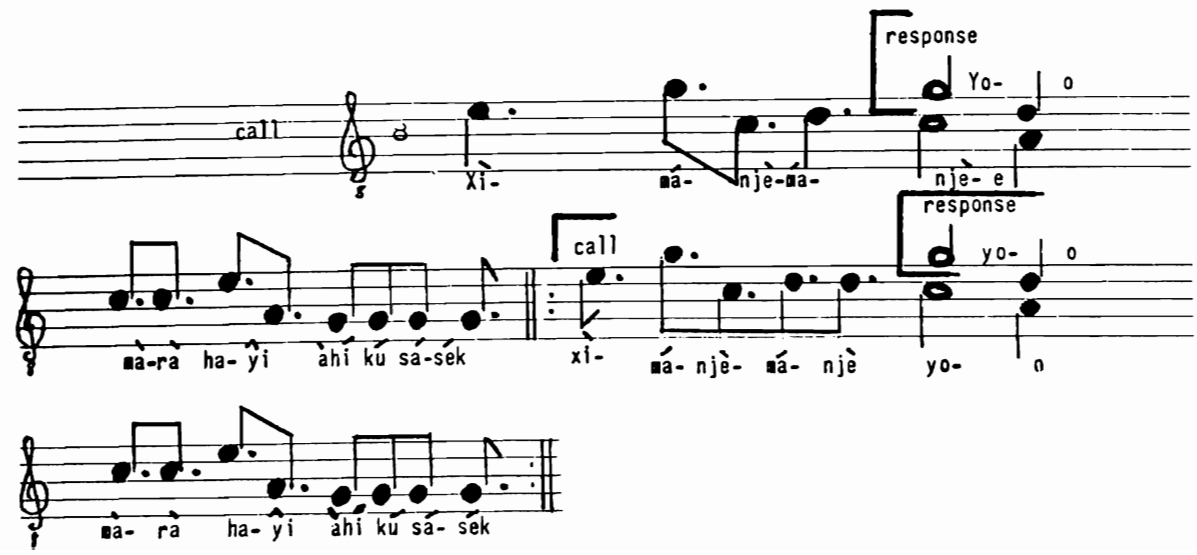
Song 1, Version A (sung by a chorus of men at Samarie)



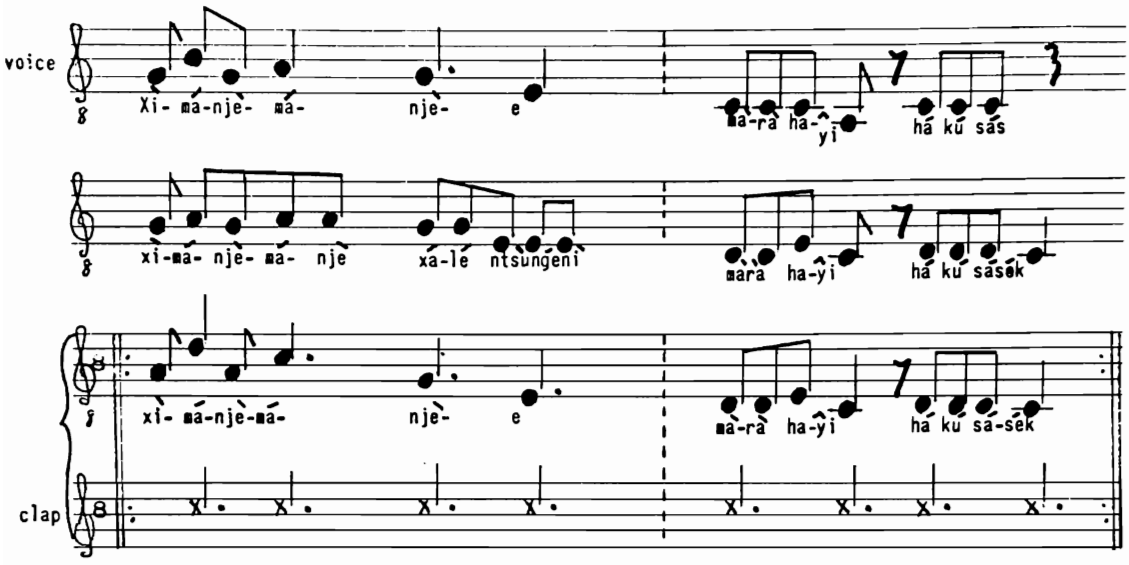
Song 1, Version B (sung by Wilson Zulu)



Song 1, Version C (sung by a chorus of women at Ribola)



Song 1, Version D (sung by Joel Mashava)



Song 1, Translation

Ximanjemanje	xale ntsungeni	mara hayi ahi ku
These modern things (times)	over there	they are so

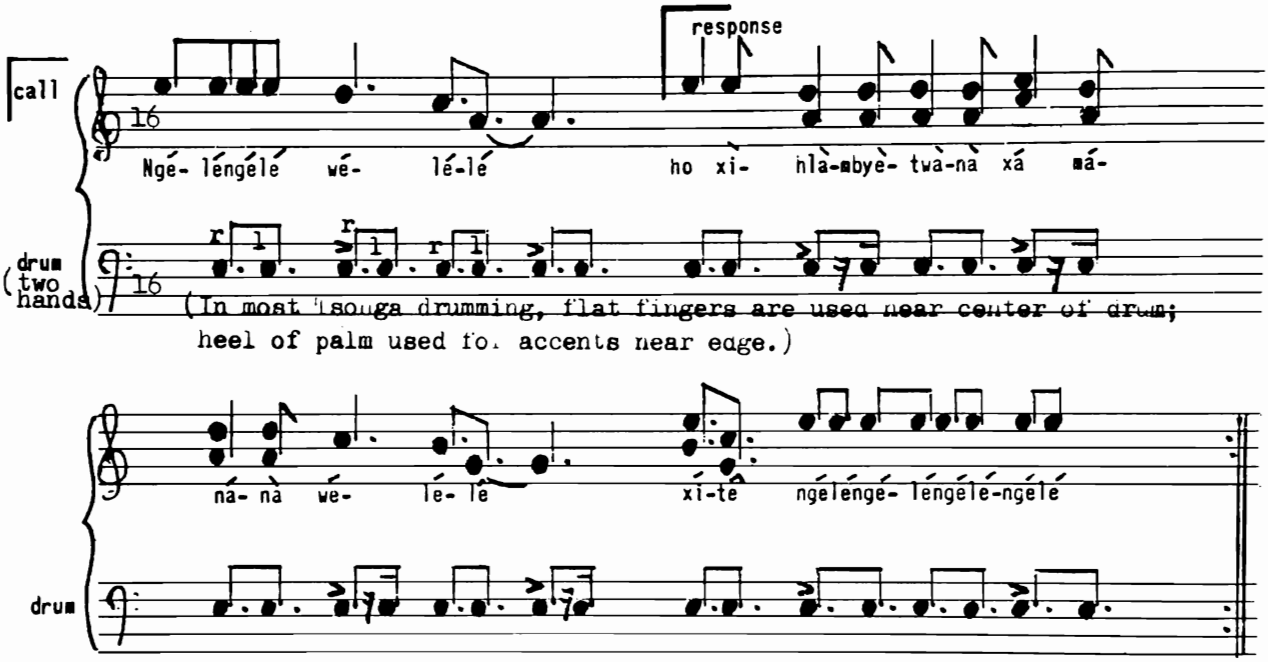
saseka
beautiful

(Refers to social change and the white man's possessions...cars, etc.)

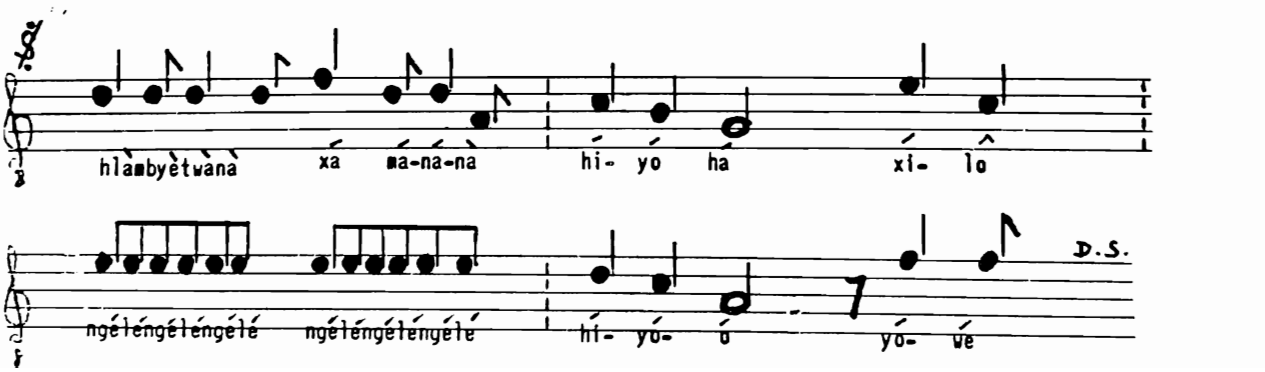
Of the above four versions of Song 1, all melodically observe the various speech-tones of the word xìmánjèmánjè, two observe the "high-low" at ngéní, and all observe the "falling" at haŷi. Two of the versions exhibit a melodic "high-low" at sáséká that is not indicated by the speech-tone markings, but sáséká is the song's concluding word, and a cadential drop in pitch is considered (by the Tsonga) musically desirable.

Song 2. Xìhlàmbyètwànà xá mánánà wélélé xítê ngélengélengélé wélélé

Song 2, Version A (sung by a chorus of women at Mahonisi)



Song 2, Version B (sung by Johannes Mathye)



Song 2, Translation

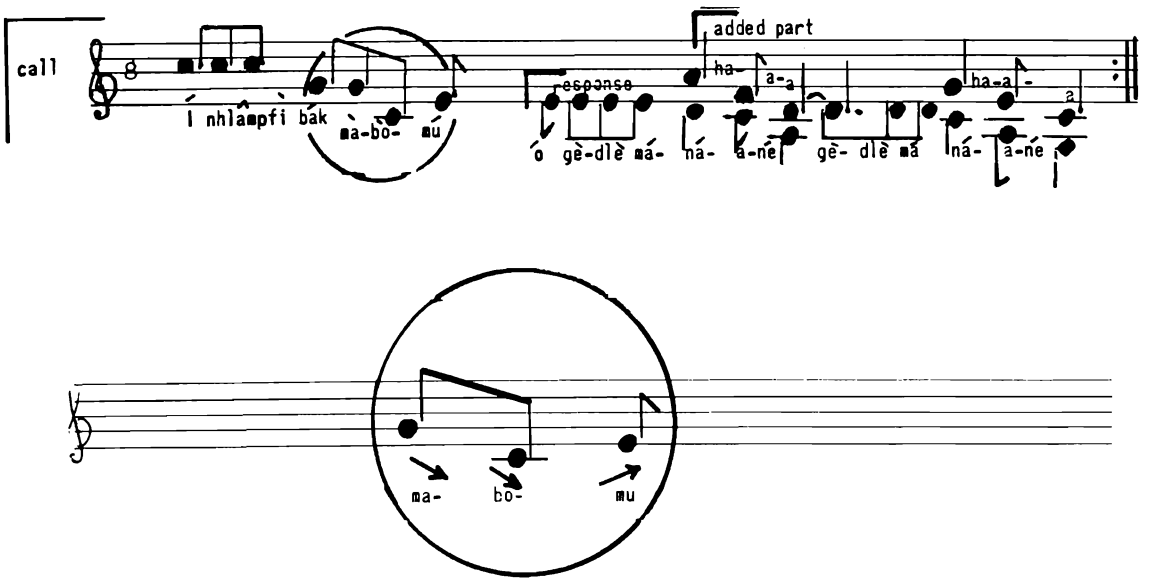
Xihlambyetwana	xa manana	welele	xite	ngelengelengele
The little pot	of my mother	tralala!	goes	ideophone representing the sound of a newly baked clay pot rolling along the ground
welele				
tralala!				

(This is a song sung for an infant aged one week, i.e. it is likened to a clay pot that has survived the hazardous firing process, and its cry is likened to the welcome sound of a sturdy clay pot as it is rolled along the ground in an acoustical test of its soundness. Infant mortality is high. Dead infants are buried in broken clay pots.)

Of the above two versions of Song 2, both observe "high" at xá; version A ignores the "low" at the end of mánánà but version B observes it; and both observe the "high-fall" at xítê. Neither version observes the "highs" at wélélé (see the three melody tones following ngélèngélèngélé), but then this is the song's concluding word, and a cadential drop in pitch is musically desirable.

Song 3. Í nhlâmpfì bák màbòmú ó gèdlè mánáné gèdlè mánáné

(sung by a chorus of women at Mutsetweni)



Song 3, Translation

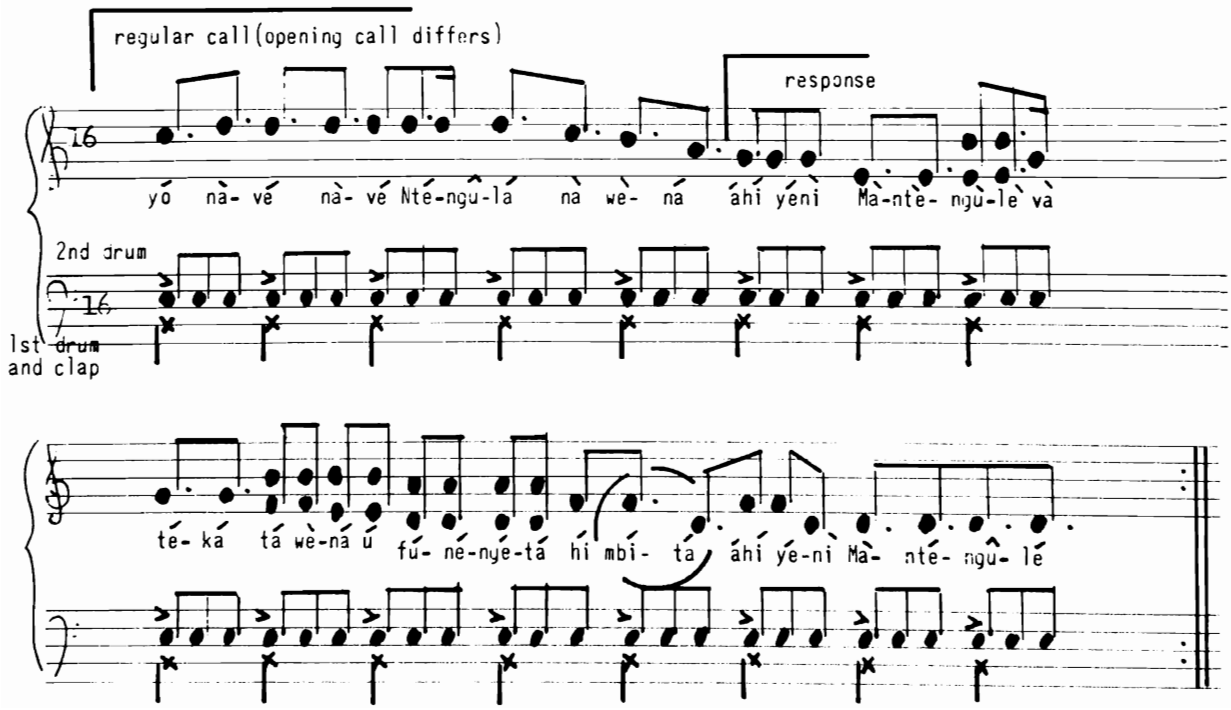
I nhlampfi	bak mabomu o gedle	manane	gedle	manane
The fish	splash around	mother	around	mother

(This is a fish-netting song, commonly sung within the context of muchongolo, the Tsonga national dance.)

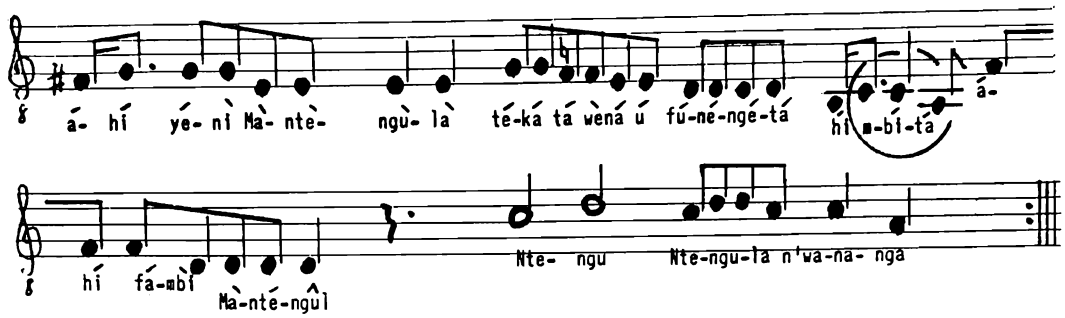
In the melody of this song there is a sharp descent from G to C, followed by a sharp ascent to E. This melodic descent and ascent accomodates the central low syllable bò of màbòmú, and the accomodation suggests that, regardless of the apparent freedom exhibited by much of a song's melody, the obvious speech-tone contours of key words are preferably retained.

Song 4. Yó nàvénàvé Nténgûlé nà wèná áhí yéní Màntèngùlà ù téká tá wèná ú fúnéngétá hí mbítá áhí yéní Mànténgûlé

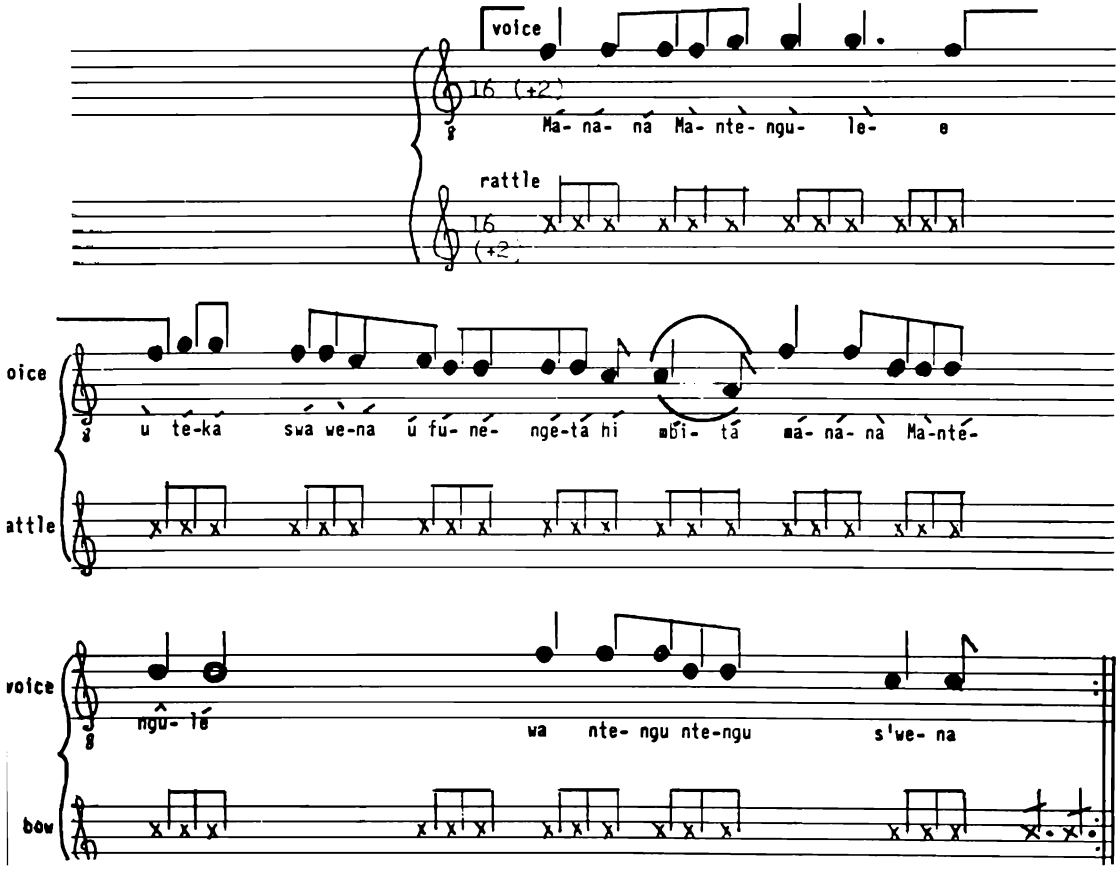
Song 4, Version A (sung by a chorus of women at Mhinga's location)



Song 4, Version B (sung by Johannes Mathye)



Song 4, Version C (sung by John Chauke)



Song 4, Translation

Yo navenave	Ntengula	na wena ahi yeni
Tempter!	Child-of-the-Drongo-Bird!	Yes, you

Mantengula	u teka ta wena	u funengeta
Child-of-the-Drongo-Bird!	You hide	all your secrets

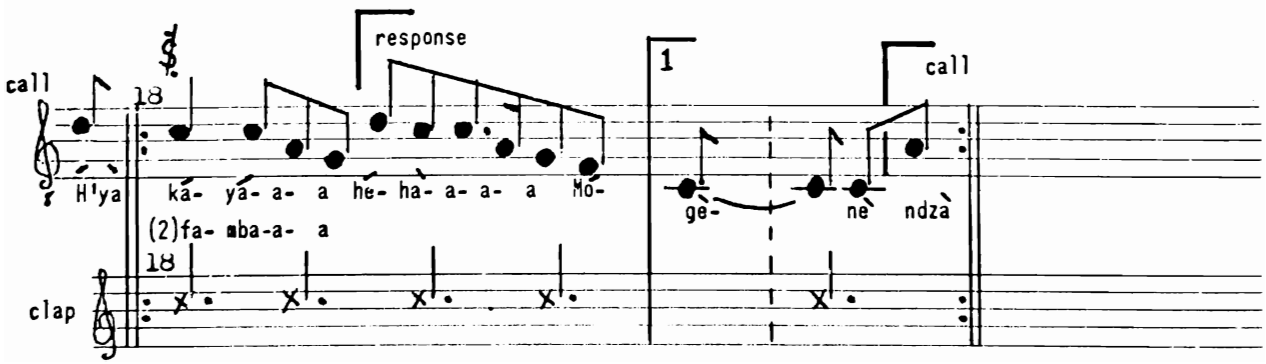
hi mbita	ahi yeni	Mantengula
under a mortar	Yes, you	Child-of-the-Drongo-Bird!

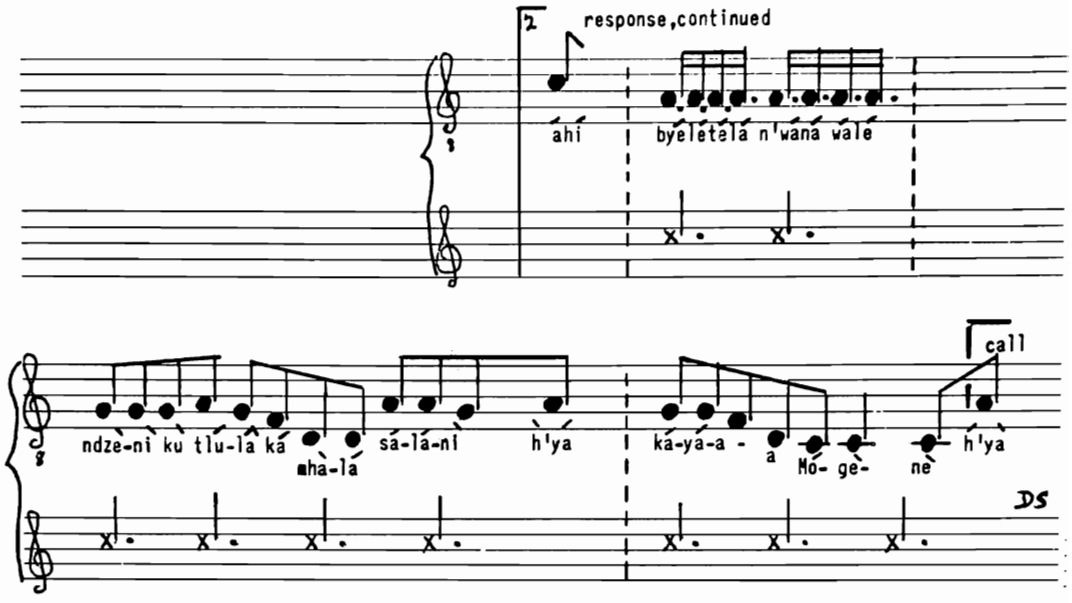
(Refers to a legendary bird that hides its secrets but reveals everybody elses, i.e. it is customarily blamed for the spread of gossip.)

Of the above three versions of Song 4, all exhibit a melodic fall between the two syllables of mbîtá (the two tones following fúnéngétá hí) regardless of the "fall-high" speech-tones of the word. A possible explanation is that mbîtá occurs at the conclusion of a verbal and musical phrase, preceding the new phrase áhí yéní Màntèngùlè, which must preferably commence "high" in relation to its predecessor.

Song 5. Híyà héhà Mógènè ndzà áhí byélétélá n'wáná wálé ndzèní kù tlúlâ ká mhàlá sáláni hìyá káyá Mógènè

(sung by a chorus of women at Njakanjaka)





Song 5, Translation

Hiya heha Mogene	ndza ahi byeletela	n'wana wale
I'm going to Mogene (place)	It teaches	the child

ndzeni	ku tlula	mhala	salani	hiya kaya
'inside'	of the jumping	of the antelope	I'm going	home to

Mogene
Mogene (place)

(Refers to pregnancy. Mothers-to-be sing the song in December, when the impala antelope is carrying its young. The impala is famed for its leaping ability. As the antelope foetus "learns" about jumping from its mother's jumping, so does the human foetus learn of life's values before birth, from its mother. Its movements are "proof" of this.)

In the above song, the "high-low-low" speech-tones of Mógènè are melodically observed, as are the eight repeated "highs" of byélétélá n'wáná wálé. From the end of the latter phrase to the first word of the

next, ndzèní, a speech-tone "high-low" is indicated and this, also, is melodically observed. The five speech-tones of kù tlúlâ ká mhà-- "low-high-falling-high-low" are all observed by the melody, as is the "low" at the end of sálání.

The musical characteristics of the initial statement of a Tsonga song are considerably influenced by the rise and fall of Tsonga speech-tone, and by the length and rhythmic stress[1] of the syllables. Once melody and rhythm are set, subsequent "statements" may be a product of both linguistic and purely musical forces (the latter will be discussed under the next sub-heading).

The relationship between Tsonga song-words and their musical setting generally involves more than mere imitative processes. Hornbostel's statement that "pitches of the speaking voice, indeed, appear to determine the melodic nucleus; but they have no influence upon its inborn creative forces"[2] assumes particular significance in the light of many compositional practices of Tsonga. There are musical forces limiting the influence of speech-tone on melody, and musical forces limiting the influence of speech-stress on rhythm.

Some Tsonga melodic principles: musical forces limiting the influence of speech-tone on melody

There exists, within Tsonga communal vocal music, a phenomenon which might be termed "pathogenic" descent. An analysis of Tsonga "pathogenic" descent reveals that 24% of songs exhibit a first-to-last-tone descent of a 5th; 20% exhibit a first-to-last-tone descent of an octave; 13% exhibit a first-to-last-tone descent of a 4th; and 100%

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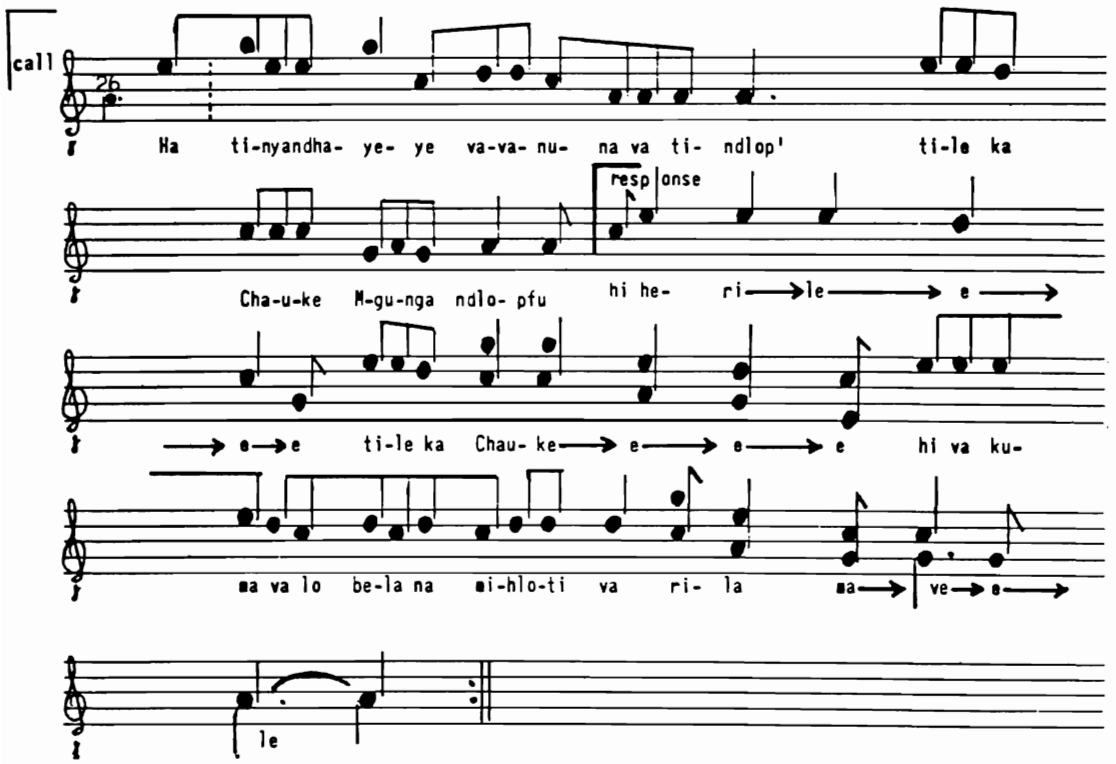
[1]Of Sambian Tonga song-rhythm it is reported that "the theory that the determinant lies entirely in natural speech length and stress is not consistently born out." (Rycroft, David. "Tribal Style and Free Expression". African Music, 1:1, 1954, p. 26.

[2]Von Hornbostel, E. M. African Negro Music. London: Oxford University Press, p. 31.

exhibit a first-to-last-tone intervallic descent of one kind or another. These descents are neither sharp nor gradual, but occupy a series of plateaux, and exert limiting counter-influence against speech-tone domination, particularly at sentence-endings where a musical drop is desirable.

There exists within Tsonga communal vocal music a special vocabulary of melismatic syllables such as huwele, welele, hayi-hayi, yowe-yowe, etc., during the singling of which a melody is released from any possible obligation to obey speech-tone rise and fall. Nketia states of Akan singing that "unlike other syllables, interjectory syllables e, ee, o, oo, etc., may be sung to one, two, or more notes."[3] Examples of Tsonga melismatic non-lexical syllables are given below.[4]

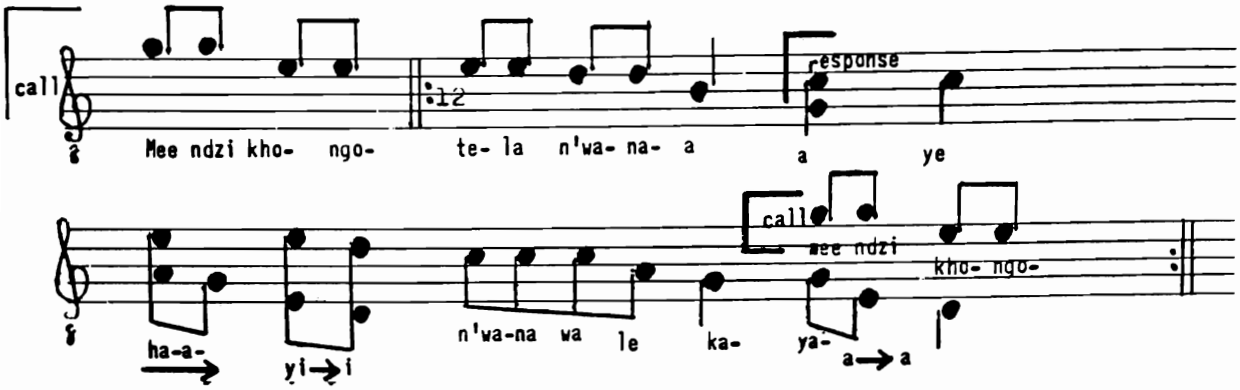
Melismatic Example 1 (he-ri-le-e-e-e, Chauke-e-e-e, mavele-e-le)



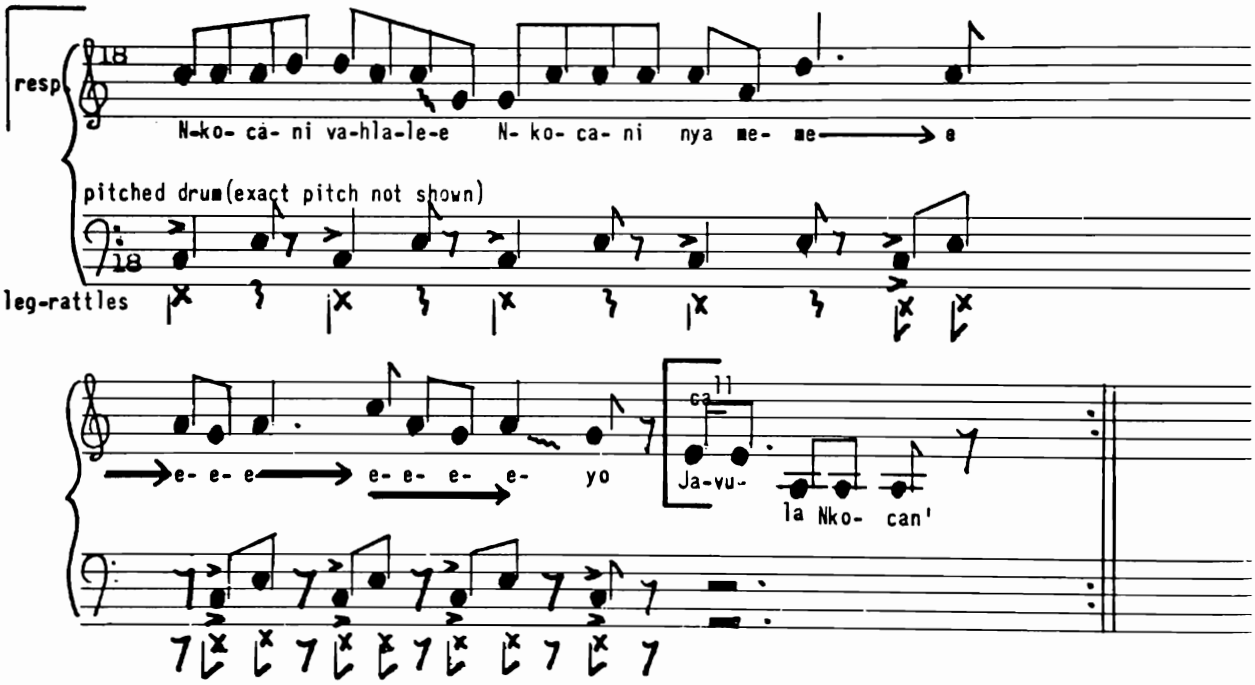
[3] Nketia, J. H. 1963. Folk Songs of Ghana. Legon: University of Ghana, p. 9.

[4] This refers to the carrying of a single syllable over many notes, as in the "ah" in Allelujah; i.e. a non 1-to-1 relationship.

Melismatic Example 2 (ha-a-yi-i, ka-ya-a-a)

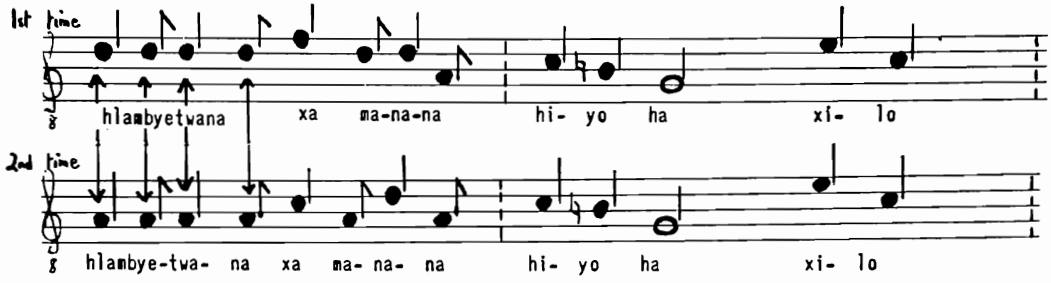


Melismatic Example 3 (va-hla-le-e, myame-me-e-e-e-e-e-yo)

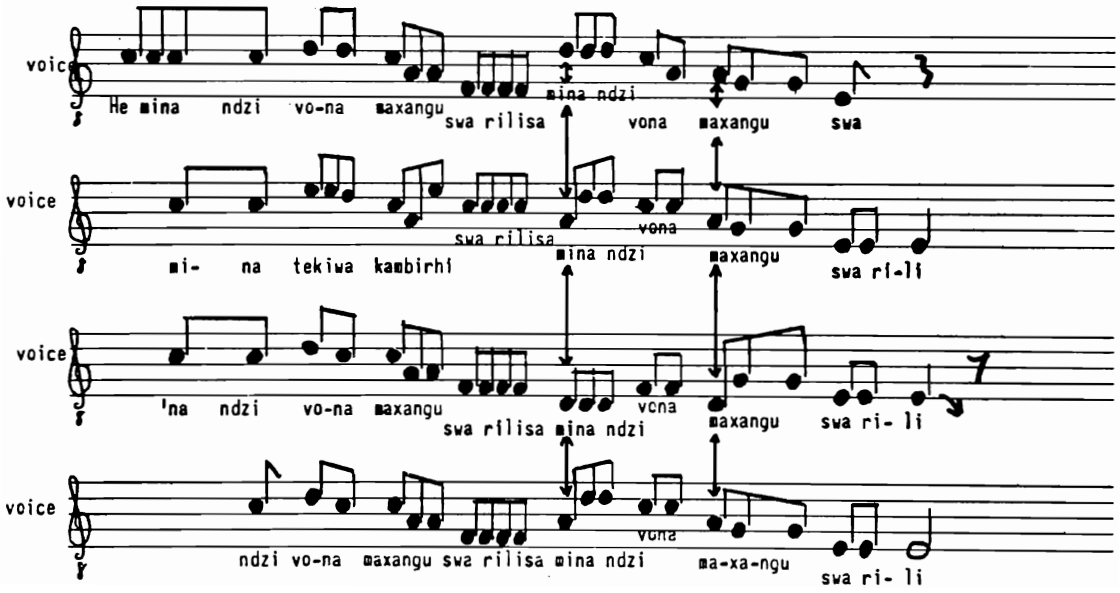


There exists within communal vocal music a system of "harmonic equivalence" whereby tones a 5th (inverted 4th) distant are regarded by the Tsonga as interchangeable. This system of tone-substitution results in otherwise-inexplicable melodic "highs" and "lows" during unchanging speech-tones. Examples are given below.

First example of "harmonic equivalence" (the word hlàmbyètwànà which contains exclusively "low" speech-tones, is melodically represented by D's during the first cycle, and by A's during the second cycle, D and A being "harmonically equivalent"):

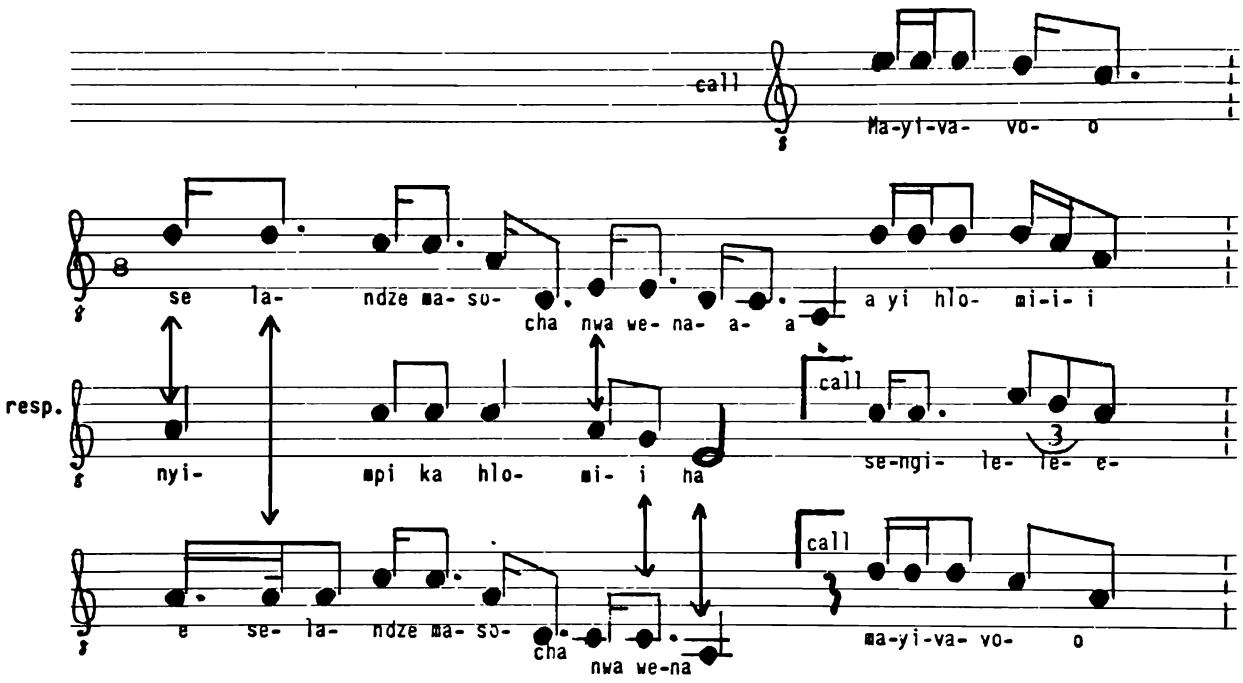


Second example of "harmonic equivalence" (note the substitution of D for A at mina and at maxangu--D and A are "harmonically equivalent"):

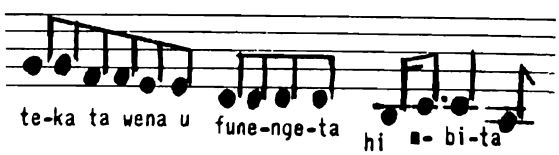


There exists within Tsonga communal vocal music, word-changes which occur during the successive cycles of a song. Choice of these new words is generally made so that their speech-tone approximates that of the old words, and could, should the singers so desire, be sung to the same melody. Where the melody changes (as in the following example), it does so according to an implicit "harmonic" framework which could be considered as the <u>real</u> control.

<u>Example: implicit "harmonic" framework as the real control</u>



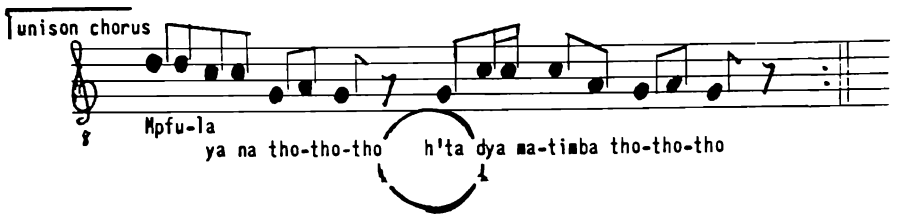
There exists, within Tsonga communal vocal music, occasions on which musical considerations completely overrule speech-tone considerations. The following melody exhibits purely musical characteristics (a descending 4th GD filled-in with 2nds and complemented by a 3rd CA, the whole spanning a 7th) that disregard the speech-tones, which are thus: téká tá wèná ú fúngéngétá hí mbttá.



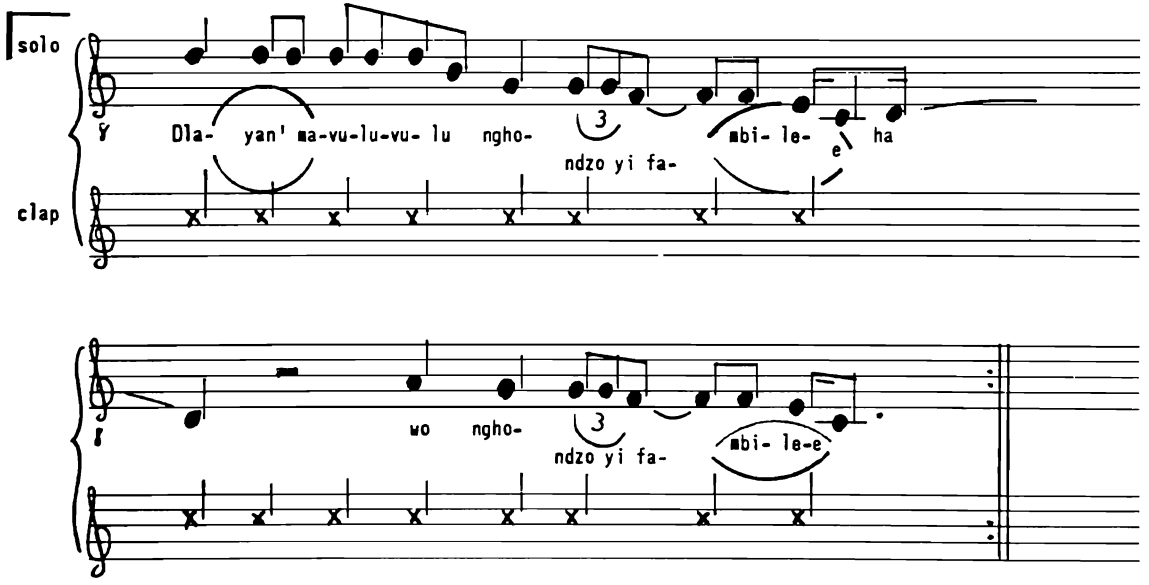
Musical forces limiting the impact of speech-stress on song-rhythm

Of particular use to the Tsonga in the relaxation of speech-stress controls is vowel elision, terminal-syllable contraction, and terminal-syllable prolongation. Examples are given below.

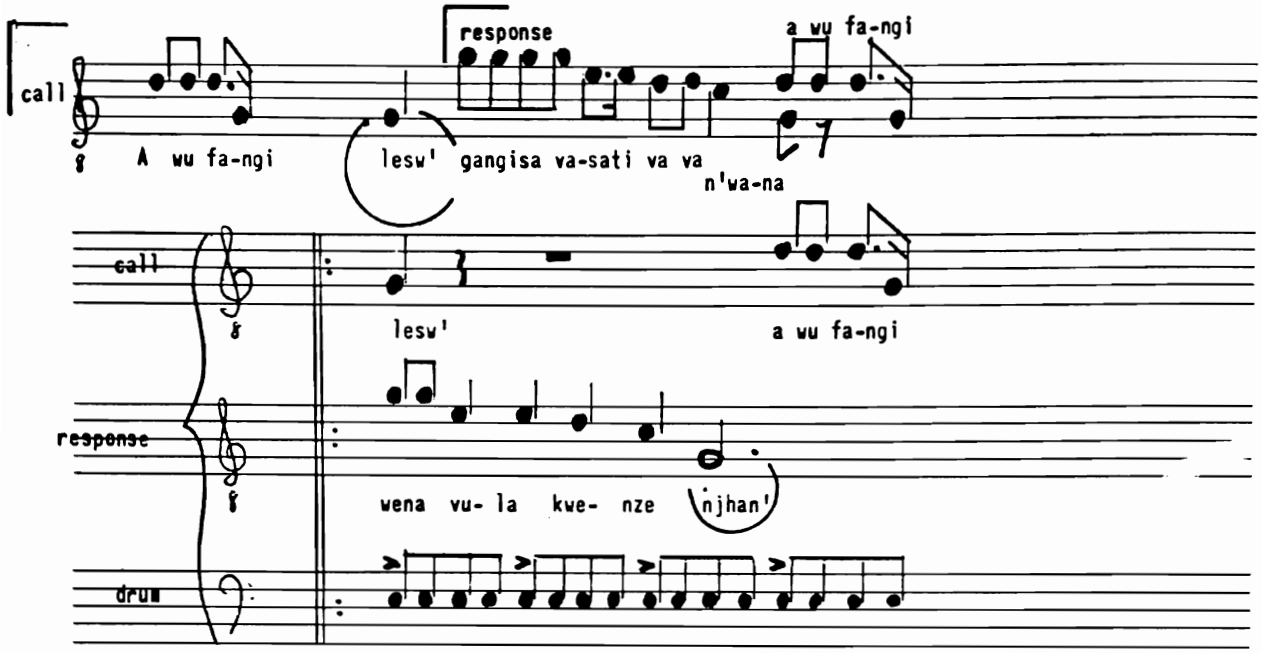
Example 1 (the word h'ta is a contraction of hi ta):



Example 2 (the word dlayan' is a contraction of dlayani, and the word fambile-e exhibits terminal-syllable prolongation):



Example 3 (the word lesw' is a contraction of leswi, and the word njhani exhibits terminal-syllable contraction to njhan'):



Vowel elision permits the singer (a) to execute one long tone instead of two short tones, and (b) to fit a long word into a relatively short musical space. Terminal-syllable contraction permits the singer to utilize, on the concluding single tone of his song, an otherwise-trochaic bisyllabic word. Terminal-syllable prolongation permits the singer to utilize, on the concluding two tones of his song, an otherwise-monosyllabic word.

Another method of freeing song-rhythm from speech-stress controls is the use of letters n and m as independent syllables--Kubik reports of Yoruba singing that "these m and n sounds are considered musically as syllables and can bear one note."[5] Tsonga examples are given below.

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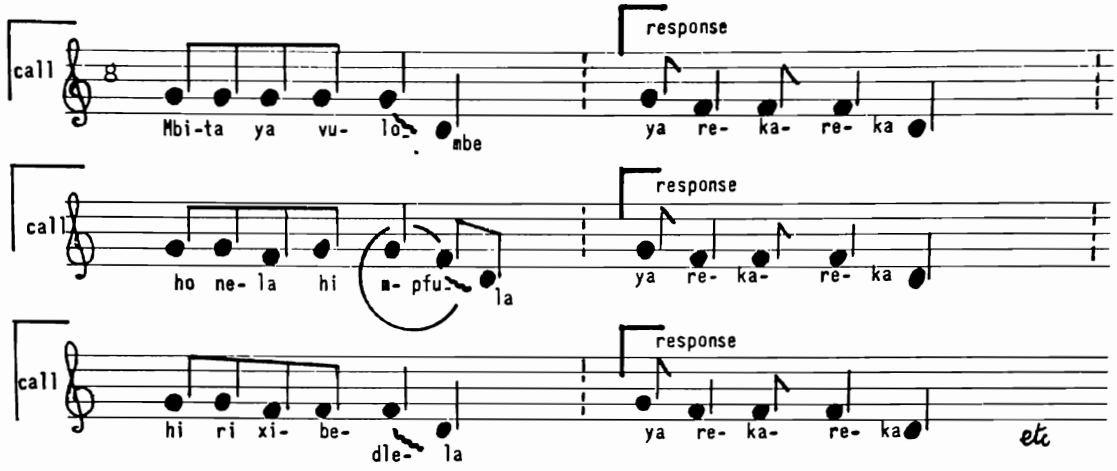
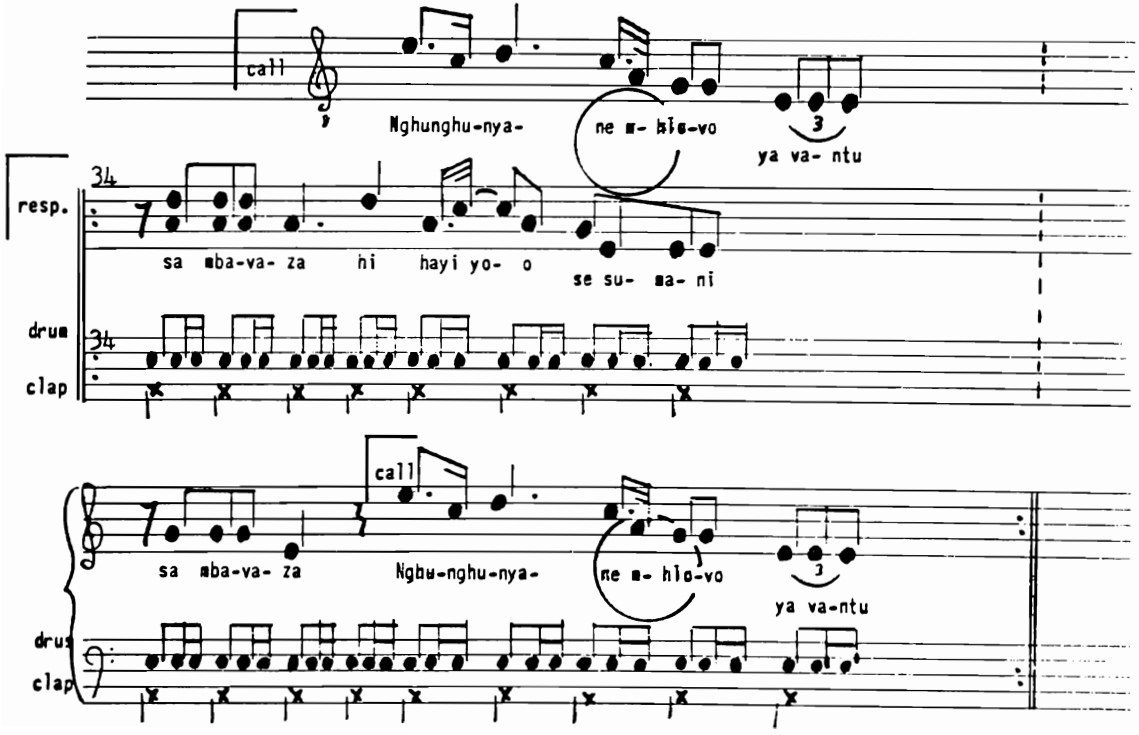
[5]Kubik, Gerhard. 1968. "Alɔ--Yoruba Story Songs". African Music 4.2: 13.

Use of n or m as syllables: example 1



Use of n or m as syllables: example 2



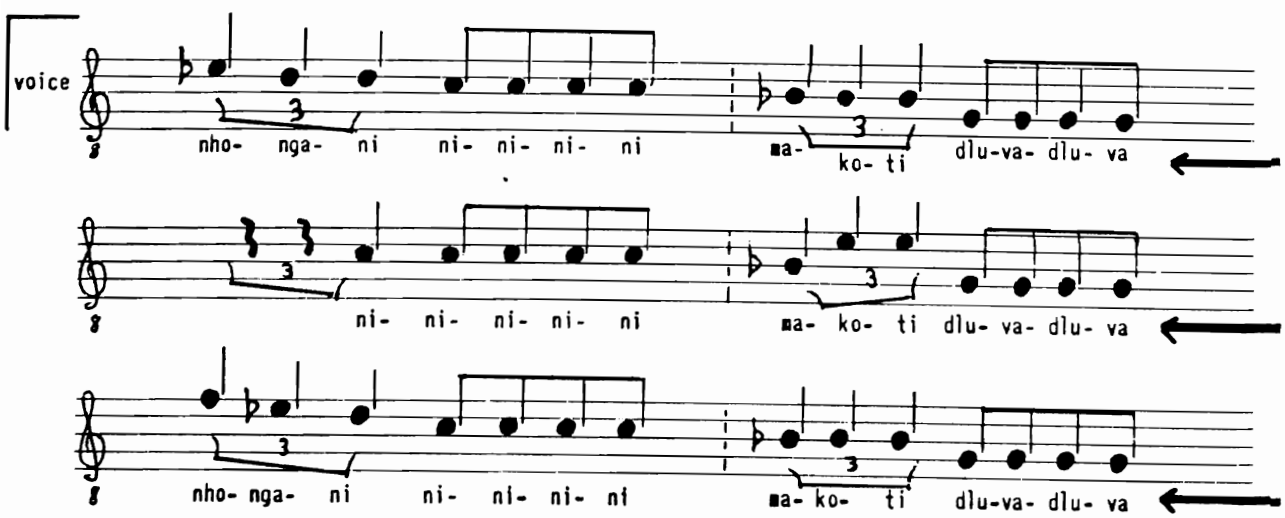
In example 1 above, the m of mpfula occupies an entire crotchet and enables this bisyllabic word to straddle three musical tones. In example 2, the m of mhlovo is used as a musical anacrusis for the two quavers on which hlo-vo are sung.

Within Tsonga vocal composition, many musical factors combine to limit speech-tone domination not the least of which is perhaps a desire for musical contrast between call and response. Concerning the resultant "distortion" of word-meaning, the present writer sought the opinion of native Tsonga linguists in ascertaining to what extent speech-tone may be ignored within Tsonga vocal composition. The consensus was that context is as important as speech-tone, and where, for musical reasons, the latter is dispensed with, recourse to context adequately clarifies meaning.

Programmatic musical settings

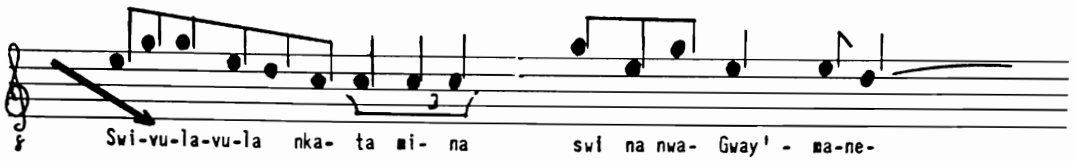
Onomatopoeicisms such as dluva-dluva 'jump', vula-vula 'gossip', cele-cele 'carousing', and ngomu-ngomu 'ogre' receive programmatic treatment at the hands of Tsonga composers, being set to reiterative, motional, or accelerative tone-patterns. Similar treatment occurs elsewhere in Africa, for Kubik states of Yoruba singing that "gbinrin (the sound of dropping iron)...is worked into the pattern gbinrin ajalubale gbinrin" and that "erin (elephant) suggests the dull movements of a walking elephant."[6] Tsonga examples are given below.

Onomatopoeic example 1: the reiterative setting of dluva-dluva 'jump'

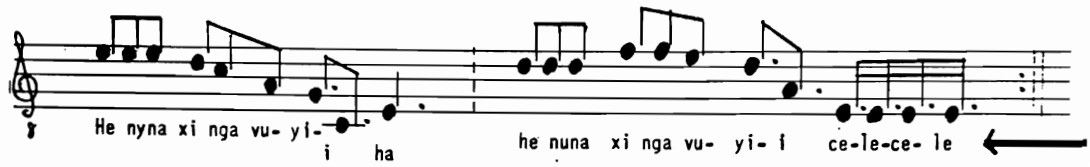


6 Kubik, Gerhard, op. cit., p. 11.

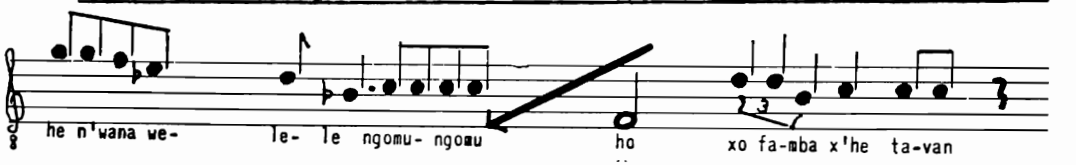
Onomatopoeic example 2: the motional setting of vula-vula 'gossip'



Onomatopoeic example 3: the accelerative setting of cele-cele 'carousing'



Onomatopoeic example 4: the reiterative setting of ngomu-ngomu 'ogre'



Formal structure

Tsonga communal vocal music, when compared to Venda and other Southern African musics, appears to reveal a predilection for longer metrical periods. These periods contain interesting proportions of call to response, and contain multiple reappearances of the call and response within any one cycle.

Representative formal structures evinced by Tsonga songs

	Total
Song A (call=9♩ + response=3♩ + call=9♩ + response=9♩ + call=3♩ + response=3♩).....	36 ♩
Song B (call=4♩ + response=4♩ + call=4♩ + response=14♩)	26 ♩
Song C (unison chorus=2♩ + call=4♩ + unison chorus=2♩ + call=4♩ + divided chorus=4♩)	16 𝅗𝅥
Song D (call=6♩ + response=3♩ + call=6♩ + response=9♩)	24 𝅗𝅥
Song E (call=4♩ + response=4♩ +call=4♩ + response=8♩)	20 𝅗𝅥

Song F (call=10 ♩ + response=4 ♩
+ call=4 ♩ + response=4 ♩
+ call=4 ♩ + response=4 ♩) ..... 30 ♩

Song G (call=4 ♩. + response=7 ♩.
+ call=1 ♩. + response=12 ♩.) ..... 24 𝅗𝅥.

Song H (call=6 ♩ + response=10 ♩
+ call=6 ♩ + response=10 ♩
+ call=5 ♩ + response=27 ♩) ..... 64 𝅗𝅥

Song I (call=2 ♩. + response=3 ♩.
+ call=2 ♩. + response=11 ♩.) ..... 18 𝅗𝅥.

Song J (call=18 ♩ + response=18 ♩
+ call=2 ♩ + response=4 ♩
+ call=3 ♩ + response=3 ♩
+ call=3 ♩ + response=3 ♩
+ call=3 ♩ + response=3 ♩) ..... 60 𝅗𝅥

Song K (call=6 ♩ + response=4 ♩
+ call=6 ♩ + response=4 ♩
+ call=2 ♩ + response=4 ♩
+ call=2 ♩ + response=4 ♩) ..... 32 𝅗𝅥

The transmission, from one generation to another, and from one geographical area to another, of Tsonga musical principles

The Tsonga have a reputation among their neighbors for possessing an extensive body of folklore (ntumbuluku wava khale). They are themselves particularly proud of this folklore and ensure that their children become acquainted with it. Generally, in the daytime, small children learn from older children the legend-telling words of the game-songs (tinsimu tavana to huha) used in games such as Xifu funu nu--The Beetle, and Mbita Ya Vulombe--The Pot of Honey, both of which were reported over fifty years ago by Junod. In the evening they watch the adult "exorcism" dances, or listen to the story-songs (tinsimu ta mintsheketo) sung by their maternal grandmother at certain times of the year.

Young boys who gather round a visiting bow-player receive an intriguing music "lesson" (ntsakela-vuyimbeleri) as he carefully tunes his string-lengths to a Tsonga 4th, just as older boys learn by observation how to construct their own hand-piano (timbila) and to correctly arrange and tune its seventeen keys.

In the girls' puberty school (khomba) and the boys' circumcision school (murhundzu) songs are learned under rather rigorous conditions, and the present writer encountered urban Tsonga old men and women, miles and "years" removed from their rural initiation schools, who could recite or sing rapid and apparently meaningless initiation formulae for up to thirty minutes, with brief rests.

The young people's competitive team-dancing (xifase) of the drumming school and the adult competitive team-dancing (rhambela phikezano) of the beer-drinks are performed during village-to-village visits and contribute toward the geographical dissemination of Tsonga music old and new, as do the musical activities of itinerant doctors and minstrels.

By carefully observing the correct method of producing the rhythmic and melodic patterns used during these various visits, and by themselves reproducing the heard rhythms upon upturned canisters or pebble-filled stick-rattles (mafowa) while singing, children develop familiarity with, and mastery of, many Tsonga musical principles. This does not imply a latent desire to become musical specialists; engagement in normal social life (which is general) involves the Tsonga in music whether they like it or not, because music is an essential part of Tsonga social life. The acquisition of musical skills are incidental to acquisition of other skills necessary to social and biological maturation.

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THE VERBAL STATUS OF THE NP-LINKER IN GÃ[1]

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0. Kropp Dakubu in a recent paper on the Gã verb lists in her "extended verbal group" (among other verbal items) the "auxiliary verb...kɛ 'take, be with'" [1970:74], and explains further: "It is treated as a verb (not a particle) mainly for syntactic reasons."

1. Anyone who works on the Gã language has to account, sooner or later, for what on the surface appear to be two homophonous formatives kɛ̀: the one mentioned, and another which is used as a linker of NP's, from minimal constructions formed by two simple nouns, as in:

(1) kòfí kɛ̀ àkúá nà dzù-lɔ́ lɛ́[2]
Kofi and Akua saw thief the

or its pronominalized version:

(2) è kɛ̀ lɛ̀ nà lɛ̀
he$_1$ and she saw him$_2$[3]

to maximally expanded ones like:

(3) núú-mó lɛ́ kɛ̀ è nà-nè-mɛ̀-î ényɔ̀ nî gbè mî nyɛ̀-mî lɛ́ nà dzù-lɔ́ lɛ́
old-man the and his friends two who killed my brother/sister the saw thief the
'The old man and his two friends who killed my brother (or sister) saw the thief.'

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[1]An earlier version was presented at a Staff Seminar, Dept. of Linguistics, Univ. of Ghana. I should like to express my special gratitude to K. Ford for his useful comments. My thanks also go to one of my Gã informants, Miss M. Akita.

[2]In the presentation of examples (-) is used to represent morpheme-boundaries. Underlying forms are written (thus mɪ̀lɪ̀ 'inside', rather than the phonetic realization [mlɪ̀], see Trutenau [in press]), in a slight adaptation of current Gã orthography (an exception is the recent loan from English, pɛtrol, which, if native Gã, would have required an underlying form pɛ̀tɔ̀lɔ́ɔ̀), though the transcription is phonological in orientation. Tonemarks indicate the "deep tones": (́) deep high; (̄) deep mid; (̀) deep low.

[3]In some glosses subscripts are used to indicate identity/nonidentity of reference.

1.1. This NP-linker kɛ̀ is quite distinct from the true conjunction 'and', which links VP's and sentences, and the two do not overlap. As an example of the use of the conjunction, consider:

(4) kɔ̀fí yí ámá ní ɔ̀tɔ̀ yí àkúá
'Kofi beat Ama and Oto beat Akua.'

and compare:

(5) kɔ̀fí kɛ̀ ámá yí àmɛ̀-hɛ̀
'Kofi and Ama beat each other.'

To illustrate further the superficially conjunction-like use of the NP-linker kɛ̀: it can be maintained that for most Ga expressions of the type X kɛ̀ Y 'X and Y' (where X and Y stand for NP's) one can form a parallel expression X lɔ̀ɔ̀ Y 'X or Y' (the formative (à)lɔ̀ɔ̀, which stands between alternatives, can be glossed satisfactorily enough by 'or').[4]

In this paper we shall restrict ourselves to a discussion of these two forms kɛ̀ which are characterized in all previous work on the Gã language as "auxiliary verb" and "conjunction" respectively, and shall try to suggest for what reasons their analysis as subclasses of the same general category "verb" may be more appropriate.

The different constructions into which kɛ̀ enters would have to be stated on the lines of subclassification, and it must be pointed out that there are still other uses of (undoubtedly verbal) kɛ̀, at least one of which will occur in some of the examples to follow. This is the (serial, "dative") construction kɛ̀ X hã́ Y (where hã́ 'to give' is the main verb) meaning 'give X to Y'. Other (serial, "directional") constructions like kɛ̀ X bà Y (using bà 'to come' and other semantically related verbs as main verb), meaning 'come to Y with X/bring X to Y', would be similarly treated in terms of subclass membership.

Such an analysis will have a slight advantage in terms of greater overall economy of description, but a more important motivation is that it enables us to get rid of certain anomalies in pronominalization, which would otherwise be unavoidable.

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[4] Note that (in this respect quite different from kɛ̀) (à)lɔ̀ɔ̀ is used not only for connecting NP's, but also for VP's and sentences.

1.2. Having given this brief outline of constructions involving kɛ̀, three alternative analyses suggest themselves:

(1) One sets up two separate forms kɛ̀, one "verbal", the other "conjunctival", and claims that these are accidentally (and trivially) homophonous formatives of the language.
(2) One sets up two separate forms kɛ̀ and postulates that their homophony is <u>not</u> accidental, but rather reflects a common origin (diachronically) of these formatives.
(3) One sets up one form kɛ̀ which functions in the different ways outlined above. In this case an explanation would have to be required to show how the so-called "conjunctival" and "verbal" uses of it are arrived at.

Many Gã speakers feel that there is a close semantic relationship between the kɛ̀ forms we are focusing on: this is reflected in the possible "unified meaning" type of gloss: 'take, join with, together with'.

If this semantic association were to be formally justifiable, our alternative (1) would turn out to provide the least insightful analysis, and alternative (3) the most highly valued hypothesis. If (3) were acceptable, the historical relationship postulated in (2) could be most plausibly incorporated into this hypothesis.

We shall try to show that a case can be made for a transformational relationship to in fact exist between the so-called "conjunctival" and the verbal appearances of <u>one</u> underlying formative kɛ̀.

2. In order to establish such a relationship we have to discuss in some detail a constraint on pronominalization in Gã.

2.1. In this language, while any and all nominals can be replaced in the "subject" position (which in Gã typically <u>precedes</u> the verb) by the appropriate member of the (subject-) pronoun series,[5] there is a restriction

[5]The "subject" series consists of six "personal" pronouns and an "impersonal" one; for the singular forms "reduced-form" variants differing slightly from the "full" (citation and emphatic) form are used:

on the pronominalization of "object" NP's (which in Gã typically follow the verb). In the latter position only nominals having the feature [+animate] are overtly pronominalized by the appropriate member of the (object-) pronoun series.[6] For obvious semantic reasons this restriction on object pronominalization only comes to the surface in third-person reference, with the result that in objective position English "it" is not overtly expressed in Gã (glosses can and should be made to express this by enclosing the word (it) in parentheses). We shall henceforth refer to this phenomenon briefly as "zero pronominalization" of it and employ the conventional Ø-symbol to mark its occurrence.[7]

	Personal		Impersonal
	Singular	Plural	
1	mi ~ homorganic nasal	wɔ	
2	o	nyɛ	
3	e	amɛ	a

(The possessive pronouns have the same form as these, with low tones, except for the first and second person singular, which take high tones.)

[6] The "object" pronoun series consists of six ("full-form") personal pronouns:

	Singular	Plural
1	mi	wɔ
2	bo	nyɛ
3	lɛ	amɛ

[7] Occasionally the pronominalization of a [-anim] object NP may be heard from Gã speakers; but in all cases I personally came across they corrected themselves, either spontaneously, or when they saw what they had said being written down by me. (One cannot altogether discount some interference from the grammar of English, cf. Wilkie [1930] page v: "the increasing use of an Anglicized-Gã by many of the younger generation which should be discouraged. It is spoiling the beauty of the language, and grates on the ear...")

A similar zero-pronominalization of 'it' was pointed out for Twi by J. M. Stewart [1963]; cf. esp. the discussion on page 149, where it is argued that "one should postulate a zero object pronoun" for the language, as "it is subject to the same restrictions as other objects"; in this language similar restrictions on "specific" objects hold as will be pointed out for Gã. My colleague L. Boadi points out orally to me that in Akan in the environment of an adverb his "pron-3-object deletion" does not take place, which observation covers Gã also. Cf. Boadi [1971] and [forthcoming], neither of which was seen.

To give some examples:

(6) kòfí kɛ̀ è nyɛ̀-mí-nùú lɛ́ yí dzù-lɔ́ lɛ́
Kofi with his brother the beat thief the
'Kofi and his brother beat the thief.'

can be pronominalized:

(7) è kɛ̀ lɛ́ yí lɛ́
he$_1$ with him$_2$ beat him$_3$

if the appropriate context of discourse or conversation is established beforehand, making the references clear.[8]

(8) kòfí kɛ̀ tsò yí dzù-lɔ́ lɛ́
Kofi with stick beat thief the
'Kofi beat the thief with a stick.'

is pronominalized:

(9) è kɛ̀ Ø yí lɛ́
he$_1$with (it) beat him$_2$
'He beat him with it.'

(10) òtò kɛ̀ è ŋà tèè òsú
Oto with his wife went (to) Christiansborg
'Oto went to Christiansborg with his wife.'

is pronominalized:

(11) è kɛ̀ lɛ́ tèè Ø
he with her went (there)
'He went there with her.'

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[8]This is of course a condition on all pronominalization and must always be kept in mind when trying to elicit forms: failure to elicit certain forms has often been found to be due to the linguist's not taking the trouble to outline a plausible situation (in which that form would be appropriate) to the native-speaker informant, and can easily result in false statements about non-occurrence of forms. We shall henceforth take this condition for granted and not repeat it with every example.

(12) kòfí kɛ̀ è dzàtsú lɛ́ tɛ̀è òsú
Kofi with his load went (to) Christiansborg
'Kofi went to Christiansborg with his load.'

is pronominalized:

(13) è kɛ̀ ø tɛ̀è ø
he with (it) went (there)
'He went there with it.'

2.2. Now let us compare these examples featuring supposedly "conjunctival" kɛ̀ with cases where traditional Gã grammar would call the kɛ̀ an auxiliary verb.

To begin we shall take a simple transitive verb with two objects:

(14) òtò hã́ è bí lɛ́ tsò-bí
Oto gave his child the (a) wood-child
'Oto gave his child a doll.'

As long as the second ([-animate]) object is also [-specific] (not being followed by the "article" lɛ́), the Gã sentence is quite similar in surface structure to the English translation. But as soon as one makes the [-anim] object [+spec] by referring to a particular doll, known to the interlocutors, or referred to earlier in the conversation or discourse, one finds that the language will not permit an object[9] which is both [-anim] and [+spec] to follow the main verb. This will have to be introduced by means of a serial verbal construction, employing kɛ̀ as the (introducer-) verb, to precede the (main) verb, as follows:

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[9]The two verbal elements can indicate comitative ('(together) with'), instrumental ('with/by means of'), and directional ('to') etc. relationships. Usually the context makes clear which "reading" is appropriate. Extensive tests made on this point show that Gã speakers readily tolerate ambiguities, but when an ambiguity is undesirable, an alternative expression will (in the form of some kind of paraphrase) be employed.

Thus mì kɛ̀ yòó lɛ́ tɛ̀è dzàà nɔ̀ would usually be understood to mean 'I with the woman went to market.' If one needed to make quite clear that one did not go there together, one might say: mì tɛ̀è dzàà nɔ̀ nì yòó lɛ́ (hṹ) bà dzɛ́-mɛ́í 'I went to market and the woman (also) came there', or use still other alternatives.

(15) ɔ̀tɔ̀ kɛ̀ tsɔ̀-bí lɛ́ hã́ è bí lɛ́
Oto took doll the gave his child the
'Oto gave the doll to his child.'

(16) è kɛ̀ Ø hã́ lɛ̀
he gave (it [doll]) (to) it [child])

Topicalizing the two object NP's we were focusing on we obtain:

(17a) tsɔ̀-bí lɛ̀ dzí nɔ́-ní è kɛ̀ Ø hã́ è bí lɛ́
doll the was what, he took (it) gave his child the
'It was the doll that he gave to his child.'

By pronominalizing the object NP of (17a) one obtains:

(17aa) tsɔ̀-bí lɛ̀ dzí nɔ́-ní è kɛ̀ Ø hã́ lɛ̀
doll the was what, he took (it) [doll] gave (to) it [child])
'It was the doll that he gave it.'

(17b) è bí lɛ̀ dzí mɔ̀-ní è kɛ̀ tsɔ̀-bí lɛ́ hã́ lɛ́
his child the was (to) whom he took doll the gave
'His child was the person he gave the doll to.'

By pronominalizing the "thing-object" NP of (17b) one obtains:

(17bb) è bí lɛ̀ dzí mɔ̀-ní è kɛ̀ Ø hã́ lɛ́
his child the was (to) whom he took (it [doll]) gave
'His child was the person he gave it to.'

We see that the topicalization necessarily implies "specificness" of the topicalized constituent; this is attested by the fact that the serial verbal construction which we saw to be required to introduce [-anim, +spec] objects is retained in topicalization.

2.3. After this excursion into the importance of the feature of specificity, let us return to verbs with two objects.[10] These are by no means restricted to cases of "person-object" followed by "thing-object".

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[10] Pace J. Zimmerman [1858], Volume I, p. 49: "The language generally does not connect two objects with one verb"; the facts are by no means as simple as that, and it is most unlikely that it has changed in this respect since his day.

Consider the following examples:

(20) è kɛ̀ pɛ̀trɔ́l lɛ́ wɔ̀ tsɔ̀nɛ́ lɛ́ mɪ̀lɪ̀
he took petrol the put of-machine the inside
'He put the petrol in the machine.'

(The verb here is followed by a "completive" NP.[11]) Pronominalization produces, as expected:

(21) è kɛ̀ ɔ wɔ̀ ø mɪ̀lɪ̀
he took (it [the petrol]) put (of-it [of-machine]) inside
'He put it in.'[12]

The Gã language has no "prepositions" like English; its equivalents of these we shall call "postpositional relational" items, a subclass of nouns (e.g. mɪ̀lɪ̀ in the preceding pair of sentences). Like other nouns they enter into a genitival relationship (always with the noun preceding them), as in (20) above. And because of their relational function the members of this subclass of nouns are not allowed to be pronominalized (see (21), for example). Topicalization of the objects in the same sentence results in:

(22a) tsɔ̀nɛ́ lɛ̀ dzɪ́ nɔ́-nɪ́ è kɛ̀ pɛ̀trɔ́l lɛ́ wɔ̀ ø mɪ̀lɪ́ lɛ́
machine the was what, he took petrol the put (of-it) inside the
'It was the machine that he put the petrol into.'

Pronominalized, this gives us:

(22b) nɔ̀ dzɪ́ nɔ́-nɪ́ è kɛ̀ ø wɔ̀ ø mɪ̀lɪ́ lɛ́
that [the machine] inside the
'That was what he put it into.'

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[11] For more detail on the "completive" (or "genitival") noun phrase, see Trutenau [1970:166ff.].

[12] Note that in è kɛ̀ ø wɔ̀ è mɪ̀lɪ̀ the è mɪ̀lɪ̀ literally means 'his inside'; the sentence means (idiomatically): 'he kept (it) [eg. sorrow, or anger] to (ie. within) himself.'

(22c) pètrɔ́l lɛ̀ dzí nɔ́-ní è kɛ̀ ø wɔ̀ tsɔ̀nɛ́ lɛ̀ mɪ̀lí lɛ́
petrol the was what, he took (it [the petrol]) put of-machine inside the
'It was the petrol that he put in the machine.'

Pronominalized this gives us exactly the same sentence as (22b), this being ambiguous; the appropriate reading now is:

that [the petrol] was what, he took (it [the petrol]) put (of-it [machine]) inside the
'That was what he put into it.'

3. From the examples it emerges clearly that (on the surface) our "zero-pronominalization" usually brings the verbal kɛ̀ next to the immediately following (main) verb.[13] Combined with the fact that kɛ̀ is one of the small number of Gã verbs that are never inflected,[14] this may be assumed to have first earned it the label of "auxiliary verb", which kɛ̀ has had ever since the days of Basel missionary J. Zimmermann, over a century ago.[15] Other minimally inflected verbs are found, for instance,

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[13] A long list of Gã verb sequences might be drawn up, which occur with the uninflected kɛ̀ immediately preceding a main verb, as if they were expressions "with a meaning of their own". This makes them appear like a distinct set of verbal idioms (thus kɛ̀ ø bà (lit. 'join/with come') = 'bring') deserving the status of distinct lexical items. This is the treatment that Zimmermann appears to have had in mind when in his Vocabulary (1858, Volume II) he gives approximately one hundred such entries.

We hope to have made clear that these sequences do not in fact deserve a separate listing as so many distinct verbal idioms, as they regularly have a transformational origin from pronominalization of inanimate object nominals.

[14] Cf. Kropp Dakubu [1970:74]: "It is not marked for any of the systems of the simple [verbal: H. T.] group."

[15] See his Vocabulary [1958, Volume II] under "ke". Note also that he joins "ke" (our kɛ̀) by a hyphen to the immediately following verb (eg. in Volume I, p. 48), a practice which has characterized Gã orthography for a long time, but which must be firmly rejected as overmuch surface-oriented and misleading about the underlying syntactic structure involved.

ˈdzɪ́ 'to be' (which has one other form, the negative dzéé), yɛ̀ 'to be (somewhere)' with its habitual form yɔ̀ɔ̀, and its negative form bɛ́(ɛ̀).

That kɛ̀ is a verb is brought out by its parallel use to an undoubted full verb ŋɔ̀ 'to take', which is not in any way "defective".[16] Consider the following sentences:

(23) è kɛ̀ nɛ̀kɛ́ ʃɪ̀ká nɛ́ɛ̀ lɔ mɪ̀ nyɔ̀mɔ̀
he with certain money this pay me debt
'He paid me with this money.'

(24) è ŋɔ̀ nɛ̀kɛ́ ʃɪ̀ká nɛ́ɛ̀ (è kɛ̀ Ø) wò mɪ̀ nyɔ̀mɔ̀
he take/handle certain money this (he with it) pay me debt
'He used (handled) this money to pay me.'

The difference between these two lies in the first verb and hinges on kɛ̀ being a much more predictable and "colorless" verb here than the (nowadays) less usual ŋɔ̀, which more "concretely" indicates the handling or carrying of the money.

4. Having examined the verbal status of kɛ̀, we shall now turn our attention to the supposedly "conjunctival" use of kɛ̀, to try and

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[16] Further examples can be found in Wilkie [1930], where a whole section (§ 131ff., pp. 70-75) is devoted to parallels in the use of the verbs kɛ̀ and ŋɔ̀; though it must be pointed out here that in modern (contemprary) Gã a semantic differentiation of the two verbs is in evidence which appears to be greater than it may have been in the past. Also, Wilkie was not a native speaker of the language, and may have emphasized similarities at the expense of nuances of semantic difference apparent to Gã's.

An even closer relationship between the two verbs was postulated by Zimmerman [1858]. In Vol. II, p. 143 he writes "kɛ, auxiliary verb,...without inflection...originally to take, to hold =ɲõ, with which it changes [does he mean 'alternates'? H. T.] and which must be used, if an inflection of the auxiliary is necessary...It expresses generally the relation of connection, instrumentality, etc. as the prepositions 'with, by, through' or the conjunction 'and' as far as the latter connects subjects and objects, but not verbs (for these see 'ni'...)." Note that the last remark anticipates the hypothesis of this paper!

It is Zimmermann's own examples (Vol. I, p. 49) of parallel use of the two verbs (note that he gives one and the same gloss for both sentences!) that we have adapted (in its modern form) to illustrate the semantic difference between kɛ̀ and ŋɔ̀.

demonstrate in what way the restriction on pronominalization outlined in section 2 can be said to be relevant to its interpretation.

4.1. We have already mentioned in passing (cf. footnote 4) that while (à)lòò (which is used to express alternatives and can--herein superficially like kɛ̀--stand between NP's) can link not only NP's, but also VP's and sentences, kɛ̀ on the other hand is interestingly restricted to the linking of NP's. We shall try to argue that this is not a trivial observation, but a significant fact which has to do with the inherent verbal nature of kɛ̀.

When one pronominalizes the NP's preceding and following kɛ̀ (in its supposedly "conjunctival" use as NP-linker), an interesting fact comes to light. Consider some examples:

(25) kòfí kɛ̀ àkúá é-dzò[17] fòí
'Kofi and Akua have run away.'

may be pronominalized:

(26) è kɛ̀ lɛ̀ é-dzò fòí
'He and she have run away.'

On the other hand if the second NP is [-anim]

(27) kòfí kɛ̀ wòlò é-dzò fòí
Kofi with book has run away

is pronominalized

(28) è kɛ̀ ø é-dzò fòí
he with (it) has run away

(Note that this will be pronounced: [èkɛ́dzòfòí], due to the total (tonal and segmental) "fusion" of kɛ̀ with the é following.)

---

[17] The high-tone é-prefix is the past-marker of the verb and has nothing to do with the third person singular subject pronoun.

4.2. Examples like these (which could readily be multiplied) show that though superficially kɛ̀ may appear to act as a conjunction, whenever a [-anim] NP follows the kɛ̀ and we pronominalize, this NP is given the same "zero pronominalization" that it would have had if it were the inanimate object of a verb, resulting in the structures familiar from the preceding sections.

The power to cause the tell tale "zero pronominalization" gives the kɛ̀ away as a verb even in its "conjunctival" disguise as an NP-linker.

Not only does its interpretation as a conjunction fail to explain its peculiar restriction to liking NP's, and NP's only (while nì, the "true conjunction", must be used to conjoin VP's and sentences); but it further creates an (unnecessary) exception to the rules of pronominalization: if both the NP's which are linked by a kɛ̀ were to be "subject" NP's why should the one following the kɛ̀ be subject to "zero pronominalization" (like all "object" NP's) whenever it had the feature [-anim], rather than being pronominalized (unaffected by this feature) like all other "subject" NP's?

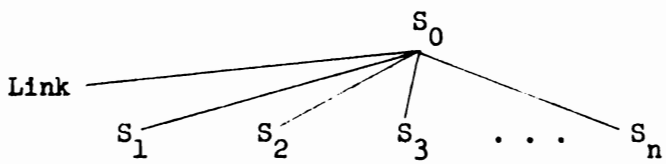
By assigning the kɛ̀ verbal status throughout, such "anomalies" are removed from the grammar and explained insightfully as the regularities they are.

5. Rather than following the phrase structure rule hypothesis for generating conjunction structures we shall (with Tai [1969]) adopt the transformational hypothesis.

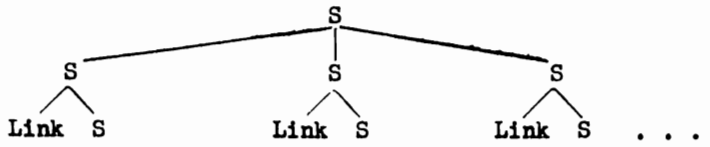
5.1. We propose to derive our input phrase marker in accordance with Ross' rule schema for conjunction (see f.i. Ross [1968] 4.2.2, which we slightly modify):

$$S \longrightarrow \underline{\text{Link}}\ \underline{S^n} \quad \text{where } n \geq 2$$

This generates:



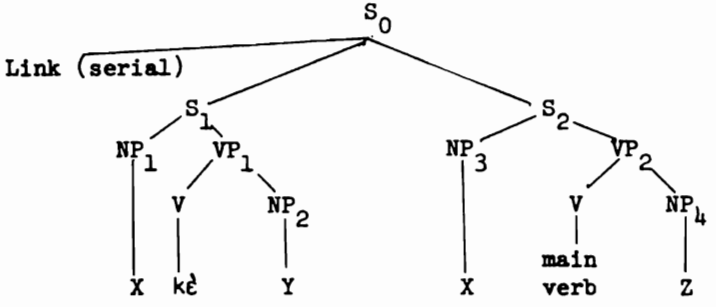
Through a (universal) principle of Conjunction Copying this becomes:



and if the Link element has been rewritten as a "true conjunction", its first instance (in Gã as in English) will be deleted. When the link element is rewritten as "serial", the Conjunction Copying principle is not applied.

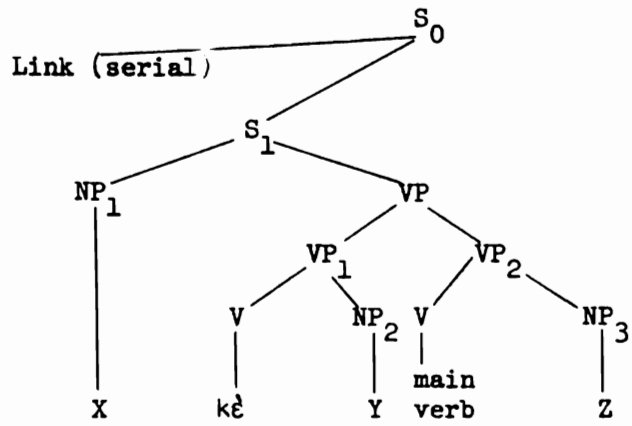
Ross interestingly says [1968:92]: "the semantic interpretation of conjunctions, under this analysis, is much more in line with the traditional logical analysis of conjunctions, which treats them as n-place predicates."

In contrast to Bamgbose [1972] we consider the underlying structures we are concerned with here to be of the following kind, closely akin to coordination (the relationship with which may be further documented by the shared requirement of Equi-NP deletion), except that the link element is identified as "serial" and associated with kɛ̀, and will not have any surface-structure mapping apart from the latter:

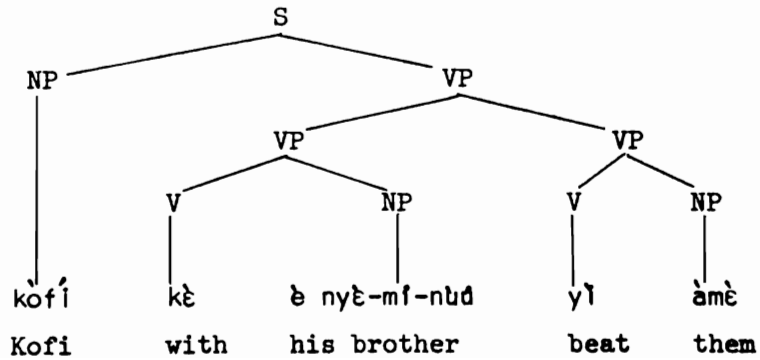


5.2. NP_1 and NP_3 in the tree must have a common reference, which brings about (obligatory) Equi-NP deletion, which erases the NP_3 in S_2 (the directionality of deletion is as postulated by Ross in his Gapping Hypothesis, and by Wang [1967]: namely that in VP-conjunction if NP's have identity of reference we delete all but the first one).

After deletion Ross' metarule which prunes a labelled node S whenever no branching takes place any more is invoked to prune S_2 (cf. Ross [1969]). Following this VP_2 is attached to VP_1 by Chomsky-adjunction, an elementary transformation, by the creation of a new node VP to dominate both VP_1 and VP_2, giving the following structure:



As nothing depends from the node Link (serial) in serial verbal constructions, this will be pruned, and then the non-branching node S_0. We thus obtain the following surface structure (for a possible example):



5.3. As has been mentioned above, kɛ̀ is marked in respect of its inflective potential (cf. footnote 14). We suggest that it is also marked in involving particular semantic interpretation rules to account for different reading of X kɛ̀ Y vb Z as (a): 'X together with Y vb Z', (b): 'X vb Z in presence of Y', (c): 'X use Y to vb Z', etc.

6. To conclude: there were two possible solutions to the third alternative interpretation outlined in Section 1.

Solution (3a) would have to re-interpret the "conjunctival" use of kɛ̀ as verbal:[18] this interpretation we have attempted to motivate in this paper.

Solution (3b) would have to re-interpret the verbal use of kɛ̀ as being, in fact, "conjunctival". Nobody has ever attempted to show this for Gã, and we hope to have made clear that this would indeed be an improper interpretation. The form kɛ̀ is not inflected, to be sure, but neither are several other frequently used verbs. And the fact that kɛ̀ "causes" pronominalization in all its uses makes its interpretation as a verb much more plausible, as this is something that conjunctions "do not do".

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[18] George Clements points out [personal communication] that in the Aŋlɔ dialect of Ewe (another language of the "Western Kwa" group) kpɪ́, the NP-linker, takes pronouns from the object series and can be shown to have verbal characteristics (though it cannot be used as a main verb).

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THE MODIFYING SERIAL CONSTRUCTION: A CRITIQUE

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1. Linking and modifying serial constructions

It has recently been suggested that there are two types of serial constructions in West African languages.[1] One of them is referred to as the linking type of serial construction and is thought to be characterized by two unique features, namely, (i) the fact that each token of it is always derivable from two or more underlying sentences, and (ii) "reference", by which it is meant that it is always clear in the type of construction in question "which NP a verb refers to". Thus the sentence

(1) Olú gbé aga wá (= B 18)
'Olu brought a chair.'

is said to be derivable from

(2) Olú gbé aga; Olú wá
'Olu took chair; Olu came.'

and it is thought to be clear that the two verbs gbé and wá in the surface sentence refer to Olu, because "Olu, the subject, is the same person who carried the chair and came."

The other is called the modifying type of serial construction, and it is claimed that "the string of verbs [in it, unlike the one in] the linking type...cannot meaningfully be related to more than one underlying sentence" (pp. 23-24). An example of this latter construction type is believed to be

(3) Obẹ́ náà dùn tó (= B 61)
stew the is-delicious is-enough
'The stew is delicious enough.'

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[1] See Bamgbose [1972c]. For the sake of uniformity, all examples are cited in traditional Yoruba orthography, with those of them taken from the paper to be examined followed by their original numbers prefixed with the initial B, as in (= B 61).

The arguments marshalled to demonstrate the reality of the so-called linking type of serial construction, based as they are on more or less universally known and accepted facts, are extremely cogent. They seem to prove quite conclusively that tokens of the construction are all to be derived from two or more underlying sentences.[2]

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[2]The conclusion reached in the paper to the effect that the sentences in the deep structure of serial constructions are always coordinate in structure is, however, unacceptable. The paper argues (p. 20) that

(i) wọ́n mu ọtí yó (= B 28)
'They were drunk.'

could not have been derived from

(ii) wọ́n mu ọtí títí wọ́n fi yó (= B 49)
they drank wine until they drunk
'They drank (wine) until they were drunk.'

because (i) can be negated, as in

(iii) wọn ò mu ọtí yó (= B 34)
'They were not drunk.'

whereas (ii) cannot, as shown by

(iv) *wọn ò mu ọtí títí wọ́n fi yó (= B 50)
'They did not drink (wine) before they were drunk.'

For this reason, it is suggested that (i) comes rather from

(v) wọ́n mu ọtí; wọn ò yó (= B 35)
'They drank (wine) but were not drunk.'

Example (i), however, is inappropriate, because there is a presuppositional relationship between yó 'be drunk' and mu 'to drink' such that one cannot be drunk unless he has actually been drinking, and all that (iv) in fact shows is that this relationship cannot be broken with impunity. Consider

(vi) wọn ò sáré dé ilé
they not run-race reach home
'They did not run all the way home.'

where no such relationship necessarily exists between dé 'to reach' and sá 'to run', and which is the same kind of construction as (iii). For obvious semantic reasons, (vi) cannot be derived from

(vii) wọ́n sáré; wọn ò dé ilé
'They ran; they did not get home.'

2. The three arguments for the modifying serial construction

Turning now to the so-called modifying type of serial construction, one finds the case made for recognizing its separate existence less than compelling. For, of the three main arguments used, the first two are by admission inapplicable, while the third turns out to be entirely without foundation. Given such arguments, one finds it necessary to reject completely, at least for Yoruba where the arguments actually all come from, the suggestion that linking and modifying constructions are distinct.

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which has exactly the same structure as (v), from which the paper would have (i) derived. It cannot be derived from (viii) either,

(viii) wọn ò sáré; wọ́n dé ilé
'They did not run; they got home.'

because, unlike this latter string, it presupposes that the subject, ran. But since no other coordinate structure exists from which (vi) might be said to have been derived, it has to be concluded that that sentence in fact comes from a noncoordinate structure. Such a structure is represented by (ix), which is a paraphrase of (vi).

(ix) wọn ò sáré títí (tí) wọn fi dé ilé
'They did not run all the way home' or
'They did not run before they got home.'

Sentences like (ix) are normally ambiguous, unless other factors intervene, as in (iv), to make ambiguity impossible. Their ambiguity is always due to the different orders in which the adverb ò 'not' and the adverbial títí (tí) wọn fi dé ilé 'until they got home' modify the verb they accompany or occur with. (ix) has the first meaning and the semantic structure shown by bracketing below

(x) [wọn [ò [sáré títí (tí) wọn fi dé ilé]]]
'They did not run all the way home.'

when the adverbial modifies the verb first and the adverb ò second; otherwise, (ix) will have the second meaning and the structure shown in (xi).

(xi) [wọn [[ò sáré] títí (tí) wọn fi dé ilé]]
'They did not run before/until they got home.'

(For the semantic implications of the order of modifiers in Yoruba, cf. Ọkẹ [1972].)

Sentences like (xi) never seem to have serial construction paraphrases. (x) and its paraphrase (vi) comes from

(xii) $[_S$ wọn ò sá ere $[_{ADV}$ ní Rel $[_S$ wọn fi títí dé ilé$]_S]_{ADV}]_S$

in which the second sentence is embedded in the first.

From the above considerations it is clear that serial constructions do not all come from coordinate underlying structures; some of them, like

a. The first two arguments. Because the paper which makes this particular claim is not yet in wide circulation, three arguments just referred to will be quoted in full for the reader's convenience. The first two run as follows:

> "The second type of serial verbal construction is the modifying type. Like the linking type it contains a string of verbs which share a common subject in surface structure; but unlike the linking type, the string of verbs cannot meaningfully be related to more than one underlying sentence. Examples of the modifying type of serial verbal construction are:
>
> (4) Ó ńsùn lọ (= B 8)
> He sleeping go
> 'He is falling asleep.'
>
> (3) Ọbẹ̀ náà dùn tó (= B 61)
> stew the sweet enough
> 'The stew is delicious enough.'
>
> (5) Ó sọ fún mi (= B 62)
> he said gave me
> 'He told me.'
>
> The main problem with such a derivation is that the transformation which will convert the structures underlying these sentences into the corresponding serial verbs will necessarily involve a change of meaning. For example,
>
> (6) 'He is sleeping and going.' (= B 9)
> --> 'He is falling asleep.'

(i), (iii), (vi) come from deep structure strings with one sentence embedded in the other.

Notice here, incidentally, that tʃtʃ 'duration' in all the above sentences is a noun and not a conjunction as earlier thought in Awobuluyi [1967:89; 1970:38]. A noun is defined in the Yoruba grammar presupposed by the present discussion by its ability to function as Subject and as Object of verbs and/or prepositions. Tʃtʃ adequately fulfills this necessary condition in (ix), (x), (xi) where it functions as the object of the preposition nʃ 'in', which has been deleted obligatorily (for the justification for claiming that nʃ once occurred in those sentences, see note 7 below), and in (xii) where it functions as the object of the preposition fi 'by means of'. Some purely surface structural indications of the nominal status of tʃtʃ are that (i) it can be directly followed (optionally) by the relative marker tʃ, which only follows nouns (and any qualifiers accompanying them); and (ii) it contracts a mid tone junction with a following consonant initial genitival qualifier, as in

(xiii) tʃtʃ i sátidé
'by Saturday at the latest' cf. ọjọ ọ sátidé 'Saturday'

(7) 'The stew is delicious and it is enough.' (= B64)
--→ 'The stew is delicious enough.'

(8) 'He said and gave me.' (= B 65)
--→ 'He told me.'

It is doubtful whether many people would subscribe to the view that a transformation should be allowed to effect such a radical change of meaning. In contrast to the change of meaning involved here, the same transformation will be used to produce the linking type of serial construction, and no change of meaning will be involved in its derivation. The question then is: if both types of serial construction have the same underlying structure, why should the transformation deriving them produce such different results?

Another problem with the proposed derivation is that it is likely to result in having several underlying sentences which break the normal selectional restrictions between noun and verb. For example, (66) will be derived from (67a) and (67b).

(9) Olú rìn tì (= B 66)
Olu walked fail
'Olu was unable to walk.'

(10) Olú rìn; *Olú tì (= B 67a, 67b)
'Olu walked; Olu failed.'

But (67b) is not a grammatical sentence in the language. Of course, it is possible to set up ungrammatical sentences in the underlying structure, but then there must be independent motivation for this other than to make possible the proposed derivation. Note that in the derivation of the linking type of serial construction, no selectional restrictions are violated, since each of the underlying sentences is well-formed.

If (66) were really a serial construction of the linking type, the reference of the verb tì 'fail' could only be to the only NP, which is the subject. The fact that there is no such reference is shown by the impossibility of (67b)" (pp. 23-25).

The really crucial point, which is passed over in silence in the above discussion, however, is that the particular derivation so much belabored there has never yet been suggested and is not in the least likely to be ever suggested by any really knowledgeable or serious student of the Yoruba language. Consequently, invalidating it is an idle exercise which neither advances the case for recognizing the separate existence of the modifying serial construction nor invalidates the opposite case for treating every token of this same construction having a string of verbs in the sense of the present paper (see §3 below) as a regular serial verbal sentence with two or more sentences in its underlying structure.

The objection just raised is fully and freely conceded at the beginning of the third and last main argument, which is directed at an analysis that has actually been suggested.[3]

b. The third argument. That argument (pp. 25-26) runs as follows:

> "It may be thought, however, that the underlying sentences (9), (64), (65) and (67) are not really appropriate, and that other underlying sentences may be found which are closer in meaning to the desired serial constructions in (8), (61), (62), and (66) respectively. For example, (61) may be seen as being derived from (68) and not from (64).
>
> (11) Ọbẹ̀ nàà dùn; dídùn ọbẹ̀ nàà tó (= B 68)
> 'The stew is delicious; the deliciousness of the stew is enough.'
>
> It is true that (68) is a possible paraphrase of (61), while (64) is entirely different from it in meaning; but there is no justification at all for postulating (68) as the source of (61). The rule that derives serial constructions from underlying structures always involves a deletion of one of two identical NP's. Thus, as shown in (37) and (38), the subject of the second sentence in (38), ọmọ nàà 'the child', which is identical with an NP in the first sentence, has to be deleted to yield (37).
>
> (12) Olú lé ọmọ nàà jáde (= B 37)
> Olu drove child the go out
> 'Olu drove the child out.'
>
> (13) S_1: Olú lé ọmọ nàà; S_2: Ọmọ nàà jáde (= B 38)
> 'Olu drove the child; the child went out.'
>
> Notice that the same rule cannot be applied to the structure underlying [sic] (68) to yield (61), since the subject of the second sentence dídùn ọbẹ̀ nàà 'the deliciousness of the stew' is not identical with any NP in the first sentence.
>
> In order to derive (61) from (68), an ad-hoc and completely arbitrary rule of NP deletion will be required. Such a rule will differ from the regular Equi-NP deletion rule which will be used for deriving the serial constructions of the linking type. We would then be in the untenable position of deriving the same structure from the same type of underlying forms by two different sets of rules. Furthermore, several of the serial constructions will still have to be

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[3] The analysis was suggested by the present writer when the paper was read at the Linguistics Seminar of the Department of Linguistics and Nigerian Languages, University of Ibadan, Ibadan, Ibadan, Nigeria, in 1971.

derived from sentences which involve a change of meaning or unmotivated ungrammatical sentences. For example, (62) will still have to be derived from (65), and one of the sentences underlying (66) is bound to be ungrammatical.[4]

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[4] In fact, however, (B 62) will not come from (B 65) as misleadingly claimed, but rather from

(i) Ó sọ kinĺ kan; ó fún mi nĺ kinĺ náà
he said thing some; he have me nĺ thing the
'He said something; he gave me the thing.'
cf. Ó sọ kinĺ kan fún mi
'He told me something.'
Ó fún mi nĺ kinĺ kan
'He gave me something.'

For its part, (B 66) will come from

(ii) Ó rìn; rírìn náà tì
he (tried to) walk; walking the was-impossible
'He walked; the walk was unsuccessful.'

To be sure,

(iii) Rírìn náà tì
'The walk was unsuccessful.'

does not occur in surface structure. Something like it is needed, however, to explain the meaning of the pronoun Ó '(impersonal) it' in (iv) which occurs, with the verb tì, in surface structure.

(iv) Ó tì
'No.'

In this connection, consider the following dialogue:

(v) Speaker 1: Ǹjẹ́ o lọ
? you go
'Did you go there?'
Speaker 2: Ó tì
'No.'

What the second speaker is normally understood to have denied with the verb tì in this dialogue is the idea or fact of going there--that is, the nominalization of the verb lọ in the first sentence. This fact suggests to the present writer that the real subject of the verb tì is always a nominalization derived from some preceding utterance, as in (ii). This is somewhat reminiscent of the relationship between which and the sentence preceding it in

(vi) He ran all the way up, which made him feel tired and breathless.

> The logical conclusion that can be drawn from the points raised above is that verbs such as tì 'fail' in (66), and lọ 'go' in (8), tó 'enough' in (61), fún 'give' in (62) ...are not really derived from an independent underlying sentence. What they appear to do in the above sentences is merely to modify the meanings of the other verbs with which they occur. It is for this reason that they are assigned to the category of 'modifying verbs'."

Like the two arguments preceding it, this third argument is also very seriously flawed. In the first place, notice that meaning is the only real justification there is for affirming, or for that matter denying, derivational relationship between deep and surface structures. For this reason, it is not logically possible to argue, as done in the passage just quoted, that "there is no justification at all for postulating (68) as the source of (61)", although "(68) is a possible paraphrase of (61)" (p. 26).

In the second place, the argument insists that only Equi-NP rules shall be used to derive serial constructions. But this is an arbitrary imposition. It is this writer's definite impression from what other grammarians actually do that once it has been agreed or shown that a particular underlying string has the same meaning as a given surface structure sentence, as is admittedly true of (3 = B 61) and (11 = B 68), one is free to apply any number and any kinds of transformational rules to such an underlying string that may prove necessary to derive the surface sentence from it. To the extent that this impression is right, there is no legitimate reason why (3) should not be considered as a "linking" type of serial construction, and be derived from (11) with as many different rules (including non-Equi-NP rules) as may be necessary.

Another factor suggesting that the subject of the verb tì is always a nominalization is the existence of an optional rule in the language which relates sentences as follows:

(viia) kí á lọ yá ---→ ó yá kí á lọ
that we go is-time it is-time that we go
'It is time for us to go.'

(viib) pé òjó lọ dára ---→ ó dára pé òjó lọ
that Ojo went is-good it is-good that Ojo went
'It is good that Ojo went there.'

The functioning as subject in the variant sentences in (vii) is the same impersonal ó seen in (iv, v). Since the subject of those variant sentences stands for (transposed) nominalizations, it seems reasonable to assume that the subject of (iv), for instance, stands also for a nominalization.

Further proof of the arbitrary character of the condition that only Equi-NP rules shall be allowed in the derivation of serial constructions can be seen in the fact that the only reason given for imposing the condition is the fear that we might otherwise "be in the untenable position of deriving the same structure from the same type of underlying forms by two different sets of rules" (p.26). But consider what routinely happens under topicalization in the Yoruba language. They constitute "the same structure" in the sense of the above quotation.

(14) Olè ni ó pa ọdẹ
thief Emph-marker pronominalization killed hunter
'It was a thief that killed a hunter.'

(15) Pípa ni olè pa ọdẹ
killing Emph-marker thief killed hunter
'The fact is that a thief killed a hunter.'

(16) Ọdẹ ni olè pa
hunter Emph-marker thief killed
'It was a hunter that a thief killed.'

From all that is known about topicalization in Yoruba at present, (14)-(16) have to be derived from the following three underlying forms in which a subject, a predicate, and an object, respectively, have been marked for topicalization by a subscripted x:[5]

(17) Emph $_{x}$olè pa ọdẹ
'Emph thief killed hunter'

(18) Emph olè $_{x}$pa ọdẹ
'Emph thief killed hunter'

(19) Emph olè pa $_{x}$ọdẹ
'Emph thief killed hunter'

These three deep structure strings constitute "the same type of underlying forms" in the sense of the quotation under consideration. As even a

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[5]For details of how this process operates and why it is thought to operate that way, see Awobuluyi [1967:chapter 6; 1972b].

cursory examination will reveal, (14)-(16) will have to be derived from them by three different sets of rules. This being the case, there is in fact nothing "untenable" or unusual in similarly deriving serial verbal sentences like

(1) Ọlú gbé aga wá (= B 18)
'Olu brought a chair.'

(3) Ọbẹ́ nàà dùn tó (= B 61)
'The stew is delicious enough.'

which are in effect the actual sentences referred to as "the same structure" in the quotation above, by two different sets of rules from

(2) Ọlú gbé aga; Ọlú wá (= B 24a, 24b)
'Olu took chair; Olu came.'

(11) Ọbẹ́ nàà dùn; dídùn ọbẹ́ nàà tó (= B 68)
'The stew is delicious; the deliciousness of the stew is enough.'

which are not even as similar to each other as (17)-(19) are. In other words, then, the fear which prompted the condition excluding rules other than Equi-NP from the derivation of serial constructions is completely unfounded. From this it follows of necessity that the condition itself is totally unwarranted.

Finally, this same condition is not only unwarranted, but also much too strong. It is so strong in fact that it will exclude from the class of serial constructions not only all those sentences like (3) whose status appears to be in dispute, but also many sentences like

(20) wọn ò sáré dé ilé
they not run-race reach home
'They didn't run all the way home.'

about whose status as a linking type of serial construction there is complete agreement (p. 20).

As already shown in note 2, (20) has to be derived from

(21) wọn ò sá eré ní Rel wọn fi títí dé ilé
they not run race in Rel they with duration reached home

That surface sentence, however, definitely will not come from (21) as a result of the application of Equi-NP rules alone. Hence, a grammar which insists on only such rules will not be able to generate (20), even though the latter is considered to be a bona fide example of the so-called linking type of serial construction.

It may be suggested, however, that (20) should really be considered as a linking serial construction, since it has at least one Equi-NP rule in its derivational history. But if this suggestion is accepted, it will become all the more necessary to admit that (3), too, is a linking serial verbal sentence, since it can alternatively be derived from

(22) Ọbẹ̀ náà dùn; ọbẹ̀ náà tó nǐ dídùn
stew the is-delicious; stew the is-enough in deliciousness
'The stew is delicious; the stew is sufficiently delicious.'

by means of one Equi-NP rule and another non-Equi-NP rule. In such an event, (3) will clearly be seen as a linking serial construction with two alternative derivational histories: one involving at least one Equi-NP rule (cf. (22)), and another involving no Equi-NP rule at all (cf. (11)). Since simplicity is too relative as well as too poorly understood a factor to be absolutely decisive in the matter, it is fair to say that, in the final analysis, it will be a simple matter of personal preference which of the above two derivational histories is associated with (3). Consequently, it will become possible to see Equi-NP as it really is--neither crucial nor diagnostic for serial constructions.

The foregoing considerations show that the third argument for recognizing the so-called modifying type of serial construction is completely untenable. Since the first two arguments are similarly untenable, it has to be concluded that no modifying serial construction in the sense of the paper under consideration exists in the Yoruba language. This same conclusion emerges very clearly below from consideration of the so-called modifying verbs.

3. The so-called modifying verbs

The paper postulates a new category of "modifying verbs" for Yoruba, partly on semantic grounds and partly on the basis of its claim that a modifying type of serial construction exists in the language: "What they appear to do...is merely to modify the meanings of the other verbs with which they occur. It is for this reason that they are assigned to the category of 'modifying verbs'...The term 'modifying verb' has been applied...to verbs that modify other verbs in serial construction" (pp. 26, 30). However, quite a number of strong reasons exist for considering this proposed category as having no real existence at all in Yoruba grammar. Thus, to begin with, as shown above, there is no such thing as the modifying serial construction as understood by the paper in the language; for what it calls the modifying type of serial construction is, in fact, the linking type, which involves plain verbs only. Hence, the so-called modifying verbs functioning in serial constructions are in reality plain verbs.

The paper supposes that a given Yoruba word is necessarily both semantically and categorially ambiguous just because it can be glossed in two different ways in idiomatic English. Thus in

(23) Ọbẹ̀ náà tó
'The stew is enough.'

the verb tó is said to be a plain or full verb meaning 'enough', whereas in

(3) Ọbẹ̀ náà dùn tó (= B 61)
'The stew is delicious enough.'

the same verb tó is said to be a modifying verb meaning 'sufficiently', because all it appears to do in the above sentence is, it is claimed, merely to modify the meaning of the other verb with which it occurs.

Some other similar pairs of glosses are (pp. 31-32):

	full verb	modifying verb
rọra	'be careful'	'carefully'
ṣáájú	'precede'	'before'

tì	'fail'	'unable to'
jù	'exceed'	'than'
kù	'remain'	'left'
pẹ́	'be late, be long'	'for a long time'
gbẹ̀hìn	'be last'	'last'

As closer examination reveals, however, these supposed semantic differences are actually not present in the words to which they are ascribed; rather they are distinctions made solely as required in idiomatic English usage. Setting idiomatic English usage aside and considering them, as they should be considered, strictly from the Yoruba point of view, most of the so-called pairs of semantically differing plain and modifying verbs actually turn out to each have the same literal meaning, as in the following examples:

tó	'to measure up to (something)'
ṣọra	'to take care, be careful'
ṣáájú	'to be/come first'
tì	'to be impossible'
jù	'to exceed'
kù	'to remain'
pẹ́	'to be a long time'
gbẹ̀hìn	'to be/come last'

Now, if meaning must be made the sole basis for a categorial distinction in any particular language, it is expected that such meaning would at the very least be that of the language being analysed rather than that of the one used for the purposes of exposition. But since, as just suggested, the overwhelming majority of the so-called pairs of plain and modifying verbs have the same meanings in Yoruba, it can be seen that they in no way permit any categorial distinction to be made between plain verbs and modifying verbs in the language. Hence it must be concluded once again that only plain verbs are to be recognized in Yoruba.

The above consideration apart, the English glosses given to each pair of plain and modifying verbs in the paper are, even on very sursory examination, so similar and so obviously related anyway as to suggest quite clearly that plain and modifying verbs are in face the same. In which case, once again, only plain verbs are to be recognized in the Yoruba language.

The paper indeed agrees (p. 35) that each plain verb and its so-called corresponding modifying verb are one and the same thing, but nevertheless maintains that such a verb has one function as a plain verb and another, modifying, function when it occurs in a serial construction: "it seems reasonable to conclude that modifying verbs are in fact verbs. When they occur in a minimal sentence, they have all the characteristics of a full verb; but when they occur in a serial construction, they take on a modifying function..." (p. 36). To verbs like these Bamgboṣe proposes to assign "the feature [±MOD] since they can occur both as full verbs and as modifying verbs" (p. 45). To other verbs which never have a modifying function he assigns the feature [-MOD], and still others which always have a modifying function and this only, he similarly assigns the feature [+MOD]. Notice, however, that the feature specification for the verbs which, as the paper claims, function both as plain verbs and as modifying verbs, is internally contradictory, as it says in effect that such verbs are and are not plain verbs. This contradiction shows that the class of verbs characterized by [±MOD] is unnatural and, therefore, in effect nonexistent in the Yoruba language.

It should perhaps be added here for the sake of completeness that there is no way to avoid this problem of contradictory feature specification in any feature-using Yoruba grammar that recognizes modifying verbs. The only two methods that suggest themselves in this connection prove to be completely unworkable. The first is to consider plain verbs and their modifying verb counterparts as mere homophones. But in actual fact they are more than mere homophones, given the similarity and relatedness noted earlier in their meanings. The second method, which, unlike the first, will reflect the similarity in the meanings of such words, is to consider the so-called modifying verbs as derived from their plain verb counterparts. This method, too, fails, simply because no synchronic process exists for deriving verbs from verbs as required here in Yoruba.

Finally, all the so-called modifying verbs assigned the feature [±MOD] or [+MOD] have to be plain verbs (when they are verbs at all, that is; see below), because otherwise they would constitute an absolute contradiction in terms in the context of Yoruba grammar as a whole.

Even though it is quite obvious that whether a particular sentence is or is not to be analysed crucially on how the category of verbs is defined in that language, the paper under examination has no positive suggestion of any kind to make on how the Yoruba verb must be defined.[6] In correcting this oversight, it needs to be stressed right from the outset that Yoruba lexical items cannot be satisfactorily subcategorized for syntactic purposes on the basis of their shapes, or meanings, or morphophonemic behavior, etc., but rather on the basis of their functions in surface as well as deep structure sentences.

One rather obvious indication of this is the fact that there are several words in the language which cannot be subcategorized in any other way. Thus, as every Yoruba grammarian would readily concede, the words funfun 'white', pupa 'red', and pàtàkì 'important' display three different categorial affiliations as nouns, verbs, and qualifiers, respectively, in the following three sets of sentences, and the only indication there is of their categorial affiliation in each set is the function they perform there:

(24i) Ó ra funfun 'He bought a white one.'

(24ii) Ó ra pupa 'He bought a red one.'

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[6] In Bamgbose [1972b:56] the following definition of the Yoruba verb is suggested: "If we are asked to suggest a frame that will embrace almost all the verbs in the language, such a frame will be more like

(90) # NP ____ (NP) (____ (NP)) #"

However, as the author of the definition freely admits, it does not embrace <u>all</u> Yoruba verbs. Consequently, it is not a definition of the verbs in the language.

(24iii) Ó ṣe pàtàkì[7] 'It is important.'

(25i) Ó funfun 'It is white.'

(25ii) Ó pupa 'It is red.'

(25iii) Ó pàtàkì ara rẹ̀ 'He boosted his own ego.'

(26i) Ó ra aṣọ funfun 'He bought white cloth.'

(26ii) Ó ra aṣọ pupa 'He bought red cloth.'

(26iii) Ó sọ ọ̀rọ̀ pàtàkì 'He said something important.'

Another indication is that no other criterion at all, be it semantic, syntactic, morphological, or morphophonemic, permits exhaustive and consistent subcategorization of even the words that

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[7]In deep structure this sentence is represented by

(i) Ó ṣe nǐ pàtàkì
'It turns out to be an important manner.'

where pàtàkì 'important manner' functions as the object of the preposition nǐ and is, therefore, by definition (see note 2 above) a noun.

The justification for the preposition nǐ in underlying strings like (i) is that the word itself actually shows up optionally in surface structure with some other nouns in the same class as pàtàkì. Thus, cf.

(ii) Ó lọ kíákíá
'He left without delay.'

(iii) Ó lọ nǐ kíákíá
'He left without delay.'

Indeed, this preposition occurs obligatorily with one particular member of the same class of nouns, namely, mẹ̀lọmẹ̀lọ 'smooth manner', as in

(iv) Aiyé ń lọ nǐ mẹ̀lọmẹ̀lọ
'Life goes smoothly.'
cf. ?Aiyé ń lọ mẹ̀lọmẹ̀lọ
'Life goes smoothly.'

remain in the language after the ones referred to above have been excluded. Thus, nouns and verbs can both name actions (cf. kĺkú 'dying' and kú 'to die'); nouns and qualifiers can both name qualities (cf. àánú 'mercy, the quality of mercy', rere 'of good quality'); and nouns and adverbs can both name manner (cf. mẹ̀lọmẹ̀lọ 'smooth manner' and ḿ 'habitual manner'). To consider them from the phonological standpoint, some nouns, all verbs, and most qualifiers share the characteristic of beginning with consonants (cf. pákó 'lumber', pa 'to kill', and púpọ̀ 'many'); some nouns, most verbs, and many adverbs or modifiers share the feature of monosyllabicity (cf. bĺ 'manner', rĺ 'to see', kàn 'simply, just'); they also share, this time with some qualifiers, the feature of disyllabicity (cf. ilé 'house', kéré 'be small', tútù 'cold', kúkú 'anyway'). Morphophonemically, nouns and verbs sometimes behave alike, for example, in respect of vowel elision, as in

(27i) lábẹ̀ (< lá ọbẹ̀) 'to lick stew from one's fingers'
(27ii) ewébẹ̀ (< ewé ọbẹ̀) 'vegetables for making stew'

or of vowel assimilation, as in

(28i) Mo lé eyĺn (< underlying: mo lé iyĺn)
'I chased you (pl.).'
(28ii) ilé eyĺn (< underlying: ilé iyĺn)
'your (pl.) houses'

And syntactically, both nouns and verbs can be made to undergo topicalization or relativization, while modifiers and most qualifiers cannot.

As against all the forgoing criteria, which are quite unreliable, function always permits the categorial status of any word in any kind of sentence to be unambiguously determined. Thus, no nouns and verbs, nor any verbs and modifiers, etc., ever perform the same function in a way analogous to the similarity in the behavior of verbs and nouns, for example, in respect of some of the criteria mentioned above. If any verbs and nouns ever perform the same function, they would have for that reason to be analysed as members of the same category rather than of different categories.

In the light of this finding, all the words which function singly as Predicate in the frame

(29) ## Subject ____ (Object) ##[8]

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[8]Bamgbose [1972b] urges that this definition be abandoned on the grounds that it excludes some verbs like fi 'to put' and bẹ 'to shine (of red objects)', which occur obligatorily with constituents not shown in (29). In particular, fi cannot occur without an Adverbial containing the preposition sí 'to', and bẹ similarly cannot occur without an Adverbial containing the onomatopoeic noun yòò 'bright manner' and there is no indication of this anywhere in (29).

In fact, however, the definition does not exclude any such verbs, or any verbs for that matter. What it does is to mention the universal feature which these particular verbs share with all the other verbs in the language, leaving their idiosyncratic cooccurrence properties to be specified for each of them, as necessary, in the lexicon. In so doing, the definition claims that it is class properties, not idiosyncratic ones, that are crucial for the categorial identification of lexical items. Proof of the correctness of this claim can be seen in the fact that students of the Yoruba language have known for over a century that wákàtí 'hour' is a noun, although none of them apparently knew until it was pointed out recently that, like a few other words in its class, it never occurs without an accompanying qualifier.

Idiosyncratic properties do not form part of class definitions. For this reason, a definition of Yoruba nouns that mentions the idiosyncratic cooccurrence property of wákàtí, etc. would be as lacking in generality as a definition of verbs which similarly mentions the fact that fi and bẹ obligatorily cooccur with Adverbials.

The same critique argues that the definition under discussion is wrong because it denies verbal status to tètè 'quickly' and mọ̀ọ́mọ̀ 'intentionally, deliberately', even though they can be employed as in

(i) ẹ tètè
you (pl.) quickly
'Be quick.'

(ii) ó ṣe é, ṣùgbọ́n kò mọ̀ọ́mọ̀
he did it, but not intentionally
'He did it, but it was not intentional.'

The fact, however, is that these are surface structure sentences whose predicates have been deleted. This is why the sentences themselves cannot be used unless it is clear from the linguistic or the nonlinguistic context what verbs these words modify.

The only fruitful way that this writer can see to disprove the above definition of Yoruba verbs is to show that the many specific claims that have been made for it (for which, see note 9 below) are all false. Notwithstanding Bamgbose [1972a:3], which is very misleading, no serious effort of any kind has so far been made in this direction.

in Yoruba sentences have been defined as Verbs,[9] and all those that function as modifiers of verbs have similarly been defined as Adverbs. Given these definitions, the claim that some Yoruba words are "modifying verbs" can readily be seen to be internally contradictory, as it means that there are some verbs in the language which always function both in deep

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[9]The reasons for defining the Yoruba verb in this way have been stated in some detail elsewhere; see Awobuluyi [forthcoming (a), 1972a: 112]. Briefly restated for readers' convenience, they are:

(i) The definition conforms to the requirement that Yoruba lexical items be defined on the basis of their functions in sentences;

(ii) It has no exceptions--indeed, it apparently cannot logically have any;

(iii) It is grammatically real, as it is congruent with, and brings to light for the first time, the only process for forming new verbs in the language;

(iv) It is psychologically real, as evidenced by

(a) intuitive claims that some words are "used as verbs", e.g. Bamgbọṣe [1972b:47, note 31];

(b) the reaction of native speakers to sentences containing nonsensical words in the position of the predicate: cf. Bamgbọṣe [1972b:56] and Awobuluyi [1971b:106, note 14];

(c) the treatment of English adjectives in colloquial Yoruba: cf. Awobuluyi [1972a];

(d) word play in conversations like the following (actually overheard by the writer in 1970):

Speaker 1: Aṣọ rẹ yí mà náìsì o
clothes your these indeed nice o
'What fine clothes you have on!'

Speaker 2: Ó ná a gan ni
It ná it really emphasis-marker
'Fine they certainly are.'

Speaker 1 considers náìsì, from English 'nice', as a verb, while Speaker 2 for comic effect chooses to consider it as a verb ná (which does not exist in Yoruba) followed by an object noun. This dialogue is said to demonstrate the psychological reality of the definition under consideration because the word play in it depends for its success on the following two factors, both of which must be present: (i) willingness on the part of the first speaker to consider what his interlocutor says as a well-formed Yoruba sentence, and (ii) an awareness on the part of both speakers of the structural significance of the position occupied by the otherwise nonsensical word ná in the second speaker's response (cf. point (b) above).

structure and in surface structure as adverbs--a phenomenon which is by definition completely impossible. Given the principle of lexical subcategorization pointed out above, if any verb-like elements actually function as modifiers, they are for that very reason to be analysed as Adverbs, and not as Verbs.

Of course, it is perfectly conceivable that an item could function as Predicate in deep structure but as Modifier in surface structure. The paper under examination indeed comes very close to making this kind of claim when it declares that "...it seems reasonable to conclude that modifying verbs are in fact verbs. When they occur in a minimal sentence, they have all the characteristics of a full verb; but when they occur in a serial construction, they take on a modifying function and do not have the full range of verbal characteristics" (p. 36). Notice, however, that it is not clear at all what is meant in this passage by a full verb that functions in a minimal sentence taking on a modifying function when it occurs in a serial construction. According to an earlier claim, the string of verbs in any modifying type of serial construction "cannot meaningfully be related to more than one underlying sentence" (pp. 23-24). In other words, any modifying serial construction is represented by one sentence in deep structure and also by one sentence in surface structure, with the result that any modifying verb that occurs in that particular construction will correspondingly function only as such both in deep structure and in surface structure, and there will be no stage at which such a modifying verb was a full verb.

But suppose for the sake of argument that such a stage existed, then the grammar envisaged by the paper under review would have to contain some mechanism for converting full verbs into modifying verbs. To the extent that the grammar contains such a mechanism, it would be more complex and, therefore, less natural and less desirable than an alternative grammar which is equally observationally adequate but yet contains no such mechanism.

4. "Modifying verbs" that are plain verbs

It is not the intention here to claim that all the miscellaneous elements lumped together under the name of "modifying verbs" and listed in the paper under examination are Adverbs. Quite the contrary, most of

the tokens of the so-called modifying type of serial construction can, as already suggested, easily be traced to two or more well-formed underlying sentence where, for each such underlying string, a so-called modifying verb will actually be found operating as Predicate, thereby revealing its true status as a plain verb. This is the case with the following so-called modifying verbs:

sárέ	'be quick'	jù	'to exceed'
yára	'be quick'	kárí	'to go round (of things)'
rọra	'be careful'	gbé	'be lost irretrievably'
ṣáájú	'be first'	pẹ́	'be a long time'
ṣọ́	'to watch'	wò	'to examine'
ṣì	'to miss'	kà	'be/rest upon'
jí	'to act stealthily'	dè	'be on the lookout for'
bá	'to accompany'		
tán	'to end'		
pọ̀	'be many'		
tó	'to measure up to'		
lù	'to hit, impinge upon'		
kù	'to remain'		
kiri	'to perambulate'		
jìnnà	'be far, distant'		
nù	'be lost'		
kẹ́ẹ̀hìn	'be last'		
gbẹ̀hìn	'be last'		
lé	'be/rest over or upon'		
tọ́	'take a small quantity of'		
yọ́	'to act stealthily'		
lọ	'be extensive, spread'		
fún	'give'		
ká	'to go round'		
wá	'come, come to a stage'		
bọ̀	'return'		
fi	'to put'		
tì	'to adjoin, be next to'		
tì	'be impossible, fall short of goal'		

5. "Modifying verbs" that are not verbs

The few putative tokens of the "modifying type of serial construction" which can in no way be traced to two or more underlying sentences are, in fact, not tokens of the serial construction. They are, among other possibilities that have to be recognized in any sensitive grammar of the language, simple sentences whose verbs are modified by Adverbs, in the case of sentences containing pre-verbal Adverbs in the sense of Awobuluyi [1967, chapter 7 and forthcoming (a)] and the post-verbal Adverbs

ná	'for a minute'	mọ́	'ever again'
rí	'ever before'	ṣáá	'anyway, in vain'
rárá	'at all'	sẹ́	'to be sure, for certain

or by Adverbials introduced by the prepositions[10]

ti	'from'	fún	'for, on behalf of'
bá	'on behalf of'	sí	'to, at'
fi	'by means of'	ní	'in, on, at'

[10] Three of these prepositions have verbal homophones as follows:

Preposition		Verb	
fi	'by means of'	fi	'to put'
fún	'for, on behalf of'	fún	'to give'
bá	'for, on behalf of'	bá	'to join, accompany'

This treatment of these words is thought to be justified by the following considerations:

The verb fi has the idiosyncratic syntactic feature [+___NP [$_{ADV}$ si NP]$_{ADV}$] which the preposition fi does not have.

The prepositions bá and fún are stylistically interchangeable, but this is not so with the corresponding verbs bá and fún.

The sentence

(i) Ó bá mi lọ
'He went along with me; he went on my behalf.'

is ambiguous between the senses of bá, the verb, and bá, the preposition, just as

(ii) Ó tà á fún mi
'He sold it to me; he sold it for me.'

is ambiguous between the senses of fún, the verb, and fún, the preposition.

6. Conclusions

In other words, to summarize the foregoing, the category of "modifying verbs" does not exist at all in the Yoruba language,[11] most of the words referred to by that term being plain verbs, while the rest are Adverbs, Prepositions, and components of splitting verbs,[12] as the case may be. But then if modifying verbs do not exist, the so-called modifying type of serial construction which they are supposed to characterize cannot exist either. From this the more important conclusion follows once again that there is only one variety of serial construction in Yoruba, namely, the one that is always traceable to two or more sentences in deep structure.

Considered from a more general point of view, the modifying type of serial construction in the sense of the paper under consideration, and the so-called modifying verbs would add nothing but avoidable complication to a grammar like that of the Yoruba language, which could otherwise be simple and straightforward. In the first place, they would blur necessary distinctions between Verbs and Adverbs, in the case of the "modifying verbs", and between simple and complex sentences in the case of the modifying type of serial construction which, on the one hand, would be traced, like simple sentences, to only one sentence in deep structure, and, on the other, would contain more than one verb, as complex sentences do by definition. In other words, modifying verbs and modifying serial constructions are neither fish nor fowl, so to speak, and, as such, would add yet another element of complication to grammar by necessitating changes designed to accomodate them in the phrase structure rules of any languages like Yoruba possessing them. But matters would not end here. There would be the problem of contradictory feature specification mentioned earlier, from which there is no escape if features are used. And if they are not used, then those verbs which are said to be both plain and modifying and which can occur in serial

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[11] For two earlier transferred categories emanating from the same source, see Awobuluyi [1970; forthcoming (b)].

[12] For these, see Awobuluyi [1971a].

constructions in both their modifying and their plain verb functions would necessitate adding to a grammar numerous specific supplementary statements to indicate when such verbs are being used in their plain verb function and when in their modifying verb function.[13] Finally, there would be the specific mechanism also referred to earlier, which would be needed to convert deep structure plain verbs into surface structure modifying verbs in any grammar that would derive one of the two sets of verbs from the other, facts invalidating such a derivation, as in Yoruba, notwithstanding.

All these complications together would make the modifying serial construction and modifying verbs a rather unattractive and very suspect set of constructs in any language of the kind envisaged here. This is not necessarily to say, however, that these constructs definitely do not exist in other West African languages. Actually, it would be both presumptuous and very foolhardy for the present writer to deny, and by the same token meaningless for him to agree, that they exist in languages of which he has little or no firsthand knowledge or experience. All that can be said safely at the present time is that, if the reasons for recognizing these descriptively costly linguistic constructs in those languages are anything like the ones advanced for them in Yoruba, then the effect of the present critique is to call the analysis of relevant aspects of those languages, too, into question.

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[13] Cf. "Since the same verb may be a modifying verb in one case and a non-modifying one in another, it is necessary to find a way of keeping apart the two types of verbs. This is especially important in a serial verbal construction consisting of two verbs either of which is potentially capable of being a modifying verb" (p. 30).

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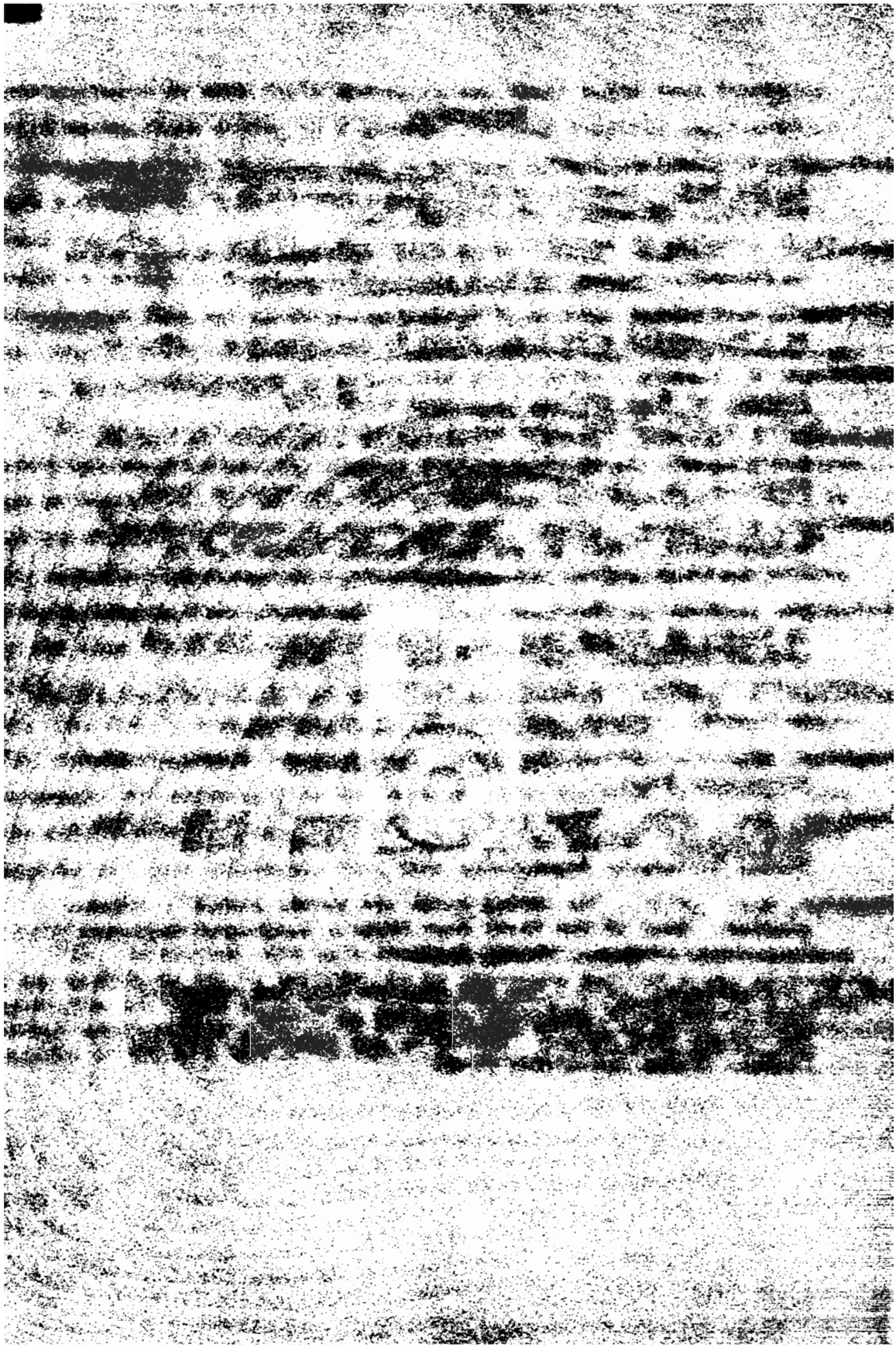

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SYMPOSIUM ON CONSONANT TYPES AND TONE

University of Southern California, March 9-10, 1973

Larry M. Hyman
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Under the sponsorship of the Graduate School (Charles G. Mayo, Dean), a symposium on the topic "Consonant Types and Tone" was held at the University of Southern California, Los Angeles, on March 9-10, 1973. The symposium was divided into four sessions dealing with 1) physiological and perceptual aspects, 2) lexical representation, 3) historical development, and 4) grammatical use, all with reference to the effect consonants exert on tone. The list of participants includes the following:

1. Harold Clumeck (U.C. Berkeley)
2. Karen Courtenay (U.C.L.A.)
3. Baruch Elimelech (U.C.L.A.)
4. Victoria A. Fromkin (U.C.L.A.)
5. Mary R. Haas (U.C. Berkeley)
6. Jean M. Hombert (U.C. Berkeley)
7. Larry M. Hyman (U.S.C.)
8. Leon Jacobson (U.C.L.A.)
9. Kong-On Kim (U.S.C.)
10. Paul L. Kirk (C.S.U. Northridge)
11. Peter Ladefoged (U.C.L.A.)
12. Jerry Larson (U. Texas)
13. Wayne A. Lea (Univac)
14. William R. Leben (Stanford U.)
15. Suden Lofqvist (U.C. Berkeley)
16. Ian Maddieson (Indiana U.)
17. La Raw Maran (Indiana U.)
18. James Matisoff (U.C. Berkeley)
19. Burckhard Mohr (C.S.C. Dominguez Hills)
20. John J. Ohala (U.C. Berkeley)

21. Manjari Ohala (U.C. Berkeley)
22. Sven Ohman (U.C.L.A.)
23. Beatrice T. Oshika (Speech Comm. Res. Lab, Santa Barbara)
24. Kenneth L. Pike (U. Michigan)
25. Edward Purcell (U.S.C.)
26. Russell G. Schuh (U.C.L.A.)
27. William S.-Y. Wang (U.C. Berkeley)

Also invited, but unable to attend, were Joseph Greenberg (Stanford U.), Morris Halle (M.I.T.), James D. McCawley (U. Chicago), Eunice Pike (Mexico City) and William E. Welmers (U.C.L.A.)

PROGRAM

March 9

Session I : (a) John J. Ohala, "The Physiology of Tone"

(b) Wayne A. Lea, "Segmental and Suprasegmental Influences on Fundamental Frequency Contours"

Session II: (a) Victoria A. Fromkin, "The Distinctive Features of Tone"

(b) William R. Leben, "The Role of Tone in Segmental Phonology"

March 10

Session III: (a) James Matisoff, "Tonogenesis in Tibeto-Burman"

(b) La Raw Maran, "How to Become a Tone Language: A Possible Tibeto-Burman Model"

Session IV: (a) Larry M. Hyman, "The Nature of Tonal Assimilations"

(b) Jerry Larson, "Issues and Non-Issues in Tonology"

Steps are now being taken to make available the proceedings of this symposium. For information write to Larry M. Hyman, c/o Linguistics Program, University of Southern California, Los Angeles, California 90007.