ZULU   PHONOLOGY,   TONOLOGY   AND   TONAL   GRAMMAR

ANTHONY TREVOR COPE, M.A. (Natal),
Sp. Dipl. (S.O.A.S. London).

DURBAN   1966

A C K N O W L E D G E M E N T S

S Y M B O L S

I use the conventional symbols for segmental phonemes,
except /6/ instead of /b/ for the lenis implosive and /b/
instead of /bh/ for the fortis explosive, and /hh/ to represent
the voiced glottal fricative which is phonemically distinct
from the voiceless fricative /h/. In these instances I follow
the old orthography, the return to which is greatly to be
desired. I represent the syllabic nasal as /m̱/, so that "mb"
becomes /mb/ or /m̱b/ or /m̱6/. Other symbols are as follows:-

◊ ◊	encloses morphemes
( )	encloses phones and tones
/ /	encloses phonemes and tonemes
~	indicates an alternative form
*	indicates a hypothetical form
:	represents vowel length
>	is the "to" sign
<	is the "from" sign
∅	is the zero sign
´	represents a high tone
`	represents a low tone
^	represents a falling tone
ˇ	represents a rising tone
'	represents a tonal downstep
"	represents a tonal upstep

The tonemic status of these tones and tonal steps is deter-
mined in the text, in which further symbols are introduced.

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CHAPTER 1

INTRODUCTION

1.1. The Zulu Language

Zulu belongs to the Nguni group of the Southern Bantu lang-
uages, which are spoken throughout Southern Africa. Other groups
are the Suthu and the Shona, which are spoken in the interior,
whereas the Nguni languages are spoken towards the south-east coast,
Xhosa in the eastern part of the Cape Province, Zulu in Natal and
Zululand, and Swazi in Swaziland. Swazi represents a distinct
variety of Nguni speech known as "tekela", characterized by t in
place of Zulu and Xhosa z, ts or tf and dz or dv in place of Zulu
and Xhosa t and d, and by other phonetical characteristics, but
Zulu and Xhosa are so similar that they are linguistically dialects
of the same language. However, they have important separate litera-
tures and are generally regarded as separate languages. For these
reasons and for the more real reason that it is in tonal structure
that they differ most greatly, this study excludes Xhosa and
concentrates on Zulu only.

Zulu is spoken by two to three million speakers mostly living
in Natal and Zululand. Its phonetical characteristics include the
clicks, presumably borrowed from the Khoisan languages whose speakers
were swept further and further south by the advancing Nguni migra-
tions. Its grammatical characteristics include disyllabic noun pre-
fixes (e.g. aɓa-, ili-, ama-), which seem to insulate the stem from
the effects of tonal context to which it is often subject in languages
having monosyllabic noun prefixes (e.g. ɓa-, li-, ma-). In Venda,
for instance, Westphal reports that the tones of nouns vary consider-
ably in different tonal contexts and sets out these variations accor-
ding to whether a low tone or a high tone precedes,[1] but in Zulu,
although the prefix may be so affected, the stem is not. Even on
prefixal inflection the stem is not affected; it is only the stems
of nouns whose prefixes consist of single syllables that are subject
to tonal change, i.e. noun class 9. A further consequence of the
fact that most words begin as well as end in vowels is the elision
of final vowels in normal speech, which contributes greatly to the
legato quality of the language. Another contributing factor is
final cadence: the drawing out of the penultimate vowel at the ends
of sentences together with the drawing down of tone.

1.1.1. Variation due to dialect

Zulu, because of its past history as the language of a nation formed from all the tribes of Natal and Zululand, is a remarkably uniform language. Variation due to dialect does exist, but it is nowhere near as great as in Great Britain. All Zulus can understand one another, which is not true of all Britishers. Since the turn of the century, there has been a shift in the centre of interest from Zululand to Natal, due to the greater opportunities to be found there. Natal is the melting pot and the source of development for all aspects of Zulu life, including the linguistic aspect. This study therefore, takes the Natal dialect as its standard, rather than the Zululand dialect described by Doke in his standard works, the Grammar[2] and the Dictionary[3]. Not only is it the most widespread in area, but it is the language of the town and of the educated middle-class generally; it is therefore destined to oust the Zululand dialect as the standard literary language. The acceptance in literature of the absolute pronoun /kòná/ instead of /khòná/ (as in Doke's Grammer and Dictionary)[1] and of the demonstratives /lókù/ and /lókò/ instead of /lókhù/ and /lókhò/, shows that Natal usage is gaining on Zululand usage. However, the standard Natal dialect represents the Zululand dialect very nearly, owing to the remarkable linguistic unity of the language.

This study excludes the extremities because of their linguistic peculiarities: the coastal strip (an old Lala-Nguni area), the extreme north (an old Swazi-Nguni area), and the extreme south (a Baca-Nguni area even today and furthermore subject to Xhosa influence). These are historically "tekela" areas, but this type of Nguni speech was submerged by the rise of the Zulu nation[4]. It is best represented today in Swaziland, and it is still spoken by the Bacas of the Cape Province and to a lesser and lesser extent by the Bacas of Southern Natal. These people were originally refugees from the old Swazi-Nguni area. Lala-Nguni, an extreme variety of "tekela" speech supposedly due to Tonga influence, is today virtually extinct. However, the coastal strip has certain peculiarities due to this influence, and it is impossible to avoid them altogether because they are evident in Durban. Although I point to dialect divergences from time to time in this study, I did not deliberately look for them. A study of Zulu dialects is a study in itself[ii].

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[i] It is thus distinct in writing as in speech from the adverb /khòná/ (there).

[ii] Mr. I.S. Kubeka, B.A.Hons.(Natal), is at present engaged in this study. He has kindly read this section and agrees with its points.

1.1.2. Variation due to drift

All languages drift towards the accomplishment of linguistic change. Linguistic drift has direction, as Sapir points out[5], and the acceptance of variation leads to definite ends. Zulu is drifting towards monosyllabic noun prefixes: VCV > VV (long or double vowel) > V (single vowel), or VCV > VCC (double or syllabic consonant) > VC (consonant cluster with the first consonant of the stem). Noun prefixes /ili, ulu/ are already /iː, uː/, and /izi, iziN/ are most often /iː, iːN/ in normal speech. Noun prefix /umu/ is already /um̲/, and /imi/ is most often /im̲/ in normal speech. There are also the alternatives /um, im/ if the resultant cluster is a possibility, e.g. /úm'fánà/ (boy), /ím'fínò/ (vegetables), which points to the development of the homorganic nasal: /*ini > *in̲ > iN/ (noun class 9 prefix)[i]. Noun prefix /isi/ is often /is̲/ giving a new syllabic consonant and sometimes /is/ giving a new set of consonant clusters, e.g. /ískhàthí/ (time), and especially the borrowed words, /ís'púnù/ (spoon), /ís'téshì/ (station), /ís'kólè/ (school)[ii]. Here the stems are subject to tonal change on prefixal inflection in the same way as stems in noun class 9 and for the same reason: the prefix consists of a single syllable. Similarly stems in noun classes 5 and 11 are subject to tonal change when the prefixes /iː, uː/ occur as /i, u/. The last stage is not accepted, however, and such instances are rejected as mistakes. Common mistakes are significant in indicating the direction of drift.

What does the linguist accept as change and what does he reject as error? He must stop the flux of drift according to his own judgement and describe the situation at that point as if it were static. The Zulu "perfect tense" is problematical in this respect. The end of the drift seems to be the positive form as the perfect aspect of the present tense and the negative form as the past tense, and I have interpreted the situation accordingly by describing /sìthèngílè/ as the positive present perfect tense and /àsìthèngángà/ as the negative past tense. However, these forms retain "perfect tense" characteristics in certain respects. Furthermore the negative present perfect tense /àsìthèngílé/ is not yet firmly established. The situation is complicated by the "stative verbs", which I would define as verbs having a special perfect stem side by side with a regular perfect stem, e.g. /lala/ (lie down) has /lele/ side by side with /lalile/,

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[i] N represents the homorganic nasal:
N + ph > mp, N + th > nt, N + kh > ŋk.

[ii] The infinitive or verbal noun prefix /uku/ also occurs as /uk/, e.g. /úkú'théngà ~ úk'théngà/ (to buy).

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the former referring to perfect state in present time and the latter
to recent past action. With nonstative verbs the perfect stem in-
dicates both these meanings according to context.

Further examples of drift situations are as follows:-

(a) There is a tendence for verbs of tone conjugation II to
follow the pattern of verbs of tone conjugation I. The
end of the drift is a single tone conjugation. Although
the end is far from accomplished, some forms show no
conjugational contrast and others show a contrast with
disyllabic stem verbs only.

(b) The high-to-low falling tone which occurs with its con-
comitant of vowel length as the inherent tone of certain
affixes, tends to be replaced by a high level tone, and,
less commonly, vowel length tends to disappear, e.g.
/wâːhâmbà > wáː'hâmbà > wá'hâmba/ (he went), of which I
would accept /wáː'hâmbà/ and reject /wá'hâmbà/.

(c) The feature of vowel length clearly shows itself to be
in a state of drift[i]. The evidence suggests that it
arises as a result of contraction, e.g. noun prefixes
/ilu, ulu > iː, uː/, perfect suffix /ile > eː/, and then
tends to disappear. When it occurs in the final syllable
of a word, the word has final stress and no penultimate
stress, and when it disappears, the word still has
final stress and no penultimate stress[ii]. I therefore
mark final length even though it may be latent in itself,
as in the nonfinal form of the present perfect tense,
e.g. /ɓàɓònéː/ (they have seen, with final stress, with
or without final length)[iii], and as with the inflection-
al allomorphs of the monosyllabic demonstratives and
adverbs e.g. /kú'lóː/ (to this one, with final stress,
without final length in the standard dialect).

(d) There is a similar situation with regard to rising tones:
just as final stress conditioned by final length can occur

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[i] I refer to vowel length inherent in certain affixes, not to
"penultimate length".

[ii] See 2.5.2. for the interrelationship between length and stress.

[iii] Beuchat[6] omits to mention final length or stress as a constitu-
ent of this form, but /ɓàɓònéː/ (without final length or stress)
does not occur in the careful speech which I describe.

without the conditioning factor, so can rising tones
conditioned by depressor consonants[i]. The situation
arises in the nominal extra prefixes. In the case of
the instrumentive prefix ∮nga∮, the consonant is realized
as either depressor (ng) or depressor (ŋh) or nondepressor
(ŋ). Rising tones occur with all three variants, which
I attribute to the influence of /ng/ whose "heavy voice"
quality is sometimes latent. In the case of the conjunc-
tive prefix ∮nha∮ the consonant is realized as either
nondepressor (n) or depressor (nh), and I attribute rising
tones to the influence of /nh/ whose "heavy voice" quality
is sometimes or often latent. The possible evolution of
this prefix is /*nhá/>/nhǎ/ (depressor consonant causes
rising tone) >/nǎ/(rising tone renders depressor consonant
redundant as a signal). The emergence of the rising tone
as a signal in itself is best illustrated by agentive nouns:
/índòdà/ (a man) > /índòdà/ (by a man), which I interpret
as /hhíndòdà/. The depressor consonant /hh/ occurs commonly,
but its "heavy voice" quality is often latent in the nominal
extra prefixes.

(e) There is evidence to suggest that the tonal system itself
has drifted from a system of inherent tone operating
primarily lexically towards a system of imposed tone
operating primarily grammatically, probably as a result
of the tonal changes consequent upon the juxtaposition of
inherent tones. Here the end of the drift is almost com-
pletely accomplished, and I interpret in terms of the new
system.

1.1.3. Variation in style of speech

This study limits the field in space as to dialect and in time
as to drift; it also limits it as to style of speech. My analysis
is based on careful speech, in which the maximum number of linguistic
distinctions is made. In normal speech some of these distinctions
disappear, particularly tonal distinctions, and in quick or careless
speech there is general levelling and distortion. In slow speech

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[i] Consonants with "heavy voice" quality such as /b, d, g, v, z/.

there is distortion again, and again it is the tonal aspect that
is most affected. There is naturally no clear-cut dividing line
between styles of speech, just as there is no dividing line in
matters of dialect and drift.

1.2. Principles of Analysis

This study is essentially a description of Zulu phonology,
tonology and tonal grammar. It is not an essay in the principles
of linguistic analysis as applied to the Zulu language, nor a
ferreting out of the difficulties that try these principles to
the uttermost. I follow these principles as far as possible, which
is as far as there is no distortion of the facts. Here I set out
my attitude towards particular principles.

1.2.1. Structural levels

The concept of structural levels is indispensable to linguistic
analysis, but not the principle that prohibits the interpretation of
facts at one level in the light of facts at another. This is a good
guide but not an inflexible rule.

Lanham in his study of Nguni phonology[7] sets out to apply the
conventional methodology of structural linguistics to his subject,
but in order to present an analysis that is acceptable to himself as
a speaker of the language, he is forced to go against the principle
that prohibits the mixing of structural levels and interpret vowel
length in terms of its grammatical function. Vowel length functions
both morphologically and syntactically in Nguni languages, an incon-
trovertible fact which leads him to review "the relevance of grammatic
environment in phonologic analysis" (p.9 - 13) and finally to adopt
"unorthodox procedures in analyzing vowel length" (p.146 - 160).
He devotes almost a third of his study to this subject together with
the related subject of juncture, for it raises "the gravest doubts
regarding the full validity of the principle forbidding level-
mixing in phonologic analysis" (p12 -13), and leads to the con-
clusion that the principle is only partially valid, a conclusion
of universal significance.

Linguistic principles are not permanent. The question of the mixing of levels in linguistic analysis and in particular the relevance of grammar in phonological analysis, has now shifted from a position of prohibition on principle to a position of doubt. Pike has two articles on the subject of "grammatical prerequisites to phonemic analysis"[8], and Lyons in an article entitled "Phonemic and nonphonemic phonology"[9] expresses doubt as to the desirability and even as to the possibility of carrying out phonological analysis independently of grammatical analysis. He is influenced by the prosodic phonology of Firth[10], which sees no objection to the mixing of levels. Firth was one of the first linguists to perfect the concept of structural levels. He sets up a "hierarchy of levels" as a convenient construct for the analysis of meaning[11], but in his study of prosodies he prefers not to be bound by this construct and deliberately blurs the outlines of phonology and morphology in the interests of synthesis. Furthermore there is no one and only one interpretation of the facts. Here again the influence of Firth is apparent[i]. He regards linguistic entities such as phonemes and morphemes, phonological and morphological levels, morphology and syntax, as abstractions having no absolute reality: "the systematics of phonology and grammar are ordered schematic constructs, frames of reference, a sort of scaffolding for the handling of linguistic events"[12]. Even the "hierarchy of levels" is simply a schematic construct. Therefore the interpretation depends upon the frame of reference; it is the product and not the discovery of the linguist.

1.2.2. Structural symmetry

The concept of structural symmetry is also indispensable to linguistic analysis, but not the principle that determines the interpretation of all linguistic facts according to a pattern. Again this is a good guide but not an inflexible rule.

It was Sapir who first stressed the importance of pattern in phonology[13]. Gleason's text book[14], reflecting the analyses of Bloch and Trager[15] and Trager and Smith[16], presents the pattern of English phonology in its clear-cut structural symmetry, which is a revelation after the confusion of phonetic charts. This pattern represents the systemization that phonology imposes on phonetics. Lanham sets up the phonological patterns of the Nguni languages[17], but here the patterns are not so clear-cut owing to the consonantal

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[i] I attended Firth's lectures on general linguistics at the University of London in 1951-52.

complexity of these languages. There are a number of "leftovers" according to ℬ concept of "peripheral contrasts" (p.13-16), not only in that they do not fit the pattern but also in that they carry a low functional load. An example from Zulu phonology is the sound (ts), which is normally nondistinctive but nevertheless distinctive in a few words. Such sounds are rare, owing to the compulsion of phonological patterns. Exceptions are far more common in morphology, and they must be admitted as such. To force them into the pattern of regular forms is to distort the facts.

Hill is very much concerned with symmetry in his study of English structure[18], but he goes too far in at least one instance. He interprets the personal pronouns of English, which are notoriously irregular, according to a structurally symmetrical pattern. He admits that the results of his technical ingenuity have little practical application (p.148), but he is guilty of a fundamental fault. When Hockett, like Hill, tries to show that the personal pronouns represent a regular paradigm[19], Nida accuses him of misrepresentation in order to give a false impression of structural simplicity[20]. Firth writes, "We must separate from the mush of general goings-on those features of repeated events which appear to be parts of a patterned process, and handle them systematically by stating them by the spectrum of linguistic techniques"[21]. Here he states that there is a pattern and implies that there are exceptions to it: to force the exceptions into the pattern is misrepresentation.

1.2.3. Phonemic overlapping

The principle that prohibits the overlapping of phonemes in phonological analysis was first formulated by Bloch[22] and later installed as a postulate[23]. It is now so firmly established that I hardly dare to question it, but the facts of Zulu phonology force me to do so. Again I would say that this is a good guide but not an inflexible rule.

The case of the sound (ts) is an example: it is normally nondistinctive and therefore nonphonemic but in a few words it is distinctive and therefore phonemic. Another example is the sound (r). According to the rule,"once phonemic always phonemic", all occurrences of this sound must be treated as phonemic. But is it commonsense to encumber morphology with the allomorphs /iloliwe ～ iroliwe ～ iroriwe/ for "railway", and /iloli ～ ilori ～ irori/ for "lorry", for the sake of avoiding the overlap in phonology of the phoneme /l/ in its (r) allophone with the phoneme /r/ as it occurs only in the ideophone /prr/ imitating the sound of birds flying?

These cases lead Lanham "to doubt seriously whether the very occasional distinctiveness of a phone is evidence of its distinctiveness everywhere" and "to prefer to believe that distinctiveness is a relative matter" (p.16)[24]. In his analysis, however, he nevertheless observes the rules of conventional methodology. He gives no indication of how he treats (r), but he treats (ts) as distinctive everywhere. I prefer to admit phonemic overlapping in these cases. In justification - if justification is needed, for I do not regard linguistic principles as absolutely binding - there is Hill[25], who states that "some phonemic overlapping of identical sounds must be admitted" and stresses "the priority of the criterion of distribution (in phonemic analysis) over phonetic identity" (p.52). It is distribution which shows (ts) to be an allophone of /s/, an allophone phonetically identical to the leftover phoneme /ts/.

The case of the sound (tsh) is similar but significantly different. Just as (ts) is a variant of /s/ conditioned by the nasal compound environment, so (tsh) is a variant of /sh/, but it differs in that it has a high functional load. I would not admit phonemic overlapping in this case: the criterion of functional load separates /tsh/ on the one hand from the "leftovers" /ts/ and /r/ on the other. Thus I would write (ingu6o entsha entsundu) (a new brown blanket) as /ingu6o entsha ensundu/, regarding /N + sh > ntsh/ as a change of phoneme and /N + s >ns (nts)/ as a change of allophone. In this respect I concur with the current orthography.

Although phonological analysis rejects phonemic overlapping with segmental phonemes, it tacitly accepts it with suprasegmental phonemes. All analysts of the pitch feature point to the fact that low tones in some contexts are as high as high tones in others. Context has therefore to be taken into consideration before tones can be attributed to tonal phonemes, in the same way as I would take context into consideration before attributing (ts) to either of the phonemes /s/ or /ts/. The overlapping of morphemes is accepted as an incontrovertible fact in morphological analysis. Hockett goes as far as to say that /biyt/ representing ◊beat◊ and /biyt/ representing ◊beet◊ are the same morph, but he confirms that they are allomorphs of two different morphemes[26].

1.2.4. Methods of description

I do not follow exclusively either the IA (item and arrangement) method or the IP (item and process) method[27], but both according

to circumstance. I also incline to the oldfashioned WP (word and paradigm) approach[28] , , whose characteristics Robins gives as the word as the fundamental unit in grammar and the basic division between morphology and syntax, for, although the morpheme is recognised as the minimal grammatical unit, "the word remains the unit of grammatical description because of its paradigmatic and syntagmatic associations". The IA "school" has the benefit of Bloomfield[29,30] and a long line of followers who have devoted themselves to the perfection of linguistic techniques. On the other hand the IP approach has the benefit of Sapir[31] with his wide vision and deep insight. The IA "school" has developed a formidable body of theory which provides rigid rules for the analyst, but intuition still plays its part and the analyst ought to take care that the application of rigid rules is not to the detriment of intuition and indeed of commonsense. A pertinent comment of Nida's comes to mind: "Commonsense reacts to this kind of analysis"[32]. He refers to Bloch's logical but ridiculous conclusion that /hæv, hðv, ðv, v/ are not allomorphs of the morpheme ◊have◊ but different morphemes[33]. The IA method of description predisposes the analyst to interpret in terms of affixation, which has resulted in some extraordinary statements of morphological inflection in cases where it operates by internal modification rather than by external affixation. It is not surprising that Hill protests against the proliferation of zero affixes[34]. Nida shows a swing from IP to IA from the 1946 to the 1949 editions of his excellent text-book on morphology[35], but, although his techniques are IA, his general approach is still IP, which mellows the rigidity of the IA approach. I try to emulate this sensible linguist.

1.2.5. Necessity for flexibility

There is thus a need for flexibility in the application of rules to human behaviour in the field of language. Lanham is aware of the conflict between the facts of linguistic behaviour and the rules of linguistic science at several points in his study[36]. The question of vowel length has already been mentioned, where, in order to present a satisfactory interpretation, he has to set aside the principle prohibiting the mixing of levels in linguistic analysis (see 1.2.1. Structural levels). The question of "peripheral contrasts" has also been mentioned, where he sets up phonemes of low functional load that do not fit the pattern as "leftovers" (see 1.2.2. Structural symmetry). Consideration of "peripheral contrasts" leads him to observe that "the line between distinctive and nondistinctive is not so easily or readily drawn as is sometimes supposed" (p.16), which

leads me to admit phonemic overlapping in the case of "leftovers" (see 1.2.3. Phonemic overlapping). Lanham concludes that "the analysis of language as a pattern of human behaviour requires more flexibility and less mechanical rigidity in methodology" (p.40), with which I fully concur. I suggest native-speaker reaction, the catalyst to all the conflicts that Lanham comes across, as the safeguard against overrigidity.

It is in the field of morphemics (the identification and description of morphemes) that the application of rigid rules has had its most extreme results. Harries best represents the progress of the strict linguistic scientist through his series of articles[37] to his "Methods in Structural Linguistics"[38]. It is necessary that professional linguists should press principles to extremes, for it is only thus that the science advances. It is noteworthy, however, that Hockett in his textbook[39] leaves aside the extremes of his articles in professional journals and adopts a position close to Nida, always the eminently sensible linguist. Hockett writes, "Grammatical analysis is still to a surprising extent an art: the best and clearest descriptions of languages are achieved not by investigators who follow some rigid set of rules, but by those who have developed a flair for it" (p.147). He expresses my own opinion.

1.2.6. Distribution and identity

Harries claims to be able to identify morphemes on the grounds of distributional relationship alone, excluding meaning absolutely from linguistic analysis[40]. Hauge reacts to the "rigor" Harries considers so desirable when he writes, "The minimizing of meaning, ... at first a healthy reaction against the misuse of meaning in establishing linguistic categories, has now become almost a fetish"[41]. Language is a symbolic system linking sound and meaning, so that in all descriptions of it there must be both phonetic and semantic identification. Chafe gives this view of language[42]: language selects on the one hand from the phonetic continuum and arranges (phonology) and on the other hand from the "incomparably more complex" semantic continuum and arranges (grammar), and the link between these two independent arrangements is morphophonemics. Distributional analysis is not sufficient in itself; it must go hand in hand with phonetic and semantic identification. Although, as Hauge rightly stresses, "distribution is the key to phonemics as distinct from phonetics and to morphemics as distinct from semantics" - witness the universal use of the technique of substitution in linguistic analysis - there is

also the criterion of identity, phonetic for phonemes and semantic
for morphemes. A phoneme represents a class of non-contrastive
and phonetically similar phones and a morpheme represents a class of
non-contrastive and semantically similar morphs. The elimination of
the criterion of semantic identity in the determination of morphemes
is unacceptable, and I would follow Nida who (like Bloomfield) re-
gards the morpheme as a phonetic-semantic unit, and Gleason's text-
book[43] which insists on the "double criterion" of distribution and
identity.

This particular point is of little relevance to the study of
tonology and tonomorphology, for tonemes do not have the phonetic
identity of phonemes and tonomorphemes do not have the semantic
identity of morphemes. The question of the phonetic identity of
tonemes has been considered in detail by Schachter[44], but it is still
the contrast between tones in specific contexts that is the signifi-
cant factor. Pike's observation is still valid: "it is the relative
height of the tonemes, not the actual pitch, that is pertinent to
linguistic analysis"[45]. As to tonal morphemes, Hill observes that
whereas segmental morphemes have semantic identity, suprasegmental
morphemes (principally pitch and stress morphemes) do not[46]. There-
fore they have to be identified by distributional analysis alone.

1.2.7. The field of morphophonemics

I see morphophonemics as an area between linguistic levels
rather than as a level in itself, with its own constructs correspond-
ing to the constructs of the phoneme on the phonological level and
the morpheme on the morphological level. I do not talk in terms of
the morphophoneme therefore, but in terms of morphophonemic varia-
tion. The realizations of morphemes are determined by the inter-
relationship between phonology and morphology in the field of morpho-
phonemics: morphophonemics concerns the phonemic representation of
morphemes. Hockett writes that we can regard morphemes as composed
of morphophonemes represented by phonemes; or we can regard morphemes
as represented by morphs composed of phonemes[47]. I prefer the latter
concept because it reduces the abstractions between the morph and
the phone from three to two, the morpheme and the phoneme. Hockett
conceives of morphophonemics as a stratum intervening between the
strata of phonology and morphology, whereas to me it is the field of
interrelationship between the strata of phonology and morphology.

It seems that most Bantu languages operate on a basis of in-
herent tone, and here the concept of the morphotoneme is perhaps useful.

In his tonal analysis of the Tonga verb, Meussen[48] distinguishes
between "determinant syllables" and "neutral syllables" and des-
cribes the tonal system in terms of the representations brought
about by the "determinant syllables". The tonal system of Sukuma
as described by Richardson[49] is similar. He attributes "tonal
distinctiveness" to all syllables but tonally neutral syllables
and describes the tonal system in terms of the realizations of
"tonal distinctiveness". Here there is no need to set up tonal
morphemes: the pattern of morphotonology is the complete statement.
The tonal system of Zulu, however, is best described in terms of
tonal grammar, with morphotonemics as the field of interrelation-
ship between tonology and tonomorphology.

1.2.8. New approaches

Two fields of development in linguistic science have not been
applied to the subject of this study: prosodic analysis and trans-
formational analysis. Both these approaches are still at the ex-
perimental stage.

Prosodic analysis was first postulated by Firth[50]. Robins
defines it as "a phonological analysis taking account not only of
paradigmatic relations but also of syntagmatic relations"[51], for
it is concerned with the synthesis between "phonematic units"
brought about by "prosodies" not only of stress and pitch but also
of palatalization, velarization, retroflextion, &c. Prosodic analysis
has been applied to several languages by the linguists of the London
School of Oriental and African Studies[52], but it is only now be-
ginning to attract the attention of American linguists. Hill tries
to correlate the phonemic and the prosodic approaches[53]. The draw-
back of prosodic analysis is that it runs counter to the western way
of writing, which is based on phonemic analysis. Although it re-
duces the number of symbols for segmental elements, it necessitates
the invention of symbols for palatalization, velarization, voicing
of consonants, rounding of vowels, &c., depending upon the prosodies
of the language.

Transformational analysis results from the attempts to bring
the study of syntax under the same sort of discipline as controls
the analysis of phonology and morphology. Chomsky's "Syntactic
Structures"[54] has given rise to a host of articles in professional
linguistic journals since 1960[55]. However, the tonal system of
Zulu operates almost completely at the levels of phonology and
morphology.

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CHAPTER 2

PHONOLOGY

2.1. Historical Introduction

The first detailed description of Zulu phonology was presented
in Doke's "Phonetics of the Zulu Language"[1]. As the title states,
the main interest is the exact phonetic nature of the sounds, but
Doke does indicate the vowel and consonant phonemes of the language,
the relationship between length and stress, and, under the heading
of "Phonetics in Relation to Morphology", the morphophonemic changes
that take place when morphology brings together phonemes that cannot
cluster. The most up-to-date study of Zulu phonology is contained in
Lanham's "Comparative Nguni Phonology"[2]. Lanham applies the prin-
ciples of structural linguistics to Nguni phonology and discusses in
detail the several problems that arise. He sets up for the individual
languages the phonological patterns of the segmental phonemes on the
basis of contrasting distinctive features or "phonologic components".
He here applies the theory derived from Bloomfield and developed by
Jakobson[3,4], that phonemes are bundles of distinctive features each
of which represents a pole of a duality of contrasts, e.g. frontal/
lateral, fortis/lenis, with or without voice, &c. This view does not
invalidate the conventional view of the phoneme as a class of sounds.
I have adopted Lanham's phonological patterns here in general, but
departed from them in the particular instances to which attention is
drawn below. Lanham also treats in detail the suprasegmental feature
of vowel length, not only because it raises problems of linguistic
analysis but also because it was previously the most neglected aspect
of Zulu phonology.

2.2. Phonemes

2.2.1. The pattern of vowels is as follows:-

	front	back
high	i	u
mid	e	o
low	a	
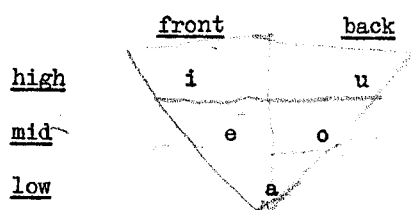
Note:

(a) The headings front-back and high - mid - low refer to the
     positions of the tongue, so that the phonetic description
     of vowels is according to tongue position: /i/ is the high
     front vowel, /u/ is the high back vowel, /a/ is the low
     vowel. The high - mid - low tongue position corresponds to
     the close - mid - open mouth position, so that the high
     vowels may also be described as close and the low vowel as
     open.

(b) I depart from Lanham's pattern only in regarding e and ε
     as allophones of the mid-front vowel and o and ɔ as allo-
     phones of the mid-back vowel, instead of as phonemes in
     themselves. Lanham himself is not satisfied with his
     description, but a "pledged adherence to current method-
     ological principles .... overrides a firm conviction that
     phonologic reality as observed in the reaction of informants,
     takes the form of only a front-back contrast (and not also
     a high-low contrast) between mid vowels" (p.39). The open
     allophone is the norm, the close allophone being conditioned
     by a close vowel in the following syllable or by /m̲/ which
     is demonstrably derived from /mu/. The close allophone
     is also conditioned by morphological vowel length, as in
     the noun prefixes of classes 5 and 11 when inflected by
     extra prefixes, e.g. /nhé:khèhlá (with an old man), and
     as in the present perfect tense suffix /ê:/ (nonfinal
     form). The rare occurrence of the close allophones
     without vowel length in monosyllabic demonstratives (where
     the standard dialect has the open allophones) does not
     warrant the setting up of the close allophones as phonemes,
     hence the departure from Lanham's pattern.

2.2.2. The pattern of consonants is as follows:-

Distinctive features of articulation

Manner of Articulation						Place of Articulation					Phonetic Description
lenis	occlusive	voiced	aspirated	sonorant	nasal	labial	alveolar	palatal	velar	lateral	
											stops:
+	+	+	-	-	-	6	-	-	k	-	voiced lenis
-	+	-	-	-	-	p	t	tsh(tʃ)	k	kl	v-less fortis
-	+	+	-	-	-	b	d	j(dʒ)	g	-	voiced fortis
-	+	-	+	-	-	ph	th	-	kh	-	v-less fortis asptd.
											spirants:
	-	-		-	-	f	s	sh(ʃ)	h	hl	v-less
	-	+		-	-	v	z	-	hh	dl	voiced
				+	-	w	l	y	(w)	(l)	sonorants
					+	m	n	ny(ɲ)	ng(ŋ)	-	nasals

Clicks

lenis	occlusive	voiced	aspirated	sonorant	nasal	dental-velar	palatal-velar	lateral-dental-velar	
-	+	-	-	-	-	c	q	x	v-less
-	+	+	-	-	-	gc	gq	gx	voiced
-	+	-	+	-	-	ch	qh	xh	v-less asptd.
					+	nc	nq	nx	nasal
						ŋgc	ŋgq	ŋgx	

Leftovers

ts   (also an allophone of /s/)
r   (also an allophone of /l/)
h   (also an allophone of /h/) (velar fricative)
ʒ   (only in songs) (voiced palatal fricative)
-     (only in borrowed words) (glottal stop)
ĩ ẽ ã (nasalized vowels)
o̰ ḛ   (glottalized vowels)
h̰h   (glottal nasal)
wh, lh, yh (aspirated sonorants)
mh, nh, nyh, ngh (aspirated nasals)

Note: The contrasts as to manner of articulation are as follows:-

(a) The distinctive feature of lenisness contrasts with fortisness,

"	"	"	"	occlusion	"	"	friction,
"	"	"	"	voice	"	"	voicelessness,
"	"	"	"	aspiration	"	"	jection,
"	"	"	"	sonorance	"	"	obstruence,
"	"	"	"	nasality	"	"	non-nasality.

In this pattern of contrasts, plosives and affricates pattern together and the distinctive feature is described as occlusion. With fricatives, sonorants and nasals, the lenis-fortis and aspirated-jective distinctions are irrelevant, and with sonorants the occlusive-fricative and voiced-voiceless distinctions are also irrelevant. With nasals all distinctive features but nasality are irrelevant. As to place of articulation there is a fivefold contrast: labial-alveolar-palatal-velar-lateral, to which may be added the double points of articulation of clicks (see (d) 1. below).

(b) The lenis occlusive /k/ never occurs in first consonant position of roots; it only occurs in subsequent consonant positions and in prefixes and concords. In contrast the aspirated fortis occlusive /kh/ only occurs in first consonant position and never elsewhere[i]. In the Zululand dialect it occurs exceptionally in the demonstratives /lókhù/ and /lókhò/ (these are concords) and in the pronoun /khòná/ (/kho/ is a concord prefix), but in the standard Natal dialect the demonstratives are /lókù/ and /lókò/ and the pronoun /kòná/ (/ko/ is a concord prefix), as distinct from the adverb /khòná/ (/kh/ is in first consonant position).

(c) Similarly the velar nasal /ng/ (ŋ) never occurs in first consonant position of roots; it only occurs in subsequent consonant positions and in prefixes and concords, and the nasal compound /ng/ occurs in first consonant position. In some dialects the nasal compound occurs in all positions and the velar nasal does not occur at all except in nasal clusters with velar consonants, in which case it is an allophone of the alveolar nasal. In some dialects the

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[i] By assimilation to the first consonant it may occur elsewhere, as in the word /isikhukhukazi ∿ isikhukukazi/ (hen) and a few others.

velar nasal and the velar nasal compound occur as free
variants (except in first consonant position). These
sounds are both written "ng" in the orthography, which
is the best solution in view of this diversity.

(d)   I depart from Lanham's pattern in the following instances:-

1. Lanham includes the clicks in a single frame having
    eight vertical columns. I prefer to set up two frames:
    the one for plain consonants with five vertical columns
    and the other for clicks with three vertical columns.
    There is no fundamental difference, but a single frame
    upsets the symmetry of the pattern in that the click
    columns are empty except for the fortis occlusives.
    This presentation also avoids Lanham's difficulty in
    the accommodation of the click feature, essentially an
    "extra" distinctive feature, within a single frame.

2. I have glottal /h/ and /hh/ in the velar column whereas
    Lanham has velar /h̲/ in this position with a blank be-
    low as the voiced sound is wanting. The reason is that
    /h/ and /h̲/ are generally in free variation, and /h̲/
    has phonemic status in a few words only (mostly
    borrowed words). I therefore treat /h̲/ as a left-
    over phoneme. Lanham treats /h/ and /hh/ separately,
    in a frame by themselves.

3. Lanham has /ts/ as a leftover because it does not fit
    the pattern and because of its low functional load. I
    have /r/ and /h̲/ as leftovers also, for the same reasons.
    Just as (ts) is generally an allophonic variation of /s/,
    so are (r) and (h̲) generally allophonic variations of
    /l/ and /h/. Just as /ts/ has phonemic status in a few
    words only, so have /r/ and /h̲/, the former only in the
    ideophones /prr, brr, trr, drr, mprr, mbrr, &c./ (a set
    of allomorphs in free variation), all imitating the
    sound of birds flying. The voiced palatal fricative
    /ȝ/ occurs only in songs, e.g. /ȝi: ȝi: ȝi:/ or
    /ȝiyo ȝiyo/, "the equivalent of the "fa-la-la" of
    early English song" (Doke). The glottal stop /-/ occurs
    only in borrowed words beginning in vowels, e.g. /i-apula/
    (apple), /i-Afrika/ (Africa), /um-Afrika/ (an African),
    cf. /umalusi/ (a herdsman) < /alusa/ (to herd). Lanham
    also has nasalized /ĩ/ in /h̃ĩh̃ĩza/ (to speak nasally)

as a leftover; I have also come across nasalized /ẽ/ in /nkẽ:/
(sound of bell tolling) and /ã/ in /nkã:/ (sound of hah-de-dahs).
Doke mentions glottalized /ɔ/ and /ɛ/ in ideophones, and the
glottal nasal /ŋh/ in /ŋhiŋhiza/ (to laugh through the nose).
Aspirated sonorants and nasals occasionally occur phonemically
in ideophones, e.g. /mḫẽ:/ (the bleating of sheep). The
question of their occurrence elsewhere is considered in the
next section (2.2.3).

4. Lanham has gaps for the velar and lateral sonorants which I
   fill with (w) and (l), for these consonants have velar and
   lateral qualities as well as labial and alveolar qualities
   and it is not certain which are to be regarded as redundant.
   With the other lateral consonants it seems certain that the
   velar quality of /kl/ and the alveolar quality of /hl/ and
   /dl/ are to be regarded as redundant.

5. I treat Lanham's aspirated nasal clicks /nch, nqh, nxh/ as
   consonant clusters, as nasalized voiced clicks /ngc, ngq,
   ngx/. The table of consonants shows the "heavy voice"
   quality of depressor occlusives to be due to the combina-
   tion of the distinctive features of fortisness and voice
   (both /gc, gq, gx/ and /ngc, ngq, ngx/ have this quality).
   According to Lanham's treatment, this quality is due to the
   combination of fortisness and voice with /gc, gq, gx/ together
   with /b, d, j, g/, but to the combination of fortisness and
   aspiration with /nch, nqh, nxh/. I do not dispute Lanham's
   treatment, however. It may well be that the essential quality
   of these depressor consonants is not voice but some distinc-
   tive feature unaccounted for here, such as "breathiness"[1].

6. There is a temptation to treat /tsh/ as a leftover in the same
   way as /ts/, for (tsh) is a variant of /sh/ in nasal compounds
   just as (ts) is a variant of /s/. Then, with friction instead
   of occlusion as the distinctive feature, /j/ would fill the
   voiced fricative gap and the palatal column would disappear
   for stops. The lateral column would disappear for stops if

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[1] Tucker in "Sotho-Nguni Orthography and Tone-Marking" (Bulletin
S.O.A.S. XIII. 1949) writes, "Nguni consonants fall into two
groups according to their effect on tones, (a) "non-breathy"
consonants and (b) "breathy" consonants"; and, "Logically all
breathy sounds should be followed (orthographically) by "h",
viz., bh, dh, jh, gh, vh, zh, hh, gch, ngch, &c.".

/kl/ were treated as a leftover because of its low func-
tional load. Then there would be a frame of three columns
for stops and a frame of five columns for spirants, with
only one gap in the total pattern, namely the alveolar
lenis occlusive. However, although structural symmetry
exerts pressure in this direction, the fact that /tsh/
bears a high functional load exerts pressure in the oppo-
site direction, and I leave Lanham's pattern as it is.

2.2.3.. An alternative consonant pattern

By adopting Lanham's pattern in general I do not thereby infer
that it is the only correct presentation of the consonant pattern of
contrasts. It is possible to construct a variety of patterns and to
argue that each one is better in certain respects than the others.
The weakness of this particular pattern is that the distinctive
"heavy voice" quality of depressor consonants is not represented;
it is shown to be due to various combinations of dictinctive features
but to no distinctive feature per se. With stops it is due to the
combination of occlusion + voice + fortisness (the lenis voiced
occlusives are not depressor consonants), with spirants to the com-
bination of friction + voice, and with clicks to the combination of
occlusion + voice. So far the feature of voice appears to be the
essential feature of depressor consonants. However, Lanham shows
that there are also depressor nasals in Xhosa, and in Zulu there are
grounds for saying so too[1]. The situation is now complicated by the
fact that the feature of voice is irrelevant with nasals in this
presentation. Here the distinctive quality is due to the combina-
tion of nasality and aspiration: /mh, nh, nyh (ɲh), ngh (ŋh)/. This
is also the case with the nasal clicks: /cnh, qnh, xnh/ have this
quality whereas /cn, qn, xn/ do not[ii]. The essential feature of

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[1] In his Zulu-English Dictionary, Doke records /úmhàmhé/ as an
alternative to /úmàmé/ (my mother), the interjections /mhame:/
and /mhamo:/ with tone-pattern /8-3. 3-8/ and /umhama/ (term
of endearment for my mother) with tone-pattern /2. 8-3.9/,
indicative of "heavy voice" influence, cf. /umana/ (mate,
companion) with tone-pattern /2.4.9/. He also records /neze/
(not at all) with tone-pattern /6-3-8.8-3/ and /unohha/ (baboon)
with tone-pattern /2.6-3.9/, indicative of "heavy voice" influ-
ence, i.e. /nheze/ and /unhohha/. Ideophones provide more
examples.

[ii] I use Lanham's transcription here, which is designed to show
that these are nasal clicks and not nasal-click consonant clusters.
In my adaptation of Lanham's pattern I treated the latter as nasal
clicks (/nc, nq, nx/) and the former as nasal-click consonant
clusters (/ngc, ngq, ngx/) in order to account better for their
"heavy voice" quality.

depressor consonants now appears to be glottal friction or aspira-
tion, which is corroborated by the fact that the "heavy voice"
plosives were once written "bh", "dh", "gh".[1] This suggestion is
also corroborated by Tucker, who equates the "breathiness" of these
consonants with aspiration when he writes that "logically all breathy
sound should be followed (orthographically) by "h", e.g. bh, dh, jh,
gh, vh, zh, hh, gch, ngch, &c".[5] Colenso in his Zulu Dictionary of
1860 and in his "First Steps in Zulu" of 1870 writes that "a slight
aspiration is heard after the letters b, d, g, p, t, k", and that
"a nasal aspirate also may be heard, but very rarely". Bryant in
his Zulu Dictionary of 1905 also refers to both voiced and voiceless
stops as "aspirated" and transcribes them as bh, dh, gh, ph, th, kh.
Thus there are two essential features of depressor consonants, voice
and aspiration. If aspiration is shown for all "heavy voice" con-
sonants, even with spirants where it is present but irrelevant in
Lanham's pattern, and voice for all "breathy" consonants, even with
nasals where it is present but irrelevant in Lanham's pattern, the
distinctive quality of depressor consonants is seen to be due to
the combination of voice and aspiration throughout. There may also
be sonorants with this quality; Lanham records /lh/ in Xhosa and
in Zulu there are grounds for this assertion too. Rycroft writes,
"I venture to suggest that each of the present Zulu orthographic
symbols, m, n, l, y and w, has in the past unwittingly been used to
represent two sounds, one of which is in fact a lowering (depressor)
consonant"[6]. These two distinctive features of voice and aspiration
coincide in all cases except lenis voiced occlusives (voiced but not
aspirated) and fortis aspirated occlusives (aspirated but not voiced).
Together they could be regarded as constituting a distinctive feature
of "breathiness" or "heaviness", if they could be eliminated as se-
parate distinctive features. The elimination of voice affects the
lenis voiced occlusives only, but voice is not particularly distinc-
tive here; in fact they are generally regarded as semi-voiced. The
elimination of aspiration affects the fortis aspirated occlusives
only, but aspiration is not particularly distinctive here; in fact
there are more aspirated consonants than unaspirated. The distinc-
tive feature of jection satisfactorily accounts for the contrast
between ejective /p, t, k/ and injective /c, q, x/ occlusives on

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[1] The symbol "bh" is still used officially to distinguish "expl. b" from
"impl. b", but in this study I use the symbols "b" and "6" for
the fortis and lenis plosives respectively.

the one hand and the aspirated occlusives /ph, th, kh, ch, qh, xh/ on the other. Jection is also a feature of the lenis occlusives, both the "implosive" /6/ and the "explosive" /k/. It is interesting that Bryant describes them both as "inspirated" and that Doke regards /k/ as "radical". The significant fact is not whether they are injective or ejective but that they are jective and not aspirated; nor whether they are implosive or explosive but that they are lenis and not fortis; nor whether they are voiced or not but whether they are heavy or not. The setting up of jection as a distinctive feature is also in the interests of economy, for it is relevant only to stop consonants whereas aspiration is relevant throughout: heaviness = voice + aspiration. Thus the alternative pattern of consonants is as follows:-

Distinctive features of articulation

Manner of Articulation						Place of Articulation					Phonetic Description
lenis	occlusive	heavy	jective	sonorant	nasal	labial	alveolar	palatal	velar	lateral	
											stops:
+	+	-	+	-	-	6	-	-	k	-	light lenis (ject)
-	+	-	+	-	-	p	t	tsh	k	kl	light fortis (ject)
-	+	+	-	-	-	b	d	j	g	-	heavy fortis (asptd)
-	+	-	-	-	-	ph	th	-	kh	-	light fortis (asptd)
											spirants:
-	-			-	-	f	s	sh	h	hl	light
-	+			-	-	v	z	-	hh	dl	heavy
											sonorants:
	-			+	-	w	l	y	(w)	(l)	light
	+			+	-	wh	lh	yh	(wh)	(lh)	heavy
											nasals:
	-				+	m	n	ny	ng	-	light
	+				+	mh	nh	nyh	ngh	-	heavy

Clicks

						dental-velar	palatal-velar	lateral-dental-velar	
-	+	-	+	-	-	c	q	x	light (ject)
-	+	+	-	-	-	gc	gq	gx	heavy (asptd)
-	+	-	-	-	-	ch	qh	xh	light (asptd)
-	+	-			+	nc	nq	nx	light nasal
-	+	+			+	ngc	ngq	ngx	heavy nasal

Note:

(a) The contrasts as to manner of articulation are as follows:-

the distinctive feature of lenisness contrasts with fortisness

"	"	"	"	occlusion	"	"	friction
"	"	"	"	heaviness	"	"	lightness
"	"	"	"	jection	"	"	aspiration
"	"	"	"	sonorance	"	"	obstruence
"	'	"	"	nasality	"	"	non-nasality

The heavy-light or breathy-nonbreathy distinction is relevant throughout, but the heavy sonorants and nasals occur phonemically only occasionally.

(b) Compared with Lanham's pattern, this pattern shows the distinction between /6,k/ and /p,k/ to depend on the lenis-fortis contrast only, the soft voicing of /6/ and /k/ being a nondistinctive concomitant of lenisness. The distinction between /6,k/ and /b,g/ depends on the heavy-light contrast as well as on the lenis-fortis contrast, whereas Lanham's pattern shows the distinction to depend on the latter contrast only. This contrast is not the most significant, however, for many investigators have noted the heaviness of /b,g/ in contrast to the lightness or softness of /6,k/. The attribution of voice as a distinctive feature of the lenis occlusives is a weak spot in Lanham's pattern of contrasts.

(c) This pattern is not a substitute for Lanham's pattern but an alternative to it. Seeing that it was suggested by a consideration of consonant sounds that occur rather rarely as phonemes, it is in danger of representing a pattern that is obsolete[i]. However, even if the heavy sonorants and nasals are omitted from the presentation, the consideration of these sounds has resulted in the determination of the distinctive quality of depressor consonants as voiced glottal friction, and so, by the elimination of voice and aspiration as separate distinctive features, perhaps in a better picture of the significant contrasts between stop consonants (occlusives and clicks). Furthermore, this presentation is relevant in tonology to the interpretation of rising tones.

2.3. Phoneme Clusters

Zulu phonology does not permit the clustering of vowels, and the only permitted consonant clusters are those represented by the

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[i] Or possibly a pattern that is not yet fully established.

formulas: NC, Cw, NCw. Lanham rejects the interpretation of affri-
cates as clusters (stop + spirant) because of the restricted associa-
tion of spirants with other consonants. He also gives the reason
that "the affricates so clearly help to fill out the domal order
(the palatal column) that the separation of stop from spirant in
analysis would constitute a distortion of the phonological pattern"
(p.35), a reason of lesser validity for the linguist can construct
different patterns from identical facts. There is also the reason
that although (tsh) could be analyzed as /t + sh/, (j) could not be
analyzed as /d +ʒ/, for (ʒ) is wanting in Zulu phonology (except
for /ʒi: ʒi: ʒi:/ ("fa-la-la") which cannot count). The evidence of
the affricate allophones of spirants also points to a unitary inter-
pretation of affricates. Here we come close to the subject of phonemic
overlapping again, and in passing we note that "the anomoly of /ts/
as phoneme and (dz) as allophone of /z/" (p.35) disappears when we
admit (ts) as allophone of /s/ as well as /ts/ as phoneme.

The NC Cluster: The homorganic nasal clusters with all consonants
except 6 and k; ph, th, kh; h and hh; l and the nasals; c, q, x;
ch, qh, xh; and sh.

The Cw Cluster: The labial-velar sonorant clusters with all con-
sonants except 6, p, ph, b, m (bilabials as opposed to dentilabials).

The NCw Cluster: The triple cluster is subject to the same phono-
tactical rules as control the two double clusters.

Where consonants that are phonotactically incompatible are brought
together by the combination of morphemes, morphophonemic changes operate
to avoid these nonpermitted consonant clusters.

2.4. Morphophonology

The clustering of vowels is avoided by the morphophonemic changes
known as coalescence (a + i > e, a + u > o, a + a > a), consonanta-
lization (i + V > yV, u + V > wV), and elision (a + a > a, a + e > e,
a + o > o; Ca + V > CV, Ci + V > CV, Cu + V > CV ~ CwV (consonanta-
lization). The clustering of the verb concords /a, i, u/ with fore-
going vowels is prevented by the semivowels /w/ and /y/, and the
clustering of the locative prefix /e/ with foregoing vowels is pre-
vented by /s/, e.g. /nha + ekhaya > nhàsé'khâyà/ (and at home),
/ba+ ekhaya > bá"sé'khâyà/ (they are at home).

Nonpermitted consonant clusters of the NC type are avoided
by the morphophonemic changes known as nasalization or nasal influence:-

$$N + 6 > mb.$$

$$N + k \quad (\text{no example}).$$

$$N + ph, \ th, \ kh > mp, \ nt, \quad \eta k.$$

$$N + h \ \text{and} \ hh > h \ (\text{or} \ \eta k) \ \text{and} \ hh \ (\text{or} \ \eta g).$$

$$N + 1 \ \text{and the nasals} > 1 \ (\text{or} \ nd)^i \ \text{and the nasals.}$$

$$N + c, \ q, \ x > ngc, \ ngq, \ ngx.$$

$$N + ch, \ qh, \ xh > nc, \ nq, \ nx.$$

$$N + sh > ntsh.$$

The *homorganic nasal clusters very rarely with voiceless clicks:*

$$N + c, \ q, \ x > nkc, \ nkq, \ nkx^{ii}.$$

The homorganic nasal clusters regularly with voiced clicks:

$$N + gc, \ gq, \ gx > ngc, \ ngq, \ ngx.$$

The homorganic nasal clusters with spirants (except /h/ and /hh/
above) bringing about allophonic changes to affricates. If we ob-
serve the rule which does not permit the overlapping of phonemes,
then it does not cluster with /s/ and /sh/ and /N+ s > nts/ and
/N+ sh > ntsh/ represent morphophonemic changes. If on the other
hand we admit phonemic overlapping with phonemes of low functional
load only, then it clusters with /s/ but not with /sh/, hence the
change /N+ sh > ntsh/ included in the list of changes above.

Nonpermitted consonant clusters of the Cw type are avoided by
the morphophonemic changes known as palatalization:

		Passive verbs	Locative nouns
6 + w	>	tshw	tsh
p + w	>	tshw	tsh
b + w	>	jw	j
ph + w	>	shw	sh
m + w	>	nyw	ny

There are other phonologically conditioned changes, but it is
not the intention to present a complete statement of all the morpho-
phonemic changes in the language.

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[i] This change is obsolete, but note /indima/ (plowed field) <
/lima/ (to plow) and /ulimi/ (tongue) > /izilimi/ (regular
plural) ~ /izindimi/ (archaism). With the nasals, the homor-
ganic nasal is elided, e.g. /iN+ mali eN+ ningi > imali eningi/
(much money).

[ii] Not to be confused with the nasal clicks /nc, nq, nx/.

2.5. Suprasegmental Phonemes

(i) The suprasegmental features of Zulu phonology include pitch or tone, length, stress, intonation, pause and tempo. Suprasegmental features are not as amenable to phonemic analysis as segmental features, for the reason that the techniques of phonemic analysis were originally developed to deal with the latter. I believe a prosodic analysis as suggested by Firth[7] to be better suited to these features. Phonemic analysis concentrates on the paradigmatic aspect rather than the syntagmatic or structural aspect, whereas prosodic analysis takes into account not only the paradigmatic relations (corresponding to morphological form) but also the structural relations (corresponding to syntactical function)[8]. The setting up of suprasegmental phonemes does not redress the bias of phonemic analysis, for the phonemic approach predisposes the attribution of features to segments, whereas the significant fact about these features is that they extend across segments: they are not "segmental" but "suprasegmental". The prosodic approach gives a different division of phonological features from the conventional segmental-suprasegmental division, into what Firth terms "phonematic units" (the building-bricks of phonology) and "prosodies" (the mortar which binds them together). Applied to Zulu phonology, it is possible to conceive of tone as "segmental" and intonation as "suprasegmental", of inherent morphological length as "segmental" and imposed syntactical length as "suprasegmental". The influence of nasals on consonants (which is made much of) and on vowels (which is neglected) could be conceived of as the prosody of nasalization. The influence of the labial-velar sonorant on consonants (which is made much of – palatalized consonants) and on vowels (which is neglected – labialized vowels) could be conceived of as a prosody also. Firth's approach has fruitful possibilities; and yet the orthographic difficulties consequent upon prosodic analysis mentioned under 1.2.8. together with a desire not to complicate the description of phonology and tonology by an unconventional and still experimental approach, leads back to phonemic analysis.

(ii) There is a fundamental difference between features conventionally classified as segmental and suprasegmental respectively: the former are characterised by absolute phonetic qualities and the latter by relative phonetic qualities. Pike's preface to "Tone

Languages"[9] mentions the "special practical problems arising from
the application of the principles of phonemic analysis to tonal
phonemes ---- (due to) the relative nature of significant pitch
units", and all analysts of tonal systems preface their studies
with similar remarks. The characteristic of relativity distinguishes
all suprasegmental features. It is just as pointless to determine
exactly how long a long vowel is or how strong a strong stress is
as it is to determine how high a high tone is, as these absolute
qualities depend not only upon the linguistic context but also upon
the extralinguistic context, whether the speaker is male or female,
young or old, lively or languid. The point to determine is whether
a tone is relatively higher or lower, a vowel relatively longer or
shorter, a stress relatively stronger or weaker, in a particular
context.

(iii) The complex interrelationships between suprasegmental
features contribute as much to the difficulty of treating them as
the characteristic of relativity. In English there are four stress
phonemes and four pitch phonemes, and yet there is a tendency to
associate stronger stress with higher pitch and also with longer
length. The interrelationships in Zulu phonology are extremely
difficult to disentangle, so much so that it is best to deal with
them concurrently to the suprasegmental features themselves. Here I
deal with length, stress, intonation, and the interrelations between
them. In the next chapter I deal with tone by itself, and then its
interrelations with other suprasegmental features.

(iv) Suprasegmental features also interact with segmental fea-
tures. In English, for instance, stress has an effect on vowel
quality. The interrelations in Zulu phonology between length and the
mid vowels and between tone and the depressor consonants are dealt
with under length and tone respectively. There are also inter-
relations between segmental features; these are conventionally
handled under phonemics (changes of allophone) and morphophonemics
(changes of phoneme).

(v) I have excluded the exaggerations resulting from "emo-
tional overlay". In English the feature that is most exaggerated in
forceful speech is stress. In Zulu it is vowel length, but tone and
stress may also be exaggerated beyond the normal limits. I regard
these exaggerations as distortions and draw attention to them only
in passing.

2.5.1. Length

Vowel length functions on two different levels and in two different ways[i]. It functions at the morphological level to differentiate morphological units and it functions at the syntactical level to demarcate syntactical units. The methodological problem has already been discussed under 1.2.1. (structural levels): there is no alternative to the interpretation of vowel length in its different structural roles except by reference to grammar. Lanham distinguishes between "inherent" (morphological) length and "imposed" (syntactical) length, and notes that the latter is associated with "a feature of placement" on the penultimate syllable of certain syntactic units.

2.5.1.1. Inherent length

Inherent length /:/ functions morphologically to differentiate certain morphological units or morphemes:-

1. The noun prefixes of classes 5 and 11 /i:/ and /u:/, of class 2a /o:/, and of classes 8 and 10 /i:/ and /i:N/ , which occur as allomorphs (contractions) of the full forms /ili-/ and /ulu-/ which are rare, /awo-/ which is very rare, and /izi-/ and /iziN-/ which are common, respectively. That the presence of inherent length contrasts significantly with its absence is clearly shown in the case of the noun prefixes of classes 9 and 10: /ín'dúnà/ (Cl.9 - singular) and /í:n'dúnà/ (Class 10 - plural). In quick speech there is a tendency for the vowel length of the prefixes of classes 2a, 5 and 11 to disappear, which is not so with the prefixes of classes 8 and 10, probably because these contractions are historically more recent.

2. The indicative past tense infix /â:/,
    e.g. /wâ:6ònà ínjá/ (he saw a dog),
    cf. /wà66nà ínjá/ (and he saw a dog - subjunctive past tense).
    In quick speech the high-to-low falling tone is replaced by a high level tone and the vowel length tends to disappear.

3. The subjunctive past tense negative infix /ngâ:/,
    e.g. /wángâ:66nà lùthó/ (and he did not see anything),
    cf. /àngá'bálà/ (he can write - potential present tense).
    In quick speech the high-to-low falling tone is replaced by

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[i] I refer only to "checked" vowel length here; "unchecked" vowel length functions as an intonation constituent (see 2.5.3.).

a level tone. There is an alternative subjunctive past
tense negative infix /â:/,

e.g. /àkâ:6ónà lùth6/ (and he did not see anything).

4. The potential present tense negative infix /ngê:/,

e.g. /àngê:bálè/ (he cannot write).
In quick speech the high-to-low falling tone is replaced by
a level tone.

5. The indicative present future tense negative infixes /zǔ:/
and /yǔ:/, which are contractions of /zùkú/ and /yùkú/ and,
which are contracted to /zù/ and /yù/ (definite and indefi-
nite future respectively). All these forms are in use as
allomorphs, e.g. /à6ázùkú'théngà ∿ à6ázǔ:'théngè ∿
à6ázùthéngà/ (they will not buy).

6. The indicative present future tense indefinite positive
infix /ò:/ which is a contraction: /yòkù > yò > ò/,

e.g. /6ô:hámbà ∿ 6áyòhámbà ∿ 6áyòkùhámbà/ (they will go).
In quick speech /6ô:hámbà > 6ó:'hámbà/.

7. The future implication infixes /yó:/ (going to) contracted
from /ya + uku/ and /zó:/ (coming to) contracted from
/za + uku/,

e.g. /6á"yó: 'théngà/, (they are going to buy),
cf. /6áyòthéngà/ (they will buy - indefinite future),
e.g. /6á"zó: 'théngà/, (they are coming to buy),
cf. /6ázòthéngà/ (they will buy - definite future).
Vowel length is often absent in the case of /yó:/, but the
distinction is still maintained : /6á"yó'théngà/ and
/6áyòthéngà ∿ 6áyó'théngà/.

8. The subjunctive obligation implication infix /6ó:/, which is
probably a contraction itself and which is often contracted
to /6ó/,

e.g. /6á"6ó: 'hámbà ∿6á"6ó'hámbà/ (they ought to go).

9. The present perfect tense suffix /ê:/, which is the nonfinal
form corresponding to the final form /ile/, of which it pro-
bably represents a contraction. Careful speech /ê:/ > normal
speech /é:/ > quick speech /é/, but the distinctiveness of
this suffix is maintained if not by vowel length then by the
factors of final stress[1] and close mid-vowel allophone that
it conditions. The phoneme /:/ is present either patently

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[1] The question of the interrelationship of stress and length is
discussed under 2.5.2. below.

or latently and therefore must be marked. The conditioning of
close mid-vowel allophones by inherent length but not by imposed
length as a means of separating these two length phonemes at the
phonological level without resort to grammar, fails in that close
allophones occur with penultimate length if there is a close vowel
in the final syllable. Note interaction between suprasegmental and
segmental phonemes:inherent length and close allophones.

10. The third position demonstrative suffix /yâ:/, which occurs as an
allomorph (contraction) of the full form /yánà/,
e.g. /là:6àyâ:/ (class 2), /ù:wàyâ:/ (class 1).
When the demonstrative precedes the noun, the high-to-low falling
tone is normally replaced by a high level tone, and in quick speech
the vowel length disappears. This suffix is nevertheless always
stressed[i]: the phoneme /:/ is present and therefore must be marked.
The first syllable of this demonstrative also has vowel length:
/lábà/ (these) > /lá6ò/ (those) > /là:bàyâ:/ (yonder). Here it may
seem that the length of the first syllable is not inherent but im-
posed to form the third position form from the first position form,
but morphophonemics accounts satisfactorily for this "process" in
terms of "arrangement": the first position form is /lá6à ~ là:6à/,
the latter being the derivational allomorph for the third position
form.

11. The monosyllabic first position demonstratives /ló:. ló:, lá:/.
In the standard dialect these forms occur only as inflectional
allomorphs of /ló, ló, lá/, in which vowel length is latent and
the phoneme /:/ represented by final stress only[i],
e.g. /kú'ló:/ (to this one, class 1 demonstrative, with final stress),
cf. /kúlò/ (to it, class 5 absolute pronoun, with penultimate stress).

12. The adverbs /lá:/ (here), /ló:/ (there), /njó:/ (so, just), and
/nâ:/ (the spoken question-mark: /úzòhámbà nâ:/ (he is going to
go?). Only the last has vowel length always. The rest occur as
inflectional allomorphs in the standard dialect, in which vowel
length is latent and the phoneme /:/ represented by final stress
only[i],
e.g. /6á'lá:/ (they are here, with final stress),
cf. /6álà/ (they refuse, with penultimate stress).

13. The conjunctive adverbs /mhlá:/ (when), /nxá:/ (when, if), /ngâ:/
(if, if it might be that), and /mâ:/ (when, a contraction of /úmà/).
Only the last has vowel length always. The vowel length that is

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[i] The question of the interrelationship of stress and length
is discussed under 2.5.2. below.

sometimes apparent in these words and in the monosyllabic demon-

.stratives (11) and adverbs (12) is possibly a nondistinctive

concomitant of stress[i].

14. The adverbs /í:zòlò/ (yesterday) and /ú:vìvì/ (dawn), which
are evidently derived from noun classes 5 and 11 where the
prefixes are /i:/ and /u:/ respectively. The allomorphs with-
out vowel length are gaining in usage.

15. The adjective root /njé:/ (so), which is probably the adverb
/njé:/ in copulative construction where it functions adject-
ivally, with final stress and latent vowel length,
e.g. /6á'njé:, á"6á'njé:/ (they are so, they who are so,
indicating number with the fingers, size with the hand, etc.),
so that it is treated as an adjective root from which the
adverb /ká'njé:/ (like this, so) is then derived[ii].

16. The agentive extra prefixes /sǐ:, zǐ:, zǐ:N, 6ǔ:/,
e.g. /sǐ:hlàlò/ (by/it is a chair).
These examples of inherent length have arisen probably on
analogy with the agentive extra prefix /lh/ in conjunction
with the noun prefixes /i:/ and /u:/ of noun classes 5 and
11. The difference is that inherent length resides in the
noun prefix here and the alternative to /lhí:khèhlá/ is
/yhí:khèhlá/, whereas the alternative to /sǐ:hlàlò/ is
/yhìsíhlàlò/[ii]. We would not expect to find such agentive
prefixes in noun classes 1, 3, 4, 6, 9, but the possibili-
ties are realized elsewhere in all classes except 2 and 15,
where /*6ǎ:/ and /*kǐǐ:/ do not exist. Some speakers deny

[1i] The question of the interrelationship of stress and length is
discussed under 2.5.2. below.

[ii] The adverb /njé:/ has the allomorph /njénà/ and the positional
forms /njálò/ (thus) and /njèyà: ~ njè:yàyâ:/ (as yonder) as
though it were a demonstrative; it also has the interrogative
form /njàní/ (how?). Like /njé:/ itself, these forms are
treated as adjective roots from which the adverbs /kánjàní/
and /ká'njálò/ are then derived. The original adverbs are now
used only in a few fixed expressions,
e.g. /úshò njé:, úshò njálò/ (he says so, he says thus)
     /ngénzè njàní/ (how am I to act?, what am I to do?).
Otherwise the adverbs /njé:/ and /njálò/ are now widely used
with the meanings of "just" and "always" respectively, in
which case /njé:/ (determining nonfinal forms) occurs as /njè/
(determining final forms), but a direct contrast is observable
only with the verb /sho/: /úshò njé:/(he says so) and /ú'yáshò
njè/ (he simply speaks).

[iii] Because of this difference I interpret as /lhí:khèhlá/ rather
than as /lǐ:khèhlá/, a somewhat arbitrary judgement (see
3.2.3.2.ii).

the existence of /6ǔ:/ (class 14) also.

17. The verb prefix in dependent positive copulative constructions,
    e.g. /úmà sî:khǒná, úmà 6ê:khǒná/ (if we/they are present),
    cf. /sìkhǒná, 6ákhǒná/ (we/they are present)[i].
    The high-to-low falling tone often occurs as a high level tone.
    This example of inherent length is probably due to contraction
    from /*sílì, *6álì/[ii], /li/ being the base to which verbal
    concords are prefixed in dependent copulative constructions
    in Southern Suthu and other languages.

18. The progressive implication prefix /sá/ occurs as /sê:/ in
    copulative constructions, probably due to contraction from
    /*sálì/, /li/ being the verbal base for all copulative con-
    structions in some languages,
    e.g. /sìsê:khǒná/ (we are still present).

19. The relative concords /a:, e:, o:/, which are optional allo-
    morphs of /a, e, o/ in relative copulative constructions
    without verbal concords, i.e. constructions based on adjec-
    tives (especially monosyllabic stem adjectives) and self-
    standing possessives (especially possessive pronouns),
    e.g. /à6ántù á:6à6í/ (evil people)
         /á!6ámì, é!zámì, 6!wámì/ (mine).
    With adjectives, only the present positive forms have no verbal
    concords, e.g. /á:6à6í/ (who are evil), cf. /á6ángè6à6í/ (who
    are not evil).

20. Ideophones and interjections, where inherent length occurs not
    in affixes but in roots,
    e.g. ideophone /zwî:/ (of flinging through the air).
         interjection /èhhê:/ (of assent, "yes").
         Also /ú:'mâ:/ (my mother).

Note:

(a) The reason why inherent length is treated as a long vowel rather
    than as a double vowel is apparent tonologically. Whereas the
    noun prefixes /i:/ and /u:/ could be described as /ii/ and /uu/,

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[i] Here it may seem that vowel length is imposed: /sì, 6á > sî:, 6ê:/,
     but the difference is described in terms of different
    morphemes or different allomorphs of the same morpheme.
    Beuchat[10] discusses this question: she seems to favour the
    latter treatment on the grounds of economy.

[ii] In dependent negative copulative constructions /*síngàlì >
    *síngè: > síngè/, and there is no phoneme of vowel length.

the subjunctive and potential negative infixes /ngâ:/ and
/ngê:/ could not be described as /*ngââ/ and /*ngêê/ be-
cause such forms could not be realized except as /ngââ/
and /ngêê/ due to tonal displacement.

.(b) Most of the occurrences of the phoneme of inherent length
represent contractions and coincide with the high-to-low
falling tone. Lanham makes much of this coincidence, so
much so that he marks inherent length only when it does
not coincide with this tone. This confuses the distinc-
tion between inherent and imposed length, for the length
concomitant of this tone is a manifestation of either
inherent or imposed length, and sometimes of both at
once[1]. Lanham marks the length concomitant where it is
imposed but not where it is inherent. He writes, "A high
degree of internal confict is implied in an analysis (sic -
I would say "in a system") in which length is employed
not only to signal junctures of high frequency (imposed
syntactical length) but also as a high-frequency phoneme
which distinguishes morphs (inherent morphological length).
It is barely conceivable that a linguistic system would
tolerate such conflict. It is our decision therefore
to regard inherent length as a "leftover" phoneme and to
mark it only where it occurs with high or low tones and
not where it coincides with the high-to-low falling tone"
(p.152-153). I do not see how this decision resolves the
conflict.

2.5.1.2. Imposed length

Imposed length /+/ functions syntactically to demarcate certain
syntactical units or phrases:-

1. Delimitative + substantive
2. Substantive + qualificative
3. Qualificative +/- adverbial
4. Predicative +/- adverbial
5. Substantive (subject) +/- predicative
6. Predicative (- object concord) + substantive (object).
7. Predicative (- object concord) + substantive +/- adverbial

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[1] e.g. /î:zwî+/ (a word), where the two phonemes of vowel length
coincide in the penultimate syllable so that the length con-
comitant is a manifestation of both/:/ and /+/ at once.

There are also combinations of these units, which do not pre-
tend to constitute the complete list.

Note:

(a) The syntax class of substantive consists of nominals (inde-
pendent nominals or nouns, and selfstanding dependent
nominals or adjectives, pronouns and demonstratives). Quali-
ficatives are adjectives and possessive nominals. Delimita-
tives are pronouns and demonstratives. The syntax class of
predicative consists of verbs. Adverbials consist of gender-
less nominals or adverbs and most inflected nominals, and
they may or may not constitute syntactical units with pre-
ceding words (hence "+/- adverbials" above), depending upon
whether they are strong adjuncts or weak adjuncts. Adverbs
of time are weak adjuncts, particularly /mánjè/ (now).
"Substantive +/- predicative" also may or may not consti-
tute a syntactical unit :/àbántù bàfíkìlè+/ (the people
have arrived) or /àbántù + bàfíkìlè +/ (the people, they have
arrived). "Predicative + substantive" constitutes a syntac-
tical unit only if there is no object concord :/sìbónà
àbántù +/ (we see the people), cf. /sìyàbàbónà + àbántù+/

(we see them, the people), where the syntax unit is shown
by the use of the object concord, the final form of the verb
tense, and imposed length. There are no syntax units
"qualificative + substantive" and "substantive + delimitative",
for when qualificatives and delimitatives change their normal
word order they change their function to substantive, e.g.
/àbántù àbá'khúlù +/ (the big people), cf. /àbá'khúlù +
àbántù +/ (the big ones, the people), and /bónkè àbántù/
(all the people, cf. (àbántù + bónkè +/ (the people, all of
them).

(b) Imposed length functions to demarcate syntax units, which is
why it is marked at the ends of words instead of in the pen-
ultimate syllable where it actually occurs. The intonational
phonemes /./, /?/, /!/, and /,/ whose main constituent is
pause, demarcate syntax units known as sentences and clauses
respectively. The length phoneme /+/ demarcates syntax units
known as phrases and it is not normally accompanied by pause
and does not normally affect the close transition from word
to word in Zulu. Phonemes that demarcate as opposed to those
that differentiate, are conventionally called juncture
phonemes.

(c) Imposed length or "penultimate length" is generally regarded
as the marker of the word as a phonological unit. However,
I agree with Lanham when he writes that "penultimate length,
which is often accepted as a criterion for word division, is
found to demarcate syntactic structure and not, in normal
speech, words individually" (p.22) – "in normal speech",
because penultimate length has the potentiality for occurr-
ence with almost all words, and in slow speech this potential-
ity may be realized. Even here, however, there are some words
with which penultimate length cannot occur: ideophones,
monosyllabic words and words with final length or stress (e.g.
third position demonstratives and inflected monosyllabic
demonstratives and adverbs). According to Lanham words are
grammatical units, not phonological units, but I suggest
that they are also phonological units marked by primary stress
(see 2.5.2.1.).

(d) I do not agree with Lanham's decision not to mark inherent
length when it coincides with the high-to-low falling tone
(see Note (b) under 2.5.1.1.). I therefore do not agree
with him when he writes of this tone (p.157) that "the occurr-
ence of its length concomitant in word-penultimate syllables
may reduce the efficacy of imposed length as a contrastive
unit" (it is inherent length which sometimes does this) and
that "the most serious threat to the system is that of the over-
lapping of its length concomitant with imposed length" (it
is inherent length which sometimes does this). As he himself
says, the coincidence of this tone with imposed length is
"a regular occurrence" for the former is conditioned by the
latter; when the latter is absent, the former is substituted
by high or low tones according to the rules of tonal grammar.
This substitution, he says, does not always operate. He gives
the example of /wâphá +/ (he gave) which maintains this pattern
always, and concludes that "imposed length must be marked in
every occurrence of this form" (p.158); but this form is
/wâːphá +/ finally and /wâːphá/ nonfinally, i.e. the vowel
length represents both /ː/ and /+/ finally and only /ː/
nonfinally. Thus it is inherent length which must be marked
in every occurrence, not imposed length.

(e) Therefore, there is a possibility of overlapping between /ː/
and /+/, a complete overlapping in which the feature of
vowel length represents both /ː/ and /+/ at once. Lanham
postulates a feature of "significant placement": "the

placement feature on which /+/ relies to separate it from
/:/ is its fixed position in relation to grammatic word-
boundaries", i.e. the penultimate syllable. However, when
words having inherent length in the penultimate syllable
occur at the ends of phrases, it is impossible to separate
these two length phonemes. This situation arises with mono-
syllabic stem nouns under the heading 1 above (see 2.5.1.1.),
e.g. /îːzwí +/ (a word), and with monosyllabic stem verbs
under the headings 2 to 8 above (see 2.5.1.1.), e.g.
/wâːdlá +/ (he ate), /àngêːdlɛ́+/ (he cannot eat).

2.5.2. Stress

The suprasegmental features of length and stress are so closely
interrelated that it is extremely difficult to separate them. There
appear to be two stress phonemes in Zulu, a primary penultimate
stress which serves to mark words and a secondary root-initial
stress which serves to mark roots. The situation is greatly com-
plicated by the fact that in the majority of words the root-initial
syllable is the penultimate syllable of the word so that the two
stress phonemes completely overlap, and also by the fact that this
syllable also bears the phoneme of penultimate length. Further-
more, there are indications both that stress is sometimes a non-
distinctive concomitant of length and that length is sometimes a
nondistinctive concomitant of stress. The situation is so complex
and the nature of stress itself so elusive, that I would regard
this section as almost hypothetical and so subject to verification[i].

2.5.2.1. Primary or word stress functions to demarcate words.

(i) Doke[11] writes that "full length is usually found in the
position of main stress" (p.180) and that "main stress is normally
on the penultimate syllable of the word" (p.183). He also records
main stress on the final syllables of words incorporating the
suffixes /yâː/ (third position demonstrative) and /êː/ (nonfinal
form of the present perfect tense), and of inflected monosyllabic
demonstratives and adverbs (p.187). In all these cases stress
coincides with syllables incorporating either imposed penultimate
length or inherent final length, which suggests the nondistinctive-
ness of stress.

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[i] The stress which sometimes gives prominence to a final syllable
is emphatic stress due to "emotional overlay" and therefore
outside this study. At most it could be regarded as a consti-
tuent of an intonational phoneme.

(ii) Lanham[12] regards stress as nondistinctive, being
"predictable in terms of length and sometimes high pitch" (p.161).
He specifically mentions the monosyllabic demonstratives, the
demonstrative suffix /yâː/ and the perfect suffix /êː/ as sylla-
bles of particular prominence, which he attributes to the combina-
tion of length and high pitch. However, the monosyllabic demon-
stratives and adverbs are not prominent as to length (they do not
have length in standard speech) nor as to pitch (they do not have
the high-to-low falling tone), but they are nevertheless prominent.
This prominence is particularly noticeable when they are inflected,
e.g. /kú'ló/ (to this one, with final stress), /6á'lá/ (they are
here, with final stress), /úmà sîːlá /'if we are here, with final
stress), which shows the occurrence of stress apart from length.

(iii) Stress also seems to occur apart from length in the
penultimate syllables of words which do not terminate the syntax
units known as phrases. Penultimate stress, with or without pen-
ultimate length, therefore functions to demarcate words, and word
division suffices to mark it. The elision of final syllables does
not affect its function, and word division together with the apos-
trophe still suffices to mark it. Final elision occurs most often
within phrases, e.g. /sìbón' àbántù+/ (we see the people), but
the presence of penultimate length is no bar to its occurrence
between phrases, e.g. /sìyàbàbón' + àbántù+/ (we do see the people)[i].

(iv) Although penultimate stress and penultimate length are
separate features, stress nevertheless cannot occur in the penultimate
syllables of words which cannot take syntactical length. Here
we see the interrelationship between length and stress. Such words
are monosyllabic words and words incorporating the phoneme of morpho-
logical length in the final syllable, where stress is not penulti-
mate but ultimate. Doke[11] writes that "main stress is normally
on the penultimate syllable of the word" (p.183), but that with some
words it is "on the final syllable of the word" (p.187). It is

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[i]
Nouns of classes 9, 5 and 11 with monosyllabic stems are liable
to lose word status in certain constructions,
e.g. /àngízwà-zwí+/(I hear no word) with penultimate length and
stress on "zwa",
cf. the Natal alternative /àngízwà lìzwí+/;
e.g. /àkúkhò-njá+/ (there is no dog) with penultimate length and
stress on "kho",
cf. the Natal alternative /àkúkhò ìnjá+/.
After demonstratives: /lélì-zwí+/ (this word), /lê-njá+/ (this
dog), /léyò-njá+/ (that dog), to which there are no alternatives.

therefore to be designated not as penultimate stress but as
primary or word stress. Word division still suffices to mark
it with monosyllabic words, and with words in which it is con-
ditioned by the phoneme of morphological length in the final
syllable, e.g. the third position demonstrative with suffix /yâ:/
and the nonfinal form of the present perfect tense with suffix
/ê:/, it is marked as such.

(v) With these words incorporating final morphological length,
the presence of final stress together with the absence of penultimate
stress is so strongly distinctive that the presence of vowel length
itself tends to disappear. This is commonly the case with the non-
final form of the present perfect tense. The phoneme /:/ is never-
theless present, if not overtly as length then covertly as stress.
In words with penultimate stress, stress often coincides with pen-
ultimate syntactical length; in words with ultimate stress, stress
often coincides with ultimate morphological length. That this is
so shows the interrelationship between length and stress. That the
coincidence is not absolute shows the distinctiveness of primary
stress.

(vi) Inflected monosyllabic demonstratives and adverbs are also
words which cannot take imposed penultimate length, and I attribute
the fact to the presence of the phoneme of morphological length in
the final syllable. That these words have no final length in the
standard dialect, that they are not contractions[i], and that it is
only when they are inflected that it is necessary to resort to the
postulation of latent final length (when uninflected they are stressed
as monosyllabic words and there is no need for this postulation),
raise the question: is final stress conditioned by final length or
final length by final stress? which is the conditioning factor?
Stress does condition slight lengthening, which could account
for the vowel length that is sometimes apparent in monosyllabic words

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[i] The forms /lónà, lénà, lánà/ which occur as allomorphs of the
demonstratives /ló, lé, lá/ in substantive function only, are
expansions for the sake of penultimate stress rather than the
reverse. On the other hand the adverb /lá/ could be described
as a contraction of the full form /láphà/. To suggest that /ló,
lé, lá/ are contractions of /*lówù, *léyì, láwà/ (first posi-
tion forms) an analogy with /lówò, léyò, láwò/ (second position
forms) is purely hypothetical, except in the case of /láwà/,
which is rather an expansion of /lá/ than the reverse.

(see 2.5.1.1: 11, 12, 13). Here we see a different sort of
interrelationship between length and stress. However, the
interpretation of final length as a nondistinctive concomi-
tant of final stress would deny placement in the final sylla-
ble to the phoneme of inherent length. There is no reason
why it should not occur there and it undoubtedly does in
the case of the suffixes /yâ:/ and /ê:/ (see 2.5.1.1: 9 and
10). Furthermore, the present perfect tense suffix /ê:/
provides evidence of the stress effects of latent final length,
and these effects are identical in the inflected monosyllabic
demonstratives and adverbs. I therefore give a unitary
interpretation and set up /ló:, lé:, lá:/ and /lé:, lá:/ as
the inflectional allomorphs of the monosyllabic demonstratives
and adverbs (see 2.5.1.1: 11 and 12)[i]. With these words im-
posed length cannot occur penultimately because of the presence
of latent final length, e.g. /sìlá:/ (we are here), but in-
herent length can occur penultimately, e.g. /úmà sî:lá:/
(if we are here). Here length and stress clearly occur as
separate distinctive features: the first syllable is length-
ened but not stressed and the last syllable is stressed but
not lengthened.

(vii) Ideophones are also words which cannot take pen-
ultimate length nor therefore penultimate stress. The position
here is unique in that ideophones cannot take penultimate length
regardless of whether they are monosyllabic or polysyllabic
and regardless of whether they have inherent length in the
final syllable. As defined by the criterion of primary stress,
they are not words. Lanham writes with regard to ideophones
that "the function of length as a demarcator is completely
suspended, --- and there is no alternative to the isolation of
ideophones according to their grammatic identity" (p.12-13)[12].
However, ideophones are phonologically definable in terms of
open transition, for they are set apart before and after by
the juncture of open transition (see 2.5.5. Transition).
This setting apart is shown in transcription by the use of
inverted commas,
e.g. /wâ:wà wáthì "gùmbùkùqù" phánsì/ (he fell down head over
heels),

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[i] The fact that vowel length is sometimes apparent dialectically
corroborates this interpretation.

/índlù yâːwà yáthì "wòlòkòhlò" phánsì/ (the house fell down crash). Although ideophones do not have imposed syntactical length, they have inherent morphological length, and although they do not have primary word stress, they have secondary root stress.

2.5.2.2. Secondary or root stress functions to demarcate roots.

(i) Apart from ideophones, the position with regard to root stress is complicated by the fact that root stress often coincides with word stress, for the first syllable of the root is generally the penultimate syllable of the word and the two stress phonemes overlap on this syllable. With ideophones, however, there is neither imposed length nor primary stress and the position is at its clearest. Ideophones have stress on the first syllable of the root. This stress tends to condition slight lengthening, particularly in monosyllabic ideophones, and in polysyllabic ideophones it tends to condition high tones, e.g. /gúmbùkùqù ~ gùmbùkùqù/ and /wólòkòhlò ~ wòlòkòhlò/. The phoneme of inherent length sometimes overlaps with the length concomitant of stress in monosyllabic ideophones, e.g. /zwîː/ (of flinging)[i]. Ideophones are uninflectionable so that the first syllable of the root is always the first syllable of the word, and we could consider the occurrence of primary stress on initial syllables if it were not for the evidence of root stress elsewhere in the language. It is true that root stress is far more prominent in ideophones than elsewhere, but this is due to the absence of the stronger primary stress.

(ii) The most attractive evidence for the existence of root stress apart from ideophones is the mutual exclusiveness of (kh) and (k) and of (ng) and (ŋ) according to the presence or absence of root stress: only (kh) and (ng) can occur in root-initial syllables and only (k) and (ŋ) can occur elsewhere. It is not possible to present these sounds as allophones conditioned by root stress, however, because of the Zululand pronunciation /lókhù, lókhò; khòná/ (demonstratives and pronoun) instead of the Natal pronunciation /lókù, lókò; kòná/, (cf. adverb /khòná/), and because of the use of /ng/ in all positions dialectically.

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[i] In Doke's Grammar monosyllabic ideophones are marked /zwíː/, zwîː/, /zwîːː/, where I would mark them /zwî/ (length due to stress), /zwî / (length due to stress and tone), /zwîː/ (length due to stress and tone and inherent length). They refer to great noise, singleness ("only one"), and flinging through the air.

(iii) Although root stress often coincides with word stress
in penultimate syllables, this coincidence is removed when deri-
vative suffixes are added to noun and verb roots and when the
"enclitics" are added to verb stems. Regarding the suffixing of
the "enclitics", /phi/ (where?), /ni/ (what?), /ke/ (so, then),
/ze/ (with nothing), /yo/ (signifying the end of certain relative
constructions), Doke writes that they "draw forward the main stress"
(p.185 - 186)[ii], to which I would add "but not the secondary stress".
The existence of secondary stress is most strikingly revealed by
its neglect in the pronunciation of students who have been taught
that stress falls on penultimate syllables only, in derivations
such as /sìyàbónà̱+ > sìyàḇònìsísà̱+/ (we see > we see clearly) and
/ín'kôsì+ > ínḵǒsíkà̱zì+/ (chief > chief's wife), and in expressions
such as /ùphúmàphí+/ (where do you come from?), /bàf̱únàní+/ (what
do they want?), /ókhùlúmàyò+/ (he who speaks), and in polysyllabic
stem words such as /úm̱sèbênzì+/ (work), /úm̱hlàbâthì+/ (soil),
/g̱ìjímà̱+/ (run!)[i].

(iv) The syllables marked by root stress are not always
historically root syllables. The initial syllable of the adverb
/khòná/ is historically a concord, but the pronunciation /khòná/
instead of /*kòná/ shows that it is now the root. The pronunciations
of /mánjè+ ké/ (now) as /m̱ánjèké:/ (final stress)[ii] or /m̱ánjèké+/
(penultimate stress) indicate that /ma/ is regarded as the first
syllable of the root and not as a derivative prefix. The pro-
nunciations of /ná'm̱ûhlà + njé/ (today) as /nám̱hlànjé:/ (final
stress)[ii] or /nám̱hlànjé+/ (penultimate stress)[iii] indicate that
/na/ is regarded as the first syllable of the root and not as an
inflectional prefix.

(v) Secondary stress has less prominence than primary stress.
Doke [11] mentions "half length and secondary stress" (p.180) in the
penultimate syllables of words within phrases, e.g. /sìbón' ín'kôsì+/
(we see the chief), which I would regard as primary stress super-
imposed upon secondary stress without penultimate length, and
"secondary stress not necessarily involving length" (p.183) in the

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i
    Also note the alternative pronunciations /léyònjá, léyòndlù/
    (that dog, that hut, with penultimate stress) and /léyò-njá,
    léyò-ndlù/ (with primary stress on "le" and secondary stress
    on the root).

ii
    As in rhetorical introduction: "and so now", "and so today".

iii
    Or /nám̱'hlánjè+/.

root syllables of words with derivative suffixes, e.g.
/siyàbònìsísà+/ (we see clearly), which I would regard as secon-
dary stress also. The example /sìbònìsís' ín'kôsì+/ (we see the
chief clearly) illustrates (from left to right) root stress
separately, word stress separately, and coincidentally root stress,
word stress, and penultimate length. Doke draws attention to the
interrelationship between length and stress which confuses the
issue, but it is apparent that root stress has less prominence
than word stress.

(vi) It is difficult to detect secondary stress when it occurs
immediately before primary stress, e.g. /bàbònê: ín'kôsì+/ (they
have seen the chief) and /báyíbònílè+/ (they have seen him). When
the root syllable is further from the syllable of primary stress
its stress becomes more apparent, e.g. /bàbònìsê: ín'kôsì+/ (they
have shown the chief) and /báyíbònísílè+/ (they have shown him).
It is noteworthy that Doke never shows secondary stress on
syllables immediately preceding penultimate syllables.

(vii) When secondary stress occurs immediately after primary
stress in final root syllables, it tends to disappear completely.
With words having disyllabic stems, primary and secondary stress
coincide, but with words having monosyllabic stems, the root
syllable is final and subject to final elision. Primary word stress
is marked by word division, but secondary root stress is not indi-
cated in this study.

2.5.3. Intonation

(i) Lanham[12] distinguishes between "checked" and "unchecked"
length (p.159). There are two types of checked length, inherent
morphological length and imposed syntactical length, separated by
a feature of placement. There are also two types of unchecked length,
also separated by a feature of placement. Unlike Lanham I regard
unchecked length as nondistinctive in itself but as a constituent
of intonational phonemes whose main constituent is pause.

(ii) Another type of unchecked length is sometimes imposed
upon syllables already characterised by checked length, either pen-
ultimate imposed or ultimate inherent. This is an exaggeration due
to "emotional overlay" and it is commonest with third position
demonstratives, e.g. /nà:zíyâ:/ (there they are over there) >
/nà:zíyâ:--/ (there they are over the--re - South African English

indicates distance in the same way). However, I have excluded
"emotional overlay" from this study.

(iii) The overall intonation of the Zulu sentence is
"downdrift": the tonal level declines, flowing from high at the
beginning of the sentence to low at the end. This "downdrift"
is not distinctive; it is the intonational phonemes at the end of
the sentence that are distinctive. The constituents of these
phonemes are pause, length, pitch, tempo, and "finality"
in various combinations. Pause is the only constituent that
occurs in all intonational phonemes. The intonational phonemes
are as follows:-

A. Hesitation Intonation / - - - /

This phoneme corresponds to "umming and arring" in English.
Its main constituent is pause, as in English, and this pause may
be filled by unchecked length in the same way as in English it may
be filled by "ums" and "ars". There is also a pitch constituent
consisting of a tonal change from low to high, which naturally
affects low tones only. The placement of this phoneme is in the
final syllable of syntax units indicated by the phoneme /+/, e.g.
/ìsíthèló + --- síyáfùnékà kíthì sónkè +/ (the fruits - - - are
required from us all), where /ìsíthèlò+ > ìsíthèló+ - - -/[i], but it
occasionally coincides with inherent final length, without im-
posed penultimate length e.g. /ìsíthèlò lè:sìyá: - - - síyáfùnékà +/
(those fruits yonder - - - are required), where /lè:sìyâ:>
lè:sìyá: - - - /, for penultimate length cannot occur with
these words.

B. Statement Intonation /./

The main constituent of this phoneme is pause; it also has the
constituent of unchecked length and a pitch constituent consisting
of the falling of tone on the penultimate syllable and the lowering
of tone on the ultimate syllable. This constituent is always realised:
falling tones fall further and low tones are lower[ii]. I use Guthrie's
term, "final cadence"[13], to refer to the combination of these con-
stituents of length and pitch. The placement of the length feature

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[i] I am indebted to Lanham for this example.

[ii] The example of /ín'káóí > ín'kâóì +./ (ox) seems to illustrate
the effects of this pitch constituent perfectly, but in fact
/ín'kâóì/ is conditioned by /+/ and not by /./. It is a case
of substitution of tonal allomorph: HH > HL L+.

is in the penultimate syllable of syntax units indicated by the
phoneme /+/, where it coincides with penultimate length and re-
sults in extra vowel length. When a statement ends in a word
with which the phoneme /+/ cannot occur, only the pitch constituent
of final cadence is realised and then only in the final syllable.
This phoneme marks the end of a sentence which is then followed
by a new sentence or by no sentence, a feature described as
"finality", the termination of "downdrift".

C. Question Intonation /?/

Only questions without interrogative words employ this in-
tonation; otherwise the statement intonation is used, the interro-
gative words being sufficient to indicate the question. This
phoneme also has pause as its main constituent but not the con-
stituents of length and pitch comprising final cadence. Thus
the presence of final cadence signals statements and questions with
interrogative words, and its absence signals questions without
interrogative words. This phoneme also has the constituent of tempo
in which a faster speed of speech is used together with a higher
pitch throughout the sentence, the latter being an effect of the
former. This constituent covers the whole sentence and lessens
the effect of "downdrift". This phoneme is also characterised by
the feature of "finality".

D. Exclamation Intonation /!/

This phoneme has the constituents of both statements and
questions: pause, length and pitch (final cadence, the character-
istic of statements), tempo (the characteristic of questions), and
also the feature of "finality".   There is sometimes a dramatic
drop in tonal level in the penultimate syllable via final cadence.
Questions with interrogative words often use this intonation, for
questions are often more exclamatory than statements.

E. Comma Intonation /,/

Whereas /./, /?/, /!/, demarcate the boundaries of sentences,
the phoneme /,/ demarcates the boundaries of clauses. It therefore
does not have the feature of "finality",   nor does it have the
feature of final cadence. Its only constituent is pause.

Note:

(a) These five phonemes do not pretend to be a complete statement
     of the intonational phonemes of Zulu. The stress which is

sometimes apparent on a final syllable is emphatic stress due
to "emotional overlay", possibly to be treated as a constitu-
ent of an intonational phoneme or of three further intonations,
emphatic statement, emphatic question, emphatic exclamation
(see footnote under 2.5.2.). It is sometimes accompanied by
a raising of the tone.

(b)   These intonational phonemes occur not only in the Nguni lan-
guages but also in the Suthu languages, as recorded by Tucker[14]:
"in a normal statement the penultimate syllable is lengthened"
but "in a question the penultimate syllable is not lengthened"
- "very often this shortening of the penultimate syllable is
the only distinction between a question and a statement".
Letele[15] explicitly states that length occurs on the penultimate
syllable of a sentence, but that "when interrogative words are
not used, absence of length on the penultimate syllable dis-
tinguishes interrogative sentences from non-interrogative
sentences" (p.6). Tucker also writes that "the long penul-
timate syllable of a normal statement has a falling tone",
and that in hesitation "the final syllable of the word is
lengthened". Penultimate length never occurs in the middle
of a sentence in Suthu, unlike imposed syntactical length in
Nguni with which intonational length is superimposed in
statements.

2.5.4. Juncture

Phonemes that demarcate as opposed to phonemes that differentiate
are conventionally called junctures. Thus the phoneme /:/ (inherent
morphological length) and tonal phonemes differentiate in the same
way as segmental phonemes, whereas the phoneme /+/ (imposed syn-
tactical length) and intonational phonemes demarcate by signalling
the boundaries between certain syntactical units. The phoneme /+/
marks phrases, the phoneme /,/ clauses, and the phonemes /./, /?/,
/!/, different types of sentences. The marking of words by the
juncture phoneme of primary stress is acceptable to Doke ("in each
word there is one and only one main stress, usually on the penulti-
mate syllable",p.189)[11] but not to Lanham ("the word is phonolo-
gically definable only to a very limited extent",p.163)[12]. He
mentions penultimate length, for in slow speech all words may be
marked by it, but this is a distortion; and even so there are words
which cannot take it. He mentions open transition, for in slow
speech again all words may be marked by it, but again this is a

distortion. He concludes that although words are units readily identified by native speakers, they are identified grammatically rather than phonologically. He does not consider stress because he regards it as nondistinctive, whereas I suggest that it is distinctive and the marker of the word as a phonological unit.

Just as phonemes that differentiate may be described in terms of clusters of distinctive features, so may phonemes that demarcate or juncture phonemes. The pattern of contrasts of suprasegmental juncture phonemes is as follows:-

pause	length	pitch	tempo	"finality"	stress	Description	Symbol	Unit Demarcated
+	+	+	-	-		A. Hesitation	/---/	-
+	+	+	-	+		B. Statement	/./	sentence
+	-	-	+	+		C. Question	/?/	sentence
+	+	+	+	+		D. Exclamation	/!/	sentence
+	-	-	-	-		E. Comma	/,/	clause
-	+	-	-	-		Penultimate length	/+/	phrase
-	-	-	-	-	+	Primary stress	-	word

Note:

(a) Stress is irrelevant except as word stress. The slight vowel lengthening that stress conditions is not shown as a distinctive feature.

(b) Pause is the essential constituent of intonational phonemes, but the phonemes of penultimate length and primary stress demarcate without the use of pause.

(c) The length feature of the phoneme of penultimate length is checked, whereas that of the intonational phonemes is unchecked. All junctural length is imposed.

(d) The length feature of /---/ is different in placement from that of /./ and /!/, the former being ultimate and the latter penultimate.

(e)   The pitch feature of /---/ is different in its effect from
        that of /./ and /!/, the former causing the ultimate tone
        to change from low to high and the latter causing the
        penultimate tone to fall and the ultimate tone to lower.

2.5.5. Transition

The normal transition between words in Zulu is close transi-
tion. The pause constituent of intonational phonemes brings about
a break in close transition, which is juncturally and structurally
significant. Pause is not a constituent of the juncture phoneme of
phrases (penultimate length), nor of the juncture phoneme of words
(primary stress), and close transition maintains.

There is nothing to note with regard to close transition unless
there is a juxtaposition of vowels at the word-boundary. If the
vowels are the same the transition is easily effected, e.g.
/àmádbdà ámá'khûlú +/ (important men), where the vowels tend to
coalesce. If they are different the transition is effected via a
hardly discernible semivowel glide, /y/-like between /a/ and the
front vowels and /w/-like between /a/ and the back vowels, e.g.
/á6á'fázì (y)á6á'khûlù+/ (important women) and /à6ántù (w)á6á'khûlù+/
(important people). In normal speech final vowels are elided,
even across phrase boundaries but not across clause or sentence
boundaries because of pause.

Open transition occurs nondistinctively as a concomitant of
the pause constituent of intonational phonemes. Lanham records its
occurrence between demonstratives and nouns when the former precede
the latter not delimitatively as usual, e.g. /ló'múntù/ (this person),
but substantively in apposition, e.g. /ló ùmúntù/ (this one, the
person). Nevertheless I would consider the normal pronunciation
to be in close transition, e.g. /ló (w)ùmúntù/.

Open transition does occur distinctively, however, before and
after ideophones, e.g. /6à:6èhlézì 6éthì "dû" éndlìnì/ (they were
sitting absolutely quiet in the room). Thus the ideophone is set
apart by having a juncture of its own.

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CHAPTER 3

TONOLOGY

3.1. Historical Introduction

The first scientific study of tonal structure in Nguni languages was undertaken by Beach[1]. In an article entitled "The Science of Tonetics" he makes a number of pertinent and accurate comments. He points out the complex interrelationship in Nguni languages between the elements of phone, tone, stress, length: he notices the influence of phones on tones, he notices the influence of tone on length (" a falling tone takes more time to intone" than a level tone), and he remarks that stress is so closely bound to length, tone and phone, that "its separate analysis is a most difficult if not impossible task", as I have found indeed (see 2.5.2.). With regard to tone in particular, he states that "it is the relative pitch that is important and not the absolute pitch", a statement which later investigators have often reiterated. He sees that tones are arranged into tonemes just as phones are arranged into phonemes, so that the tonetic quality of a tone depends first and foremost on the toneme to which it belongs; it also depends, as he points out, on the phones with which the tone occurs, the context of tones, and the position of the word in the sentence. In this study it is still necessary to consider the effects of consonantal influence, tonal assimilation, and final cadence. Beach sets up three tonemes for Xhosa, the high and the low and the high-to-low falling toneme, and a "Table of Xhosa tonemes with rules for the occurrence of their principal members", i.e. allotones. He shows that most variations of the tonemic norm are due to consonantal influence. As Tucker says, "It was he who discovered the secret of the toneme in Xhosa, and the extraordinary influence exercised by the "breathy" sounds"[2]. Tucker briefly sets out Beach's analysis and system of tone-marking, which is the only specific account in existence, for Beach himself never published the results of his research on Xhosa tonetics and tonology.

Doke's "The Phonetics of the Zulu Language"[3] contains a detailed description of Zulu tonetics. Doke establishes nine tones or "tone points", and emphasizes that "it is not the absolute pitch of these tone points that is important, but the relative pitch", an almost exact repetition of Beach's statement. These nine tones

may be reduced on Doke's evidence to three tonemes: no. 1 (the
highest) and no. 9 (the lowest) may be eliminated altogether, as
the former is an emphatic tone due to "emotional overlay" and the
latter occurs only at the end of the sentence due to final cadence;
nos. 2 and 3 belong to the high toneme (Doke notes that they are
"commonly interchangeable"), and nos. 6 ("the first of the low
tones"), 7 and 8 belong to the low toneme; nos. 4 and 5 are not
attributable to either of these two tonemes on Doke's evidence,
and therefore could comprise a mid toneme. On my evidence,
however, the former belongs to the high toneme and the latter to
the low toneme. Doke makes a statement of great insight when he
writes, "We might liken the level tones to pure vowels, the rising
and falling tones to dipthongs, and the rising-falling tones to
triphthongs" (p.199),for he indicates that tonal glides are to be
interpreted as clusters of tonemes and not as tonemes in themselves.
He himself does not attempt to set up tonemes as he considers that
the advantage of simplicity resulting from the reduction of tones
to tonemes would be outweighed by the disadvantage of complexity
resulting from the number of tonological rules necessary to account
for allotonic variation . Further research has shown that this is
not the case: the reduction to tonemes enormously simplifies the
description of Zulu tonology (in fact it is possible only in terms
of tonemes), and the tonological rules are not as numerous as Doke
expected.

In my master's thesis[4] I set up three tonemes, the high toneme
having six allotones, the low toneme having four allotones, and the
high-to-low falling toneme having two allotones, with nine factors to
account for allotonic variation. This analysis was published in
summary form[5]. In this thesis I reduce the tonemes from three to two
by the elimination of the high-to-low falling toneme as a toneme
cluster: the high toneme with four allotones, eliminating the mid
allotone in terms of tonal downstep and the extra high allotone in
terms of tonal upstep, and the low toneme with four allotones again;
and I reduce the conditioning factors from nine to three, for fur-
ther research has led to simplification. In the matter of tonemes
I have come to the same conclusion for Zulu as Lanham for Xhosa.
In his first analysis of Xhosa tonology[6] he set up the same three
tonemes,which in his final analysis[7] he reduces by the elimination
of the high-to-low falling toneme.

Lanham's excellent comparative study[8] contains two chapters
dealing specifically with tonology. In Chapter 6, "The Tonemes

of Xhosa", he sets up the two tonemes of Xhosa and discusses the
"environmental influences" giving rise to allotonic variation.
Here he deals with the influence of depressor consonants or
"depressors" (a term I propose to adopt), the tonal assimilation
of low tonemes, "the phenomenon of the tonal downstep" and "the
crescendo of high tonemes in sequence" which I would regard as
"the phenomenon of the tonal upstep". Tonal upsteps are as sig-
nificant as tonal downsteps, and both occur either overtly or
covertly between high tonemes in sequence. In my analysis of
Zulu tonology, I phonemicize covert upsteps as well as covert
downsteps. Lanham discusses "unpredictable downsteps" in detail
and sets up the phoneme of "step juncture" to account for this
phenomenon, but he regards "unpredictable upsteps" as predict-
able in terms of "the crescendo of high tonemes in sequence". I
do not agree with him here. I also query his omission of final
cadence from the "environmental influences", for in Zulu it is
certainly a conditioning factor of allotonic variation. In Chapter
7, "Comparison of Nguni Tonemic Systems",he discusses two points in
detail, toneme displacement and toneme clustering. These processes
occur in Zulu but not in Xhosa, which accounts for most of the
differences in tonal structure between the two languages. In
Zulu, falling tones arise as a result of the displacement of high
tonemes onto syllables bearing low tonemes, and this determines
the interpretation of all falling tones as toneme clusters. In
Xhosa there is no reason not to interpret falling tones in terms of
a third toneme: it is because of the evidence of Zulu that Lanham
does not do so. Tonal displacement is brought about by depressors,
and where it cannot occur (as, for instance, onto final syllables),
rising tones result. In Zulu the interpretation of rising tones as
due to the influence of depressors is complicated by the fact that
there are rising tones without depressors in the nominal extra pre-
fixes. Here Lanham postulates inherent low tonemes in the extra
prefixes and interprets these rising tones as toneme clusters; this
determines the interpretation of all rising tones as toneme clusters.
I prefer to postulate depressors with latent "heavy voice" quality
in the extra prefixes and interpret all rising tones as allotones
of the high toneme. Neither of these postulations is necessary in
Xhosa where there are no rising tones without depressors. Lanham's
consideration of these differences in tonal structure is thorough
and very valuable.

Rycroft is another investigator into the tonal structure of
Zulu [9,10]. Although he has no publication relating to the total

system, he makes many useful observations in the course of his treatment of particular aspects of it. These observations relate to downdrift intonation, tonal steps, final cadence, and consonantal influence, all of which are important factors in the establishment of tonemes. Rycroft writes in terms of "the three tonal categories, H, HL, L," but does not state that they are tonemes nor whether HL is a toneme in itself or a cluster of tonemes. His symbolization suggests, however, that there are two tonemes, H and L, with a toneme cluster HL. He has no toneme cluster LH, regarding all rising tones as allotones of the high toneme due to depressors. To make his treatment watertight, he postulates the extra prefixes /na−/ (conjunctive) and /∅ y w/ (agentive) as /nha-/ and /hh-/ respectively, with the observation that the latter "conventionally may be either left unwritten or written as y (before i) or w (before u)"[11]. I also adopt this interpretation of rising tones.

In his description of Zulu tonetics Doke demonstrates the ways in which tone is significant in Zulu[12]. It is significant semantically (I would say lexically) in pairs of phonetically identical words such as /àmá6èlé/ (corn) and /ámà6élè/ (breasts), /thàndá/ (wind round) and /thándà/ (like, love), /mìná/ (myself) and /mínà/ (here you are); it is significant grammatically in pairs of phonetically identical words such as /úmúntù/ (a person) and /ùmúntù/ (by a person), /ngìhlànzà/ (I wash - independent tense) and /ngìhlánzà/ (I wash - dependent tense); it is also significant in indicating emotions such as sarcasm and surprise, which is a matter of intonation rather than of tone, however, due to the effect of "emotional overlay". Doke gives long lists of words in illustration of the lexical and grammatical significance of tone, and this is useful material. Doke also writes a note on "the influence of phones on tone", but does not discuss the point in detail. Although he subsequently gives plentiful illustrations of consonantal influence in his analysis of "sequences of tones"[13], he gives no examples of the displacement of high tones by depressor consonants and does not mention it. As far as I know, I was the first to describe tonal displacement in Zulu together with other rules of morphotonemic change[14].

3.2. Tonemes

3.2.1. The intonational segment

Suprasegmental features cannot be identified in terms of absolute phonetic qualities, and this is particularly true of tone. Pike's

"special practical problems arising from the application of the
principles of phonemic analysis to tonal phonemes" are due to
this fact: "the relative nature of significant pitch units"[15].
The main problem is that the criterion of phonetic identity is
inapplicable in the setting up of tonemes, with the result that
there is wholesale overlapping between tonemes which would not and
could not be admitted in the case of phonemes. Furthermore, the
criterion of contrastive distribution is applicable only in a par-
ticular phonetic environment. This qualification is necessary in
Zulu because of the overall downdrift intonation of the sentence.
If it were not for the factor of intonation, there would be no need
to delimit the phonetic environment and the significant contrasts
between tonemes would be maintained throughout the sentence. This
is actually the case in the recitation of the traditional "izibongo"
or praise-poems, where the normal downdrift intonation is suspended[16].
In a nontonal language the suspension of intonation eliminates all
tonal distinctions, but in a tonal language it renders the distinc-
tions between tonemes significant at the syllable level clearly
apparent. In normal speech, however, it is necessary to take in-
tonation into account. Thus, in the absence of phonetic identity,
the criterion of contrastive distribution assumes paramount impor-
tance, but it is applicable only in a particular phonetic environment.

What is this phonetic environment? Because of the downdrift
intonation of the sentence which causes high tonemes at the end to
be lower in pitch than high tonemes and even than low tonemes at
the beginning, there is obviously some smaller unit than the sentence
within which the tonemes contrast significantly with one another.
This unit is the intonational segment between tonal steps, either
between upsteps or between downsteps. The high-low sequence re-
presents a tonal downstep and the low-high sequence a tonal upstep.
The former is always greater than the latter, due to the influence
of downdrift intonation. There are two interpretations of this fact,
either that tonal downsteps are due to the high-low toneme contrast
together with an element of downdrift intonation which lowers the
low toneme, whereas tonal upsteps are due to the low-high toneme
contrast alone, or that tonal upsteps are due to the low-high toneme
contrast together with an element of downdrift intonation which lowers
the high toneme, whereas tonal downsteps are due to the high-low
toneme contrast alone. If we accept the former interpretation, we
take the intonation segment between downsteps as the unit, thereby
eliminating the factor of intonation. In the sequence LHLHL these

units are then LH-LH-L, the first unit being on a higher tonal level than the second, and the second than the third. If we accept the latter interpretation, we take the intonational segment between upsteps as the unit, and in the same sequence these units are then L-HL-HL. This proves to be the better interpretation in practice, not only because it often gives a lesser number of intonational segments but also because the segmentation is not affected by the final elision of vowels or by the tonal assimilation of low tonemes to high tonemes. In the sequence HLHLLHLLHLL illustrated by the sentence /ízìnsízwà zìléthà àmágèjà+/ (the young men are bringing the hoes - in slow speech), the first interpretation gives five segments (H/LH/LLH/LLH/LL) to the latter's four (HL/HLL/HLL/HLL). On final elision in normal speech, /ízìnsízwà zìléth' á"mágèjà+/, the first segmentation is affected (H/LH/LLHH/"H/LL) but not the second (HL/HLL/HH/"HLL). Here final elision brings about a covert tonal upstep. In the sequence HLHLHLHLL illustrated by the sentence /láwàmákhèhlá+ àfíkìlè+/ (these old men, they have arrived - in slow speech), the first interpretation again gives five segments (H/LH/LH/LH/LL) to the latter's four (HL/HL/HL/HLL). On tonal assimilation in normal speech, /láwá"mákhèhlá+ á"fíkìlè+/, the first segmentation is again affected (HH/"H/LHH/"H/LL) but not the second (HH/"HL/HH/"HLL). In the sequence LLH'HL illustrated by the word /òzìnkó'mènì/ (amongst the cattle), the two interpretations give the segmentations LLH/'H/L and LL/H/'HL respectively. Here there is a covert tonal downstep brought about by tonal displacement. In a context of high tonemes, the initial low toneme may be assimilated but not the toneme of the depressor syllable. The first interpretation now gives four instead of three intonational segments (H/LH/'H/L), but the latter segmentation remains the same (HL/H/'HL). I therefore adopt the latter interpretation and regard the intonational segment between tonal upsteps as the unit within which significant pitch contrasts operate, and as the "particular phonetic environment" within which the criterion of contrastive distribution is applicable[i].

3.2.2. Phonetic environment

The following three factors of phonetic environment are relevant to the setting up of tonemes. The first factor (tonal steps)

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[i] Lanham refers to this unit as "tonal step", but this term is unsatisfactory because of the ambiguity of the word "step". It indicates the stepping up and the stepping down as well as the level step in between. Hence my use of the term "intonational segment" to refer to the level step, as distinct from the term "tonal step" to refer to the stepping up (upstep) and the stepping down (downstep).

relates to the unit of the intonational segment, the establishment of which eliminates the effect of downdrift intonation. This factor does not account for allotonic variation; it accounts for mid tones and extra high tones as high tonemes in subsequent intonational segments, on downstepped and upstepped tonal levels respectively. The other two factors account for allotonic variations.

3.2.2.1. Tonal steps

Tonal steps may be either downsteps to an intonational segment on a lower tonal level or upsteps to an intonational segment on a higher tonal level.

3.2.2.1.1. Tonal downsteps

Tonal downsteps are marked by the high-low tonal sequence. Where a low toneme becomes by tonal assimilation a high toneme, the overt downstep as in /ámàqháwè/ (warriors) and /îːqháwè/ (warrior) becomes covert as in /ámáqháwè/ and /íːqháwè/. These mid tones are not to be attributed to a mid toneme but to the high toneme in a subsequent intonational segment. The covert downstep is due to the disappearance of a low toneme and therefore must be marked as phonemic in itself, which is done thus: /ámá'qháwè/ and /íː'qháwè/. The disappearance of a low toneme is sometimes due to tonal displacement, e.g. /ámàqháwè > nhàmá'qháwè/ (with warriors), /èzìnkó'ménì < *èzínkòménì/ (amongst the cattle). Covert downsteps between high tonemes in sequence are not always due to the disappearance of an intervening low toneme. Such downsteps occur with nouns having monosyllabic prefixes, e.g. nouns of class 9: /ín'sìzwà/ (young man), /ín'kósí ~ín'kòsì +/ (chief)[1]. Such downsteps also occur with self-standing possessive pronouns, e.g. /óː'wámì/, /áː'6ámì/, /éː'zámì/ ("mine" in different nominal classes), with inflected demonstratives, e.g. /kú'lábà/, /kú'lézì/, /kú'láwà kú'láː/ ("to these ones" in different nominal classes), with inflected adverbs, e.g. /6á'láphà ~6á'láː/ (they are here), and with verbs in various inflections, e.g. / úkú'léthà (to bring), /úkúngàyí'léthì+/ (not to bring it).

The grammatical function of the covert tonal downstep is to mark the boundary of the tonal morpheme of the final couplet

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[1] The monosyllabic prefix may be due to historical elision: /*ini > *in̩ > iN/.

(couple of syllables), where it occurs between two high tonemes.
The final tonal morpheme is the most significant unit in Zulu
tonal morphology, as it determines the tone   classes of words.
It normally covers two syllables, but even when it covers a single
syllable as in monosyllabic words, it is still marked by the covert
tonal downstep when these words are inflected, e.g. /kú'ló:/ (to
this one), /6á'lá:/ (they are here), cf. /sìlá:/ (we are here).
When inflected monosyllabic demonstratives are prefixed to certain
nouns, two covert tonal downsteps occur successively, one to mark
the final tonal morpheme of the demonstrative and one to mark the
final tonal morpheme of the noun, e.g. /ù6úthùntù 6á'lémí'khóntò/
(the sharpness of these spears).

Lanham[17] records "unpredictable downstep" in Xhosa (p.86-88)
and in the other Nguni languages (p.119-120), and Tucker[18] records
it in the Suthu languages (p.101). It is also recorded further
afield, by Carter[19] in Plateau Tonga as "tone-slip" between high
tones, by Knappert[20] in Shona and other languages as "tone deflec-
tion", and by Kähler-Meyer[21] in several languages, who writes,
"Shambala has two tonemes, high and low, with a mid-tone variant
of the high toneme", which is apparently   the high toneme
on a downstepped intonational segment. It is   therefore a wide-
spread phenomenon in Bantu languages.

3.2.2.1.2. Tonal upsteps

Tonal upsteps are marked by the low-high tonal sequence. Where
a low toneme becomes by tonal assimilation a high toneme, the overt
upstep as in /á6àfányànà/ (small boys) becomes covert as in
/á6áfányànà/. These extra high tones are not to be attributed to
an extra high toneme, but to the high toneme in a subsequent intona-
tional segment. The covert upstep is due to the disappearance of a
low toneme and therefore must be marked as phonemic in itself,
which is done thus: /á6á"fányànà/. Covert upsteps between high
tonemes in sequence are not always due to the disappearance of an
intervening low toneme. Multiple inflection of nominals by extra
prefixes provides examples of such upsteps: /ùmúntù wá"kú'lówòmùzì/
(a person of (at) that kraal), /léngù6ò í"njéngàléyò ~ í"njé"nga'léyò/
(this blanket is like that one - the latter alternative is the Natal
Coast dialect where tonal displacement onto demonstratives is not
permitted).

The grammatical function of the covert tonal upstep is to mark the boundary of a tonal morpheme other than a final tonal morpheme, where it occurs between two high tonemes. It is the low-high distinction that tonal steps function to maintain: /sì6ónà á6àfánà á6àncánè/ (we see the small boys) is normally realized as /sì6ón' "á6á'fán' "á6á'ncánè+/.

Lanham[22] regards tonal upsteps between high tonemes as predictable in terms of "the crescendo of high tonemes in sequence" (p.94 for Xhosa; p.118 for Zulu), but I do not agree with him here. The position with regard to covert upsteps is similar to the position with regard to covert downsteps, and I therefore set up two junctural tonemes, /'/ (downstep) and /"/ (upstep), which contrast significantly with one another. Tucker[23] records the same situation in the Suthu languages, namely phonemic upsteps as well as phonemic downsteps. The function of these tonal steps in Suthu is to indicate the boundaries between words, whereas in Nguni it is to indicate the boundaries between tonal morphemes. Letele[24] elaborates on the function of tone in indicating "syntax relations" by classifying the "upstep relations" and the "downstep relations" of nouns and verbs with various parts of speech.

3.2.2.2. Final cadence

The intonational feature of final cadence appears to be as widespread a phenomenon in Bantu languages as downdrift intonation itself. It is more easily eliminated than the latter in the setting up of tonemes because it concerns only the last two syllables of the sentence. It is best to omit these syllables from consideration until the significant tonological units have been established. Final cadence has already been described under the heading of Intonation (see 2.5.3.) as a constituent of the phoneme of statement intonation. In Zulu the effect of final cadence on the ultimate syllable is a lowering of tone, giving an extra low allotone of the low toneme and a lowered high allotone of the high toneme, and on the penultimate syllable the effect is to give falling allotones of both the high and the low tonemes. The falling allotone of the high toneme is different from the high-to-low falling tone in that it does not fall from high to low but from high to mid, and the falling allotone of the low toneme is different in that it falls from mid to low. When the low toneme is raised initially by tonal assimilation from low to high, the allotone falls from high to low, but it is still distinct from the

high-to-low falling tone in that it moves more rapidly from high
to low. As Rycroft[25] points out, it is not sufficient to describe
these tones in terms of their initial and final pitches only. The
following examples show the effects of final cadence:-

/ín'sízwà+./   (‾‵͜)(young man). The high-to-mid falling
allotone of the high toneme, followed by the
extra low allotone of the low toneme.

/ín'kôsi+./   (‾ᴦ͜)(chief). The high-to-low falling tone
falls further in final cadence: it falls to
low with /+/ but to extra low with /+./.

/ínyònì+./   (‾ᴗ) or (‾ᴗ‗)(bird). The mid-to-low falling
allotone of the low toneme, or the high-to-low
rapidly falling allotone due to the combined
influence of tonal assimilation and final
cadence.

/ínkòmó+./   (‾ᴗ‗)or (‾ᴗ‗) (beast). The same allotones,
followed by the lowered high allotone of the
high toneme.

/íntòmbí+./   (‾ᴗ‚) or (‾ᴗ‚) (girl). The same allotones,
but the final syllable contains a depressor.

/ín'gánè+./   (‾⌢‗) (child). The tone on the penultimate
                                .syllable shows the allotones
/ím'vûlà+./   (‾ᴦ‗) (rain) . that arise in final cadence with
                                high toned depressor syllables.

/índòdà+./   (‾ᴗ‗) (man). The tone on the penultimate
                                syllable shows the allotones
/índlèbé+./   (‾ᴗ‚) (ear). that arise in final cadence with
                                low toned depressor syllables.

There is a further effect of final cadence: the tendency towards
devocalization of final vowels, which automatically brings about
detonalization of final vowels, e.g. /úm̥fúndìsí +./ (minister),
/úm̥núm̥zànè+./ (family head). Doke writes that "the final vowel is
never actually lost ―― (but that) this tendency is much more liable
to become complete with the nasals,"[26] expecially in address, e.g.
/m̥núm̥zàn+./ (sir!).

3.2.2.3. Consonantal influence

The influence of phones on tones has been noticed and dis-
cussed by all investigators of Nguni tonal systems: Beach, Tucker,
Doke, Lanham, Rycroft, and myself, in particular the lowering effect
of depressors. This phenomenon seems to be peculiar to the Nguni
languages within Southern Bantu, for it is not reported in the Suthu
or the Shona languages, nor in Venda by Westphal[27] nor in Tsonga by
Beuchat[28]. However, it is not limited to the Nguni languages within
the wider field of Bantu, for Carter reports it in Plateau Tonga[29];
nor to Bantu itself, for Welmers reports it in Kpelle[30], a Liberian
language. These scholars attribute the influence of depressors to
inherent low tonemes. Carter writes that the consonants are lower
in pitch than preceding or following vowels, so that preceding high
tones become falling tones and following high tones become rising
tones. Welmers transcribes /b, d, g, v, z/ as /ˊp, ˋt, ˋk, ˋf, ˋs/,
for it is unnecessary to indicate both the quality of heavy voice and
the low toneme. For this reason Beach comes to the opposite but
equally valid conclusion in Xhosa, and decides "to differentiate
between the two phones thereby causing the two tones to become mem-
bers of the same toneme, rather than to differentiate between the two
tones thereby causing the two phones to become members of the same
phoneme"[31]. This interpretation works well in Xhosa, where depressor
syllables bear only low or rising tones but not high tones, and where
rising tones occur only with depressor syllables. Tucker adopts this
interpretation for the Nguni languages in general[32], but as Lanham
points out[33], it is directly applicable only in Xhosa, for in Zulu,
although it is true that depressor syllables bear only low or rising
tones, it is not true that rising tones occur only with depressor
syllables. We cannot interpret rising tones sometimes as allotones
conditioned by depressors and sometimes as tonemes in themselves or
as toneme clusters. We must interpret rising tones uniformly, either
as the former or as the latter. There are arguments in favour of
both interpretations (see 3.2.3.2. below), but I adopt the interpre-
tation which treats all rising tones as allotones of the high toneme
conditioned by depressors. With regard to the nominal extra prefixes,
this interpretation involves the postulation of depressors whose
"heavy voice" quality is often latent.

The lowering effect of depressors is apparent not only with
high tones but also with low tones, where it conditions low tone
allotones of the low toneme. In the absence of depressors mid tones occur,

e.g. /àbázìbàlángà/ (⁻ ⁻ _ _ _) (they did not write them) with depressors,

/àbáyì6ònángà/ (⁻ ⁻ ⁻ ⁻ ⁻) (they did not see it) without depressors[i].

Beach and Tucker regard these mid tones as due to the influence of nondepressor consonants, and Lanham as due to the tonal assimilation of low tones in a context of high tones. I regard them as the norm, and the low allotones as due to depressor influence. The influence of depressors is also discernible in nondepressor syllables adjacent to depressor syllables. With high-toned nondepressor syllables slightly falling or rising or rising-falling tones may occur,

e.g. /ìnyémbèzì/ (⁻ ⁻ _ _) (tear),

/ìzìnyémbèzì/ (- - ⁻ _ _) or (- - ⁻ _ _) (tears),

/ú"njé'ngámì/ (⁻ ⁻ ╱ _) (he is like me).

With low-toned nondepressor syllables low allotones may occur instead of mid allotones,

e.g. /àbáyìbàlángà/ (⁻ ⁻ - _ _) or (⁻ ⁻ _ _ _) (they did not write it)[ii].

This is always so in subsequent nondepressor syllables,

e.g. /àbázì6ònángà/ (⁻ ⁻ _ _ ⁻ _) (they did not see them),

cf. /àbázìbàlángà/ and /àbáyì6ònángà/ above, where both syllables are depressor (/ziba/) and nondepressor (/yi6o/) respectively.

The effects of consonantal influence are outstandingly evident in the recitation of praise-poems, as Rycroft's transcriptions show so well[34]. In the absence of the normal downdrift intonation, "eulogistic recitation" employs only three levels of pitch throughout, apart from final cadence. These pitches are high (representing the high toneme), mid (a semitone lower, representing the mid allotone of the low toneme), and low (three semitones lower, representing the low allotone of the low toneme, which is used only with depressor syllables).

E.g. an extract from the praises of Shaka:-

/úShàkà ngìyèsá6' úkúthì ngù Shákà,/

(⁻ - - _ _ ⁻ ⁻ - _ ⁻ +)

/úShàkà kwákúyìnkósí yáséMàshóbénì./

(⁻ - - ⁻ ⁻ _ ⁻ ⁻ ⁻ - ⁻ ╲)

Note that /yi/ in /kwákúyìnkósí/ is not patently a depressor syllable and yet it bears the low pitch characteristic of depressor syllables, which corraborates the postulation of depressors with latent "heavy voice" quality.

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[i] Or (⁻ ⁻ ⁻ - ⁻) due to tonal assimilation of /yi/.

[ii] Or (⁻ ⁻ ⁻ _ _) due to tonal assimilation of /yi/.

Consonantal influence by depressors operates in conjunction with final cadence to give rising high-to-mid falling allotones of the high toneme and low-to-low (extra low) falling allotones of the low toneme on the penultimate syllable. In the absence of depressors the former becomes the high-to-mid falling allotone and the latter the mid-to-low falling allotone (see examples under Final cadence).

The full list of depressor consonants is as follows:-
b, d, j, g : v, z, hh ; gc, gq, gx ; ngc (nch), ngq (ngh), ngx (nxh); wh, lh, yh ; mh, nh, nyh (ɲh), ngh (ŋh). The last seven consonants are rare in the standard dialect, but although the phonal feature may not be present the tonal feature that it conditions is always present. These consonants occur generally only in the nominal extra prefixes, e.g. agentive nouns:
/hhíndòdà ~ yhíndòdà/ (ˊ _ _) (by a man), cf. /índòdà/ (ˉ _ _) (a man), /hhùmúntù ~ whùmúntù/ (- ˉ _) (by a person), cf. /ùmúntù/ (ˉ ˉ_) (a person), showing the allotonic effects with high and low tonemes respectively. In the absence of the consonant itself (the "zero allomorph" of the agentive prefix), the rising allotone of the high toneme and the low allotone of the low toneme assume great structural significance. This structural significance we must attribute to the consonant and not to the allotone that it conditions.

3.2.3. Tonal glides

There are two types of tonal glides in Zulu, up-glides or rising tones and down-glides or falling tones. They may be interpreted either as allotones or as tonemes or as toneme clusters. Lanham considers that whereas rising tones may be interpreted as allotones in Xhosa, they must be interpreted as toneme clusters in Zulu, and that whereas falling tones may be interpreted as tonemes in Xhosa, they must be interpreted as toneme clusters in Zulu[35]. He therefore interprets all tonal glides as toneme clusters in Zulu. I interpret falling tones as toneme clusters and rising tones as allotones of the high toneme.

3.2.3.1. Falling tones

Under Final cadence (3.2.2.2.) I showed the high-to-mid falling tone as an allotone of the high toneme and the mid-to-low falling tone as an allotone of the low toneme. I also showed the high-to-low rapidly falling tone as an allotone of the low toneme due to the combined influence of tonal assimilation and final cadence. I have

not yet accounted for the high-to-low falling tone in which the
glide represents the high and the low pitch registers more or less
equally. It is not an allotone conditioned by final cadence for
it occurs with or without final cadence. Its essential concomitant
is vowel length, either inherent /:/ length or imposed /+/ length,
but it is not an allotone conditioned by vowel length for high level
and low level tones also occur with vowel length. Its interpretation
as a toneme in itself is a possibility to be considered. Beach sets
up a falling toneme in Xhosa[36], and so did Lanham in his first analy-
sis[37]. Tucker sets up a falling toneme for all the Nguni languages[38],
and so did I for Zulu in my first analysis[39]. This interpretation is
not tenable in Zulu, however, for high-to-low falling tones are seen
to arise as a result of the tonal displacement of high tonemes onto
syllables bearing low tonemes, brought about by depressors,

e.g. /nha + ínyòní > nhènyôní+/ (with a bird),

/yhi + íntàmbò > yhìntâmbò+/ (by string),

/whu + ú6à6á > whù6â6á+/ (by father),

/ìsíhlàlò/ (chair) > /ìzìhlâlò+/ (chairs),

/ínkòmó/ (beast) > /ìzìnkômó+/ (cattle).

The clustering of high and low tonemes on a single syllable is also
seen to arise as a result of syllable elision, e.g. the contracted
noun prefixes of classes 5 and 11, 8 and 10: /ílìqháwè > î: qháwè/
(warrior), /ízìndúnà > î:ndúnà/ (headmen); and also elsewhere:
/6áyòhámbà> 6ô:hámbà/ (indefinite future tense), /là:6àyánà/ >
(probably) /là:6àyâ:/ (third position demonstrative suffix), and
/6á6ó'nílè/> (possibly) /6à6ònê:/ (present perfect tense suffix).
All these falling tones are clearly toneme clusters (H + L> H̲L̲),
and all falling tones are therefore to be interpreted as such even
when they cannot be seen to arise as such,
e.g. /ámá'khôsì+/ (chiefs), /ízìnkâ6í+/ (oxen), /sà:hâmbà+/ (we went).

    That vowel length is a necessary concomitant of falling tones
is shown by the fact that when imposed length is removed according
to syntactical rules, the falling tones are replaced by high level
or low level tones,
e.g. /ámá'khôsì+ > ámá'khósí/ (chiefs), /ízìnkâ6í+ > ìzìnkà6í/ (oxen).
Falling tones appear to be conditioned by vowel length in these
examples, but it is the conditioning of tonal allomorphs incor-
porating falling tones, not the conditioning of falling tones them-
selves. That falling tones are not conditioned by vowel length is
shown by the fact that when they coincide with inherent length,
they are frequently replaced by high level tones in normal speech,

e.g.   /sâ:hâmbà+ ∼ sá:'hâmbà+/ (we went),

/î:qháwè ∼ í:'qháwè/ (warrior),

/î:ndúnà ∼ í:n'dúnà/ (headmen), cf. /ín'dúnà/ (headman)

The interpretation of falling tones as toneme clusters is supported by Doke's statement relating to Zulu in particular, in which he likens rising and falling tones to diphthongs as opposed to level tones as monophthongs[40], and also by Pike's statement relating to tone languages in general, in which he writes that in a register system of level tonemes, glides sometimes occur as a result of juxtaposition, and that "if contrasting levels and glides are both found, the glides should be interpreted in terms of level tonemes"[41].

3.2.3.2. Rising tones

Under Consonantal influence (3.2.2.3.) I indicated that there are two interpretations of rising tones for which the pros and the cons are fairly equally balanced. The first, expounded in detail by Lanham[42], interprets rising tones as toneme clusters. The second, suggested by Rycroft[43], interprets rising tones as allotones of the high toneme. There is a third possibility which involves a methodological mixing of levels, and I would defend it only if its application were so successful as to validate its fundamental invalidity.

(i) Lanham's interpretation is based on the fact that rising tones sometimes occur without depressors. Here they are seen to arise as a result of the prefixing of low tone nominal extra prefixes to high tone noun prefixes in situations where tonal displacement is blocked by depressors,

e.g.   /nà + índòdà > nĕndòdà/ (with a man),

/yì + ímbàzò > yĭmbàzò/ (by an axe),

/nà + ízìnsízwà > nĕzìnsízwà/ (with young men),

/yì + ízìnqólà > yĭzìnqólà/ (by wagons),

/kúnà + índà6à > kú"nĕndà6à/ (rather than an affair)[i].

The clustering of low and high tonemes on a single syllable is also seen to arise as a result of syllable elision, e.g. the contracted noun prefixes of classes 5 and 11, 8 and 10: /ìlíkhèhlá > ï:khèhlá/ (old man), /ìzíndòngá > ï:ndòngá/ (walls). Lanham sees all these

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[i] Note the upstep. The low tone constituent of rising tones does not constitute a downstep.

rising tones as toneme clusters (L + H > LH), and he therefore
interprets all rising tones as such even when they cannot be seen
to arise as such, e.g. /ín'gắnè/ (child), /ín'dǔnà/ (headman),
/ìzíndà6à/ (affairs), /ìzíndòngà/ (walls), /èndǒdènì/ (to a man).
He attributes to depressors an inherent low toneme to explain these
rising tones.

The position relating to rising tones thus appears to be
similar to that relating to falling tones. Falling tones are seen
as toneme clusters resulting from tonal displacement and rising
tones as toneme clusters resulting from the blockage of tonal
displacement. Both types of glide are also seen to arise as a
result of syllable elision. However, this interpretation overlooks
the fact that the great majority of rising tones are undoubtedly
due to the "heavy voice" quality of depressors, and that they are
no more structurally relevant as allotones of the high toneme than
low tones are structurally relevant as allotones of the low toneme.
The influence of depressors in giving rise to nonsignificant variants
of the two structurally significant tonological units, the high
and the low tonemes, is a fact noted by all investigators of Nguni
tonal systems. To upset this obvious fact for the sake of rising
tones not patently conditioned by depressors is not justified from
the practical point of view. Furthermore, even these rising tones
are seen to be patently conditioned by depressors in dialects and
even in idiolects of standard speech where depressor sonorants and
nasals occur. Rather than interpret all rising tones according to
the minority that do not appear to be conditioned by depressors,
I would interpret all rising tones according to the majority that
undoubtedly do appear to be so conditioned.

There are five criticisms of Lanham's interpretation at the
tonological level:-

1. The overlooking of the fact that the great majority of
    rising tones are overtly conditioned by depressors.

2. The attribution of an inherent low toneme to consonants.
    Vowels bear tonemes in Zulu, but not consonants.

3. The low toneme constituent of the LH toneme cluster does
    not constitute a downstep as the low toneme constituent of
    the HL toneme cluster and as all other low tonemes.

4. The LH toneme cluster does not have the essential concomitant
   of vowel length that characterizes the HL toneme cluster.

5. A lack of economy in the marking of both the "heavy voice"
   quality and the inherent low toneme of depressors.

There are also two criticisms at the tonomorphological
levels:-

1. This interpretation necessitates the marking of rising tones
that are not structurally significant, for it is only the rising
tones occurring without depressors in nominal extra prefixes that
are sometimes structurally significant, e.g. /índòdà (a man) >
/yíndòdà ~ índòdà/ (by a man). This causes great complexity at the
tonomorphological level, for tonal morphemes incorporating high ton-
emes now have additional allomorphs in which H is represented by LH
wherever a high toneme coincides with a depressor syllable. This
complexity is at its greatest with the ◊HH◊ tonal morpheme, where
the allomorphs (HH ~ LH) ~ HLL are now represented as ((HH ~ LHH ~ HLH ~
LH-LH)~(LH~LLH)) ~ (HLL ~ LHLL). Although this complexity could
be reduced in description by a general statement on the influence
of depressors, it could not be avoided in transcription, e.g.
/ízìndǔnà/ (headmen) and /ízìnsízwà/ (young men) belong to the same
tone class characterized by the same tonal morpheme ◊HL◊; /ízìndòngà/
(walls) and /àmákhèhlá/ (old men) belong to the same tone class
characterized by the same tonal morpheme ◊LH◊.

2. This interpretation does not account for the low tones that
are sometimes structurally significant in nominal extra prefixes,
e.g. /ùmúntù/ (a person) > /ngùmúntù ~ wùmúntù ~ ùmúntù/ (by a
person), i.e. (⁻ ⁻ _) > (- ⁻ _). Here I would interpret in terms
of depressor influence on the low toneme (mid allotone > low allo-
tone), e.g. /ngùmúntù ~whùmúntù ~ hhùmúntù/, in the same way as I
would interpret in terms of depressor influence on the high toneme
(high allotone > rising allotone), e.g. /yhíndòdà ~ hhíndòdá/.
Lanham's interpretation accounts for the influence of depressors on
the high toneme but not on the low toneme; or for the effect of ex-
tra prefix inflection on the high toneme (L + H > LH) but not on the
low toneme (L + L > L). This weakness is serious in cases of latent
influence: /ùmúntù > ùmúntù/, which I would show as /ùmúntù >
hhùmúntù/[i].

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[i] Lanham shows /úmúntù > ùmúntù/, but /úmúntù/ can only be realized
as */ú'múntù/ (⁻ - _), and */ú"múntù/ (⁻ ⁻ _) can only be marked
as /ùmúntù/ (see 3.2.2.1. Tonal Steps).

(ii) Rycroft's interpretation is based on the existence of depressor sonorants and nasals we well as depressor stops (occlusives and clicks) and spirants (fricatives). I have corroborated Rycroft's observations by specific enquiry[i], and I therefore interpret all rising tones as allotones of the high toneme conditioned by depressors. In nominal extra prefixes with depressor sonorants and nasals, the rising tones are conditioned by depressors whose "heavy voice" quality is often latent. I would indicate the noun allomorphs of the agentive extra prefix as /ng ~ hh ~ yh ~ wh ~ lh/ instead of as /ng ~ ∅ ~ y ~ w ~ l/, which are realized as /(ŋg ~ ŋh ~ ŋ) ~ (hh ~ ∅) ~ (yh ~ y) ~ (wh ~ w) ~ (lh ~ l)/, the nondepressor variants being the commonest. Whatever the phonetic variant, however, the effect is always the same: the conditioning of the rising allotone of the high toneme and the low allotone of the low toneme.

This interpretation is not subject to the five tonological criticisms of Lanham's interpretation, but it could be criticized on the grounds that it marks features which occur only rarely in the standard dialect. This sort of situation is inevitable, however, owing to the factor of linguistic drift (see 1.1.2.). We have to describe the Zulu language as if it were static, but it is not; furthermore, it shows signs of having evolved rapidly in recent times.

The grammatical criticisms of Lanham's interpretation also do not apply to this interpretation. It has a weakness however: how do we treat the rising tones that arise as a result of contraction in the noun prefixes of classes 5 and 11, 8 and 10, and 2a? There is no depressor influence here, either covert or overt. The only solution is to indicate the noun prefixes of classes 5 and 11 as /ılí ~ ílì/ and /ùlú ~ úlù/ when necessary, for the normal allomorphs /í:/ and /ú:/ become /ĭ: ~ î:/ and /ŭ: ~ û:/ only in slow speech. This is the convention with the noun prefixes of classes 8 and 10, /izi/ and /iziN/, which are commonly realized as /ĭ: ~ î:/ but not normally as /í:/. Here the full forms are still in use, whereas the full forms /ili/ and /ulu/ are no longer so. The noun prefix of class 2a is a more real problem because there is no full form; the existence of /awo/ (Doke's Grammar) is so doubtful that most speakers do not recognise it.

This interpretation has a more serious weakness however: how do we treat the rising tones of the agentive prefixes /óŭ:, sĭ:, zĭ:, zĭ:N/ occurring commonly in the Natal dialect? Only the consonant

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[i] The alternative consonant pattern (see 2.2.3.) includes such sounds).

of the last two forms is a depressor. We cannot postulate latent
influence here, for the depressor counterpart of /s/ is /z/ and the
distinction between /sĭː/ (class 7) and /zĭː/ (class 8) depends
upon this contrast, and there is no depressor counterpart of /6/
as the lenis consonants do not reflect this contrast. There is no
alternative but to treat these rising tones as structurally signi-
ficant in themselves, and to set up a "leftover" toneme cluster LH
in accordance with Lanham's concept of "peripheral contrasts"[44].
The recognition of this toneme cluster in the case of /6ŭː/ and
/sĭː/ leads to its recognition in the case of /zĭː/ and /zĭːN/,
for these forms are all morphologically as well as tonologically
identical. Does its recognition in these cases lead to its recog-
nition in the case of the agentive prefixes of classes 5 and 11,
and to the interpretation of /lhíː/ and/lhúː/ as /lĭː/ and /lŭː/?
These prefixes are tonologically identical with the agentive pre-
fixes in question, but not morphologically identical. The latter
have arisen probably on analogy with the former, but whereas vowel
length is inherent in the noun prefix with the former, it is in-
herent in the agentive prefix itself with the latter. This is no
real reason, but we cannot admit the toneme cluster here. If we were
to do so, we would have to admit it in more and more cases and finally
arrive at Lanham's conclusion which I reject for the seven reasons
set out above. Somewhat arbitrarily I admit this toneme cluster
only in the case of the agentive prefixes /bŭː, sĭː, zĭː, zĭːN/;
and also in the case of the noun prefixes /ĭː, ŭː, ĭː, ĭːN, ŏː/ as
a better solution to the problem posed in the previous paragraph.
It also occurs in negative infix allomorphs of the present future
tense: /zŭkú ~ zŭː ~ zŭ/ (definite) and /yŭkú ~ yŭː ~ yŭ/ (indefi-
nite). The fact that vowel length is a necessary concomitant of
rising tones representing toneme clusters but not of rising tones
representing allotones of the high toneme, corraborates   this
decision.

(iii) In my master's thesis[45] I adopted an interpretation of
rising tones that differentiates between rising tones as allotones
phonologically conditioned by depressors and rising tones as toneme
clusters morphologically conditioned by nominal extra prefix in-
flection. This interpretation reflects a mixing of structural levels
that I cannot justify here. Lanham suggests this possibility for
practical purposes[46]: like Lanham, I could adopt it for practical
purposes only.

With regard to inherent vowel length, Lanham recognises it as
phonemic everywhere but does not mark it when it coincides with
the HL toneme cluster[47]. Similarly we could accept Lanham's
interpretation of rising tones as toneme clusters but mark them
only in the nominal extra prefixes where they are structurally
significant. This is tantamount to an admission of phonemic over-
lapping, and it is in fact the interpretation I adopted in my
master's thesis. Apart from the theoretical objections, the criti-
cisms against Lanham's interpretation apply partly to it, namely
the third and fourth tonological criticisms and the second tonomor-
phological criticism. And yet native speaker reaction accepts it
as the truest reflection of the facts, despite its fundamental
illogicality.

3.2.3.3. There is a third type of tonal glide which is simply a
combination of the other two tonal glides. It is interpreted
accordingly as the HL toneme cluster with depressor influence,
e.g. /nha + înjá > nhênjá +/ (with a dog) (⟍ ,),

. /yhi + înjá > yhînjá+/ (by a dog) (⟍ ,),

/ím'vûlà+/ (rain) (⁻⟍ _).

3.2.4. Tonemes

Taking the intonational segment as the unit within which tonemes
contrast significantly with one another (see 3.2.1.), and bearing
in mind the three factors of phonetic environment (see 3.2.2.) and
the fact that tonal glides are not to be interpreted as phonemes
(see 3.2.3.), I set up two differentiating tonemes, the high or H
or /´/ and the low or L or /`/, and two demarcating or junctural
tonemes, the upstep or /"/ and the downstep or /'/. All Zulu tones,
high, mid, low, extra-high and extra-low, rising and falling, may be
described in terms of these tonemes.

3.2.4.1. Differentiating tonemes

The high toneme has four allotones:-

1. The high level tone which is the norm.
2. The rising high tone conditioned by depressors.
3. The high-to-mid falling tone on penultimate non-
   depressor syllables or the rising high-to-mid-
   falling tone on penultimate depressor syllables in
   final cadence.

4.   The lowered high level tone on ultimate non-
     depressor syllables or the lowered rising high
     tone on ultimate depressor syllables in final
     cadence.

The low toneme has four allotones:

1.   The mid level tone which is the norm.

2.   The low level tone conditioned by depressors.

3.   The mid-to-low falling tone or the high-to-low
     rapidly falling tone on penultimate nondepressor
     syllables or the low-to-low (extra low) falling
     tone on penultimate depressor syllables.

4.   The extra low level tone on all ultimate syllables
     in final cadence.

3.2.4.2. Demarcating tonemes

The downstep toneme occurs between high tonemes in sequence,
so that the high toneme in the succeeding intonational segment is
mid high in relation to the high toneme in the preceding segment.

The upstep toneme occurs between high tonemes in sequence,
so that the high toneme in the succeeding intonational segment is
extra high in relation to the high toneme in the preceding segment.

Note:

(i) The question of tonemic overlapping is irrelevant outside
     the intonational segment because it is only within this
     unit that tonemic contrasts operate significantly. Here there
     is no overlapping between the two differentiating tonemes.
     Tonal steps also do not overlap: either the downstep or the
     upstep occurs to mark the boundaries between tonal morphemes.

(ii) Identification: The fact that suprasegmental phonemes do not
     have absolute phonetic qualities gives rise to difficulties
     of identification not encountered with segmental phonemes.
     The identification of tonemes in terms of significant con-
     trasts is possible only if the intonational segment within
     which these contrasts operate contains both high and low
     tonemes. If it contains only high tonemes or only low tonemes,
     there is indeed a difficulty of identification, for there is
     normally no difference between low tonemes after an overt
     tonal downstep marked by the sequence HL and high tonemes

after a covert tonal downstep marked by the sequence H'H. With
depressor syllables the difficulty is reduced by the character-
istic allotones brought about by depressor influence, and there
is no problem with such nouns as /ím'vúlá/ (rain) ($\bar{}$- $\bar{}$) and
/índòdà/ (man) ($\bar{}$ _ _). The problem is most acute with such nouns
as /ínkòsì/ (chief), /ínkà6í/ (ox), /ímfènè/ (baboon), /ímpàhlà/
(goods), /ínsìmì/ (field), with tonal pattern ($\bar{}$ - -). Do these
mid tones belong to the high toneme or to the low toneme? The
problem is solved by reference to tonal morphology: the identifi-
cation of tonemes is clarified when they are seen as constituents
of tonal morphemes whose morphotonemic alternations are established.
The context of imposed penultimate length provides a solution, for
the tonal morpheme ⦃HH⦄ has a special penultimate length allomorph
whereas the tonal morpheme ⦃LL⦄ has not, so that /ínkòsì/ is seen
to be /ín'kósí~ín'kòsì+/ and /ímfènè/ to be /ímfènè/. In final
cadence, however, where intonational length occurs concurrently
with syntactical length and all penultimate tones fall, it is often
difficult to distinguish between /ín'kòsì+./ ($\bar{}$ $\searrow$ _) and /ímfènè+./
($\bar{}$ $\searrow$ _). The locative inflection provides the best solution, for
HH > LHL and LL > HLL, and the identification of the mid tones of
these nouns is thus as follows: /ín'kósí⟨énkòsíní/, /ín'ká6í⟨énkà6íní/,
/ímfènè⟨èmfénèní/, /ímpàhlà⟨èmpáhlèní/, /ín'símí⟨énsìmíní/.

Westphal commences his tonal study of Xhosa nominals by saying that
"a tonemic analysis of Xhosa must follow and cannot precede a grammatical
analysis"[48], and Lanham concludes his study of Xhosa tonemes with an
appendix in which he writes that "(although) tonemic analysis does not
necessarily presuppose a complete analysis of tonal grammar, the inter-
pretation of doubtful tones according to tone patterns (tonal morphemes)
–––– becomes a normal procedure as the analysis of tonal grammar is
advanced"[49]. Although both these scholars somewhat overstate the case,
it is certainly often necessary to resort to tonal grammar to clarify
the identification of tonemes. In defence of this procedure, the use
of grammatical data to determine units at the phonological level, I
quote Welmers who writes that "(although) a phonological analysis
must be justifiable on phonological grounds, ––– the fact that an ana-
lysis may have been suggested by morphological data does not invali-
date it"[50].

3.2.5. An alternative interpretation

Seeing that the significant contrasts between tonemes depend upon
the distinctive feature of pitch alone, as opposed to the significant

contrasts between segmental phonemes which depend upon a maximum
of four distinctive features as to place of articulation and a
maximum of six distinctive features as to manner of articulation,
it is possible to set up the contrasts as phonemic in themselves.
In this analysis the contrasts are regarded as phonemic only when
they are covert between high tonemes in sequence, but it is possi-
ble to treat the overt contrasts as phonemic too. There are then
two tonemes, that represented by the HL contrast and that repre-
sented by the LH contrast. The toneme /'/, the tonal downstep,
occurs between the sequence HL as well as between high tonemes in
sequence, and the toneme /"/, the tonal upstep, occurs between the
sequence LH as well as between high tonemes in sequence, and there
is then no need to set up the two "segmental" tonemes, H and L, in
addition. Toneme patterns are described in terms of differentiating
"suprasegmental" tonemes instead of demarcating "segmental" tonemes,
as follows:-

> HL: "a6a'fa'na (boys), "in'si'zwa (young man),
>
> LL: a"ma'doda (men), "in'doda (man), "im'fene (baboon),
>
> LH: a"ma'khe"hla (old men), "in'to"mbi (girl), "in'ko"mo (beast),
>
> HH: "ama'khosi (chiefs), "in'kosi ~"in'kosi+ (chief), with the
>
> toneme cluster HL as a tonal downstep within the syllable.

An advantage of this interpretation is that it does not reflect
structurally irrelevant tonal changes. The use of the upstep mark
initially shows that the following syllable is on an upstep regard-
less of the tonal level of the final syllable of the foregoing word,
e.g. /si"6o'na "a6a'fa'na+/ (we see the boys - indicative mood),
/"si'6o"na"a6a'fa'na+/ (we see the boys - subjunctive mood),
cf. /si6ónà á6á'fánà+/ and /si6òné "á6á'fánà+/[i], and the non-use
of the downstep mark initially shows that the following syllable is
on the same tonal level as the final syllable of the foregoing word,
e.g. /si"6o'na a"ma'doda+/ (we see the men - indicative mood),
/"si'6o"ne a"ma'doda+/ (we see the men - subjunctive mood),
cf. /si6ónà àmádòdà+/ and /si6òné á"mádòdà+/[ii], where the tonal
change on the initial syllable of the noun is structurally
irrelevant. This system of tone-marking clearly shows the sig-
nificant contrasts because it shows only the significant contrasts,

---

[i] Normally realized as /si6óní "á6á'fánà+/ or /si"6on' "a6a'fa'na+/,
and as /si6òn' á6á'fánà+/ or /"si'6on' "a6a'fa'na+/.

[ii] Normally realized as /si6ón' á"mádòdà+/ or /si"6on' a"ma'doda+/,
and as /si6òn' àmádòdà+/ or/"si'6on' a"ma'doda+/.

the upsteps and the downsteps. It also clearly shows the effects
of tonal assimilation, e.g. /"e'masi"mi'ni > "emasi'mi'ni/, cf.
/émàsìmínì > émásí'mínì/ (in the fields),
of tonal dissimilation, e.g. /"in'si'zwa > "i'zin"si'zwa/, cf.
/ín'sízwà > ízinsízwà/ (young men),
of tonal displacement, e.g. /"in'ko"mo > izin"ko"mo+ ‿izin"ko'mo/
cf. /ínkòmó > ìzìnkômó+ ‿ìzìnkómò/ (cattle).

I do not adopt this interpretation here, however, because it
does not describe tonal morphology satisfactorily. Although it
avoids the problem of the identification of mid tones in cases such
as /"in'kosi/ (chief) and /"im'fene/ (baboon), it neglects the differ-
ence between /ín'kósí > énkòsínì/ and /ímfènè > èmfénènì/. Tonal mor-
phology is best described in terms of "segmental" tonemes consti-
tuting tonal morphemes or rather their realizations.

3.3. Toneme Clusters

There are two types of toneme cluster, the HL toneme cluster
and the LH toneme cluster. Lanham attributes inherent low tonemes
to depressors to account for the fact that the rising tones they
condition are identical to the rising tones conditioned by nominal
extra prefixes with inherent low tonemes, thus regarding the LH
toneme cluster as "central", while I, after Rycroft, attribute de-
pressors to nominal extra prefixes to account for the fact that the
rising tones they condition are identical to the rising tones con-
ditioned by depressors, thus regarding the LH toneme cluster as
"peripheral" on account of its low functional load. Both toneme
clusters occur with the concomitant of vowel length.

3.3.1. The HL toneme cluster

This cluster occurs with inherent morphological length /:/ in
the following instances:-

1. In the noun prefixes of classes 2a, 5 and 11, 8 and 10.
   In normal speech these prefixes occur as /ó:/, /í:/ and
   /ú:/, /î:/ and /î:N/ respectively. There is thus a ten-
   dency for the toneme cluster to be replaced by a high
   toneme, when it occurs with inherent length but not when
   it occurs with imposed length.

2. In the indicative past tense infix /â:/,
   e.g. /6â:6ònà kàhlé+/ (they saw well).

3. In the subjunctive past tense negative infix /ngâː/,
   e.g. /6ángâː6ónà kàhlé+/ (and they did not see well),
   and in the alternative infix /âː/,
   e.g. /à6âː6ónà kàhlé+/ (and they did not see well).

4. In the potential present tense negative infix /ngêː/,
   e.g. /àngêːbálè/ (he cannot write).

5. In the contracted third person prefixes of the indefinite
   indicative present future tense,
   e.g. /6áyòhámbà > 6óːhámbà/ (they will go),
   cf. /sìyòhámbà > sòːhámbà/ (we will go).

6. In the present perfect tense suffix /êː/, possibly a
   contraction of /ílè/.

7. In the third position demonstrative suffix /yâː/, pro-
   bably a contraction of /yánà/.

8. In the adverbs /nâː/ (interrogative) and /mâː/ (conjunctive).

9. In the verb prefix in dependent positive copulative constructions,
   e.g. /mâː sìːkhòná+/ (if/when we are there),
   and in the progressive implication prefix,
   e.g. /sìsêːkhònáʹ+/ (we are still present).

10. In certain ideophones and interjections,
    e.g. /zwîː/ (of flinging through the air),
    /wêː/ (hey! alas! take care!). Also /úʹmâː/ (my mother).

The HL toneme cluster occurs with imposed syntactical length /+/
in the following instances:-

1. As a constituent of certain tonal allomorphs:

   (a) Allomorph of tonal morpheme ⦃HH⦄,

       e.g. noun: /ámáʹkhòsì+/ (chiefs)
            adject: /ámáʹkhùlù+/ (big ones)
            adverb: /kùphêlà+/ (only)
            verb: /ùkúngàyíʹthêngì+/ (not to buy it)
                    /yìthêngè+/ (buy it!)

   (b) Allomorph of tonal morpheme ⦃LH⦄ after tonal displacement:

       e.g. noun: /ínkòmó (beast) > /ìzìnkòmó+/ (cattle)
            adverb: /zìkhôná+/, cf. /6ákhòná+/ (they are present)
            verb: /ùkúngàzìkhêthì+/ (not to choose them)
                    /zìkhêthé+/ (choose them!)

(c)   Allomorph of tonal morpheme �{LL} after tonal displacement:

     e.g. noun: /ínyònì/ (bird) > /ìzìnyônì+/ (birds)
        verb: /ɓàvùmìlè+/ (they have agreed)

2.   As a result of tonal allomorph contraction:

   (a)   Monosyllabic stem nominals with high tone final syllables:

       e.g. nouns of class 9:   /înjá+/ (dog), /întô+/ (thing)
            adjects of class 9:   /ênhlé+/ (good), /êmbí+/ (bad)
            adverbs: /mânjé+   mânjè+/ (now)
                            /ɓâphí+/ (where are they?)
            nouns of class 1a: /û⁻ +/ (no example)

     Note that nouns of classes 2a, 5 and 11, show an over-
     lap of the two length phonemes,
     e.g. /î:zwî+/ (word), /û:fá+/ (crack).

     Note that nouns of classes 8 and 10 have no contraction
     here,
     e.g. /ízìnjá+/ (dogs).

   (b)   Monosyllabic stem verbs with high tone final syllables,
       e.g. pres. neg. indicative: /àsîdlí+/ (we are not eating).
           pres. pos. potential: /sìngâdlá+/ (we can eat).

3.3.2. The LH toneme cluster

    This cluster occurs with inherent morphological length /:/
in the following instances:-

1.   In the noun prefixes of classes 2a, 5 and 11, 8 and 10.
    In normal speech these prefixes occur as /ó:/, /í:/ and
    /ú:/, /í:/ and /í:N/ respectively. Also note the numeral
    pronoun /zǒ:mbìlí < zòzínbìlí/ (both), cf. /zò:nhlánù <
    zòzìnhlánù < *zòzín'hlánù/ (all five).

2.   In the agentive prefixes of classes 7 and 8, 10 and 11:
    /sí:, zí:, zí:N, ɓú:/.

3.   In negative infix allomorphs of the present future tense:
    /zú:/ (definite) and /yú:/ (indefinite).

The LH toneme cluster does not occur with imposed syntactical
length /+/.

3.4. Morphotonology

Morphotonology accounts for the tonemic representation of tonal morphemes, that is for their realizationas as allomorphs. Morphotonemic changes may be described either in terms of "arrangement" (the IA method) or in terms of "process" (the IP method). They can always be described as arrangements, but they cannot always be described as processes. Thus /ìzìhlálò/ (chairs) cf. /ìsíhlàlò/ (chair) may be described as an arrangement:

LL prefix + HL stem with /izi/ prefix,
LH prefix + LL stem with /isi/ prefix,

and as a process: LL stem > HL stem due to the displacement of the prefix high toneme by the depressor; whereas /6àlímà/ (they plow) cf. /sìlìmà/ (we plow) may be described as an arrangement but not as a process, because it is not certain that the high toneme of the stem is the displaced high toneme of the prefix.

Where the cause of a morphotonemic change is certain, I describe the change as a phonologically conditioned process; where it is not certain, I describe the change as a morphologically conditioned arrangement. I would do the same with regard to morphophonemic change: I would describe palatalization in the formation of locative nouns as phonologically conditioned because the cause is obvious, e.g. /íngù6ò > *èngú6wèní > eĥgùtshéní/ (on the blanket), but in the formation of diminutive nouns as morphologically conditioned because the cause is obscure, e.g. /íntà6à > ìntátshànà/ (a small hill). I believe that the linguist should describe obvious causes: it is not sufficient to describe a change as an arrangement when the cause is obvious.

Phonologically conditioned morphotonemic variation is relevant to tonology, but not morphologically conditioned variation. Only the former type of alternation is therefore described in this section, the description of the latter type being deferred to the section on tonal morphology (see 5.4.).

3.4.1. Tonal Assimilation

This process causes a low toneme following a high toneme to become a high toneme, if the low toneme occurs in a nondepressor syllable, e.g. /bá60'nílè+/ (they have seen), but not if it occurs in a depressor syllable, e.g. /bábàlílè+/ (they have written), or often even in a syllable adjacent to a depressor syllable, e.g. /báhàmbílè+/ (they have gone).

Tonal assimilation takes place in many instances:
Within words it takes place with the noun prefix tonal morpheme ₥HI₦, e.g. /á6á'fánà/ (boys), cf. /ízìnsízwà/ (young men);
with the object concord of verbs in certain tenses,
e.g. /à6áyí'66nì/ (they do not see it), cf. /à6ázì66nì/,
      /síyí'6ɔná / (we seeing it), cf. /sízì6ɔná /;
and elsewhere,
e.g. /6áyá'66nà+/ (they see), cf. /sìyà66nà+/ (we see),
      /6á66'nílè+/ (they have seen), cf. /sì6ɔnílè+/ (we have seen),
      /à6ántù 6ákú'dálà/ (people of long ago), cf. /kùdálà/ (long ago).
Between words it takes place with the noun prefix tonal morpheme ₥LH₦,
e.g. /síthàndé á"má6èlé/ (we like corn - subjunctive),
  cf. /síthándà àmá6èlé/ (we like corn - indicative);
with the subject concord of verbs in certain tenses,
e.g. /6àyálìmà+ > 6á"yálìmà+/ (they plow),
      /6àlímìlè+ > 6á"límìlè+/ (they have plowed);
and elsewhere,
e.g. /ùkú6à síyí'léthé má"sí'nyánè+/ (that we should bring it soon).

Assimilation is virtually compulsory with a single low toneme, but optional with subsequent low tonemes, depending upon the speed of speech,
e.g. /émàsìmínì > émásìmínì ∼ émásí'mínì/ (in the fields),
      /6áyáyí'66nà+/ (they see it), cf. /sìyàyì66nà+/ (we see it).

There are certain contexts in which tonal assimilation does not take place. It does not take place on penultimate syllables (the syllables bearing primary word stress), where its operation would destroy the distinctiveness of the final tonal morpheme, both within words,
e.g. /à6áhlɔ6ɔ/ (friends), not */à6á'hl66ɔ/ as /á6á'fánà/ (boys),
      /àmákhèhlá/ (elders), not */àmá'khéhlà/ as /ámá'qháwè/ (warriors),
and between words,
e.g. /thìná 6àntù/ (we people), cf. /thìnì à6ántù/ (we, the people),
      /6éngàdlàlí kàhlé/ (they not playing nicely).

It does not take place on initial (between words) antepenultimate
syllables, where its operation would bring about either a covert
tonal downstep instead of an overt tonal upstep,

e.g. /thìná ɓàfánà/ (we boys), cf. /thìnꜜ áɓá'fánà/ (we, the boys),
 /ɓéngàkhùlùmí kàkhûlù+/ (they not talking very much),
 /ɓàlímà/ (they plow) does not > */ɓá'límà/,

or an overt tonal downstep instead of no tonal step,

e.g. /thìná màdòdà/ (we men), cf. /thìnꜜ àmádòdà/ (we, the men),
 /ɓéngàgwàzí ɓùkhòmó+/ (they not stabbing at close quarters),
 /sìlìmà/ (we plow) does not > */sílìmà/,

at the boundary of the final tonal morpheme. Here the effect is to
preserve the significant low toneme of the prefix,

e.g. /ɓàfánà, màdòdà/ (short form nouns),

cf. /ɓá'fánà, mádòdà/ (full form nouns with initial elision).
Note that tonal assimilation takes place regularly on noninitial
(within words) antepenultimate syllables,

e.g. /áɓá'fánà àɓáyí'ɓónì / (the boys do not see it),

cf. /ízìnsízwà àzízìɓónì / (the young men do not see them).

As to final syllables, tonal assimilation takes place only
in the absence of penultimate length. Here it operates not only
from low to high,

e.g. /áɓá'fáná ɓá"fíkìlè+/ (the boys have arrived),

cf. /áɓá'fánà+ ɓàfíkìlè+/ (the boys, they have arrived),

but also from high to low,

e.g. /àmákhèhlà àfíkìlè+/ (the elders have arrived),

cf. /àmákhèhlá+ á"fíkìlè+/ (the elders, they have arrived).

Whereas the assimilation of a single toneme is virtually compulsory
elsewhere, even in careful speech, here it is either optional or not
with a final low toneme and either compulsory or not with a final
high toneme, according to the context of tonal steps. With optional
assimilation the determining factor is simply the speed of speech.
Assimilation is optional with a final low toneme before a tonal
upstep, but not (it cannot occur) before a tonal downstep[i] ,

e.g. /àɓántù ɓádè / (the people are tall),

cf. /àɓántù á'ɓádè ~ àɓántú "á'ɓádè ~ àɓánt' "á'ɓádè/ (tall people);

e.g. /ámá'qháwè mádè / (the warriors are tall),

cf. /ámá'qháwè má'dálà ~ ámá'qháwé "má'dálà/ (the warriors are old);

e.g. /ɓàhlálá "kánjàní+/ (how do they live?),

cf. /ɓàhlálà kànzìmà+/ (they live with difficulty).

---

[i]   i.e. where such a step would arise if it did occur.

Assimilation is compulsory with a final high toneme before a
tonal downstep[i], but not (it can occur) before a tonal upstep,

e.g. /ízìthó "é'zíndè ~ ízìthò é'zíndè/ (long limbs),

cf. /ízìthò zíndè/ (the limbs are long),

cf. /ízìthó+ 'zíndè/ (the limbs, they are long);

e.g. /íntòmbí "én'kúlú kàkhûlù+/ (a very big girl),

cf. /íntòmbì énhlè kàkhûlì+/ (a very pretty girl),

cf. /íntòmbí+ 'énhlè kàkhûlù+/ (a girl, a very pretty one);

e.g. /màsíyílèthèlé "úkùdlá+/ (let us bring him food),

cf. /màsíyílèthèlè kòná+/ (let us bring him it);

e.g. /sâːbàlá "íncwàdí+/ (we wrote a letter),

cf. /sâːbàlà yòná+/ (we wrote the very one);

e.g. /úmà sì6ònà kàhlé/ (if we see well, with H > L),

cf. /sì6ónà kàhlé/ (we see well, without L > H),

cf. /sì6óná "ká'njálò/ (we see thus, with (or without) L > H),

cf. /úmà sì6òná "ká'njálò/ (if we see thus, without (or with) H > L).

The rules controlling the assimilation of final tonemes are thus
similar in principle to the rule that prohibits the assimilation of
low tonemes on initial antepenultimate syllables: the avoidance of a
covert tonal downstep instead of an overt tonal upstep and of an
overt tonal downstep instead of no tonal step, at the boundary of
the final tonal morpheme.

With inflected monosyllabic demonstratives and adverbs and with
words terminating in the perfect suffix /êː/ or the demonstrative
suffix /yâː/, the final syllables (the syllables bearing primary
word stress) are equivalent to penultimate syllables elsewhere in
that they are not subject to tonal assimilation, e.g. /6à6ònéː
kàhlé / (they have seen well), and the penultimate syllables are
equivalent to antepenultimate syllables elsewhere in that they are
subject to tonal assimilation within words (noninitially),
e.g. /6álí"méː kàhlé / (they have plowed well, cf. /6ágqòkóː
kàhlé / (they have dressed well), but not between words (initi-
tially), e.g. /thìná+ sìláː/ (as for us, we are here), cf. /bòná+
"6á'láː/ (as for them, they are here)[ii].

---

[i] i.e. where such a step would arise if it did not occur.

[ii] cf. /thìnà sìláː/ (we ourselves are here – compulsory final
assimilation),
/6ònà 6á'láː ~ 6òná "6á'láː/ (they themselves are here –
optional final assimilation).

There are certain instances where the rules of tonal assimila-
tion on final syllables are reversed. Whereas the assimilation of
a final high toneme before a tonal downstep is compulsory elsewhere,
here it does not occur,

e.g. /thìná 6àntù/ (we people, we Africans),

cf. /6òn(à) à6ántù/ (the people themselves);

e.g. /yhízòná zìndúnà/ (it is the very indunas),

cf. /yhízòn(à) ízìndúnà/ (it is the indunas themselves);

e.g. /síngà6òní mùntù/ (we not seeing anyone);

e.g. /yì6á-yhìnkôsì+/ (be a chief),

/ùkúngà6í-khòná/ (not to be present),

/ùkúngà6í-6ùkhálì, 6ùthùntù/ (not to be sharp, blunt).

Whereas the assimilation of a final low toneme before a tonal down-
step does not occur elsewhere, here it is optional before a covert
tonal downstep,

e.g. /àkúkhò nsízwà ~ àkúkhó 'nsízwà/ (there is no young man),

/léyò-nsízwà ~ léyó-'nsízwà/ (that young man),

/àsì6óní nsízwà ~ àsì6óní 'nsízwà/ (we see no young man),

/ùkú6à-láphà ~ ùkú6á-'láphà/ (to be here),

where the downstep is covert and there is optional assimilation,

cf. /àkúkhò 6àntù/ (there are no people),

/lá6ò-6àntù/ (those people),

/àsì6óní mùntù/ (we do not see anyone),

/ùkú6à-khòná/ (to be present),

where the downstep is overt and there is no assimilation.

These instances represent short form noun and copula verb constructions,
a type of syntactical relationship so close that it is often written
with hyphened word division, e.g. /thìná-6àntù/, /àkúkhò-6àntù/, or
even with no word division, e.g. /lá6ò6àntù/. Thus there is gram-
matical significance in the reversal of rules in these instances.
There are instances other than these constructions where this reversal
applies,

e.g. /síngà6òní kàhlé/ (we not seeing well),

/síngà6òní nhàkàncánè/ (we not seeing at all),

and where this reversal optionally applies,

e.g. /6â:phùmá kùdè ~ 6â:phùmà kùdè/ (they came from far away),

/úkùdlá 'kwéthù ~ úkùdlà kwéthù/ (our food),

/ízìthó 'zámì/ (my limbs), cf. /ízìthò zíndè/ (the limbs are long)[i]

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[i] It is significant that possessives take precedence in word order
over all qualificatives.

To sum up: tonal assimilation on final syllables does not operate with penultimate length, and without penultimate length it operates according to the context of tonal steps, except in constructions of the closest syntactical relationship.

Tonal assimilation sometimes operates retrospectively to a single initial syllable, so that noun prefixes such as /à6á, àmá, ìsí/ occur as /á6á, ámá, ísí/ in quick speech,

e.g. /á6ántwànà/ (children), cf. /ìzíndà6à/ (affairs);

whereas noun prefixes such as /á6à, ámà, ìsì/ occur as /á6á, ámá, ísí/ even in careful speech,

e.g. /á6á'fánà (boys), cf. /ízìnsízwà/ (young men).

Similarly /6àyávùmà+ > 6áyávùmà+/ (they agree) and /à6á'vúmì+ > á6á'vúmì+/ (they do not agree) in quick speech only, which I have excluded from this study.

Nevertheless it is important at least to illustrate the tonal levelling brought about by tonal assimilation in quick speech in the absence of penultimate length. With nouns and nominals without depressors, tonal levelling obliterates the tonal distinctions completely, for there is tonologically no difference between high tonemes after a covert downstep and low tonemes after an overt downstep,

e.g. /á6á'fáná ~ á6á'fán'/, i.e. /á6á'fánà/ (boys) ,
/ámá'khósí ~ ámá'khós'/, i.e. /ámá'khósí/ (chiefs),
/ámákhèhlà ~ ámákhèhl'/, i.e. /àmákhèhlá/ (elders),
/á6áhlòbò ~ á6áhlòb'/, i.e. /à6áhlò6ò/ (friends).

With nouns and nominals with depressors, the effect of tonal levelling is considerably reduced,

e.g. /î:nsízwà ~ î:nsízw'/, i.e. /ízìnsízwà/ (young men),
/î:mvùlà ~ î:mvùl'/, i.e. /ízìmvùlá/ (rains),
/ì:ntómbì ~ ì:ntómb'/, i.e. /ìzìntómbì/ (girls),
/ï:ndlè6è ~ ï:ndlè6'/, i.e. /ìzíndlè6é/ (ears),
/ì:ntámbò ~ ì:ntámb'/, i.e. /ìzìntámbò/ (strings),
/ï:ngù6ò ~ ï:ngù6'/, i.e. /ìzíngù6ò/ (blankets).

With verbs without depressors the tonal distinctions are apparent if not in the stems then in the prefixes, which are independent tonomorphologically here,

e.g. /sì66ná ~ sì66nı'/,i.e. /sì6ónà/ (we see - indep.pos.pres.indic.),
  cf. /sìlìmà ~ sìlìm'/,i.e. /sìlìmà/ (we plow);

e.g. /sì6ònà ~ sì6òn'/, i.e. /sì6òná/ (we see - dep.pos.pres.indic.),
  cf. /sìlímá ~ sìlím'/, i.e. /sìlímà/ (we plow);

e.g. /àsì66ní/, i.e. /àsì66nì/ (we do not see - neg.pres.indic.),
  cf. /ásí'límí/, i.e. /àsí'límì/ (we do not plow);

e.g. /ásí6ònè/, i.e. /àsí6òné/ (let us see - pos.pres.subject.),
  cf. /àsìlímé/, i.e. /àsìlímè/ (let us plow).

Nevertheless there are instances to tonal levelling,

e.g. /léth' "ìngù6ò ~ lêthá "ìngù6ò < lêthà íngù6ò/ (bring the blanket),
  /khèth' íngù6ò ~ khèthà.íngù6ò < khèthá "íngù6ò/ (choose the blanket),

for there is tonologically no difference between high tonemes before
a covert tonal upstep (or after a covert tonal downstep) and low
tonemes before an overt tonal upstep (or after an overt tonal downstep).
:

3.4.2. Tonal Dissimilation

This process causes high tonemes to condition low tonemes and low
tonemes to condition high tonemes, in certain instances. The main
instance is the determination of the noun prefix tonal morpheme.
If this toneme is low the prefix morpheme is ⟨LH⟩, e.g. /àmádòdà/
(men), /àmákhèlá/ (old men), and if it is high the prefix morpheme
is ⟨HL⟩, e.g. /ízìnsízwà/ (young men). Where the low toneme occurs
in a nondepressor syllable it becomes a high toneme by tonal assimi-
lation, e.g. /á6á'fánà/ (boys), /ámá'khôsì+/ (chiefs). Another
instance of tonal dissimilation results from the effects of tonal
displacement, e.g. /ínkòmó/ (beast) > /nhènkómò/ (conjunctive),
/yhìnkómò/ (agentive), /ìzìnkómò/ (plural), where the final high
toneme becomes a low toneme when the penultimate low toneme becomes
a high toneme. Thus a final high toneme requires a penultimate
low toneme for its realization,

e.g. /ínkòmó/ > /ìzìnkômó+ ~ ìzìnkómò/ (cattle),
    /ìnjá+ ~ ínjà/ (dog), cf. /ízìnjá/ (dogs);
e.g. /éngènhâyó+/ (he being not with it),
  cf. /éngènhángù6ò+/ (he being not with a blanket);
e.g. /6â:phùmâphí+/ (where did they come from?),
  cf. /6â:phùmá kùdè+/ (they came from far away)[i].

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[i] cf. /6àphúmàphí+/ (where do they come from?),
    /6àphúmà kùdè+/ (they come from far away).

Verbal examples such as /6áhàmbílè+/ (they have gone) and
/6àfíkìlè+/ (they have come) seem to reflect tonal dissimilation,
but a consideration of the forms /6áhàmbílè+, sìhàmbílè+/ (they/we
have gone) and /6àfíkìlè+, sìfìkìlè+/ (they/we have come) shows
that these examples reflect morphotonemic variation that cannot
be attributed to tonal dissimilation. These are morphologically
conditioned changes as opposed to phonologically conditioned changes.

3.4.3. Tonal Displacement

This process causes a high toneme on a depressor syllable to
be displaced onto the following syllable, but it cannot operate if
the following syllable is also a depressor syllable,

e.g. /ìsíhlàlò > ìzìhlâlò+ ~ ìzìhlálò/ (chairs),

     /ú:khàmbà > ìzìnkâmbà+ ~ ìzìnkámbà/ (clay pots),

     /ú:phàphé > ìzìmpâphé+ ~ ìzìmpáphè/ (feathers),

cf. /ímbàzò > ìzímbàzò/ (choppers), /ú:dòngá > ìzíndòngá/ (walls).

Tonal displacement is not prevented by a high toneme in the following
syllable,

e.g. /ín'sízwà > nhènsízwà/ (with a young man),

cf. /ín'gánè > nhén'gánè/ (with a child);

e.g. /ín'kâbì+ > ngènkâbì+/ (by means of an ox),

cf. /ím'vûlà+ > ngém'vûlà+/ (on account of rain);

e.g. /á6á'fánà > ngà6á'fánà/ (by boys),

cf. /ízìnsízwà > yhízìnsízwà/ (by young men);

e.g. /ngèsí'khûndlà+/ (by means of a position),

cf. /ngézìkhûndlà+/ (by positions).

Tonal displacement does not take place onto final syllables,
e.g. /ín'dúnà/ (headman), cf. /éndùnénì/ (to the headman).
Final syllables characterized by length and/or stress are exceptions,
e.g. /yhìló:/ (by this one - class 1 reference),

     /nhàlé:/ (with this one - class 9 reference),

     /ngàlá: ~ ngàláphà/ (hereabouts).

In the Natal Coast dialect tonal displacement does not take place
here, not because of final syllables but because demonstratives and
demonstrative adverbs do not permit it,
e.g. /ngá'lá: ~ ngá'láphà/ (hereabouts),

     /njé"ngá'lá: ~ njé"ngá'lánà/ (just like these ones),

cf. /njéngàlá: ~ njéngàlánà/ in the standard dialect.

Tonal displacement does not take place from long vowel syllables,

e.g. /yhí:'qháwè/ (by a warrior), /nhé:khèhlá/ (with an old man),
/zÏ:n'.sízwà/ (by young men), /zÏ:ntòmbí/ (by girls).

Tonal displacement occurs with nominals other than nouns. It
takes place onto nondepressor syllables but not onto depressor
syllables,

e.g. /é"sí6òmvú > ézì6òmvú+ ~ézì6òmvù/ (red),
cf. /é"sínzìmà > é"zínzìmà/ (heavy);
e.g. /6òná > yhì6òná+ ~ yhì6ònà/ (they, class 2),
cf. /zòná > yhízòná/ (they, class 10);
e.g. /khòná > yhìkhòná+ ~ yhìkhónà/ (there - adverb),
cf. /ízòlò > yhízòlò/ (yesterday - adverb).

It does not take place onto final syllables,

e.g. /zónkè/ (all), cf. /zònkánà/ (absolutely all).

The exceptions to this rule, stressed final syllables, are seen in
the monosyllabic demonstratives and demonstrative adverbs.

e.g. /ngàlá: ~ngàláphà/ (hereabouts).

It does not take place from long vowel syllables,

e.g. /mâ: zí:khòná+/ (if they are present),
cf. /zìkhòná+/ (they are present).

Tonal displacement occurs with verbs also. It takes place onto
nondepressor syllables but not onto depressor syllables,
e.g. /à6áyí'66nì, àzìyí'66nì, àzízì66nì/ (indep.neg.present tense),
e.g. /6áyívàlîlè+/ (they have shut it),
cf. /6áyí"gézìlè+/ (they have washed it).
It does not take place onto final syllables,
e.g. /ùkúyí'válà/ (to shut it),
cf. /ùkúzìvàlélà yòná/ (to shut it for them).
It does not take place from long vowel syllables,
e.g. /zâ:hâm6à+/ (they went).

The depressor sonorants and nasals of the nominal extra pre-
fixes, although the "heavy voice" quality is usually latent, not
only bring about tonal displacement but also act as a bar to tonal
displacement in the same way as all depressors, e.g. /kú"ngáyhìmfênè+/
(it may be a baboon). Rising tones block tonal displacement because
of the depressors that condition them, and the rising tone of the
LH toneme cluster blocks tonal displacement on analogy with these
rising tones, e.g. /kú"ngásÏ:'khúndlá "ésìhlé+/ (it may be a good
position).

3.5. Suprasegmental Phonemes

Here are considered the relationships between tone and the suprasegmental features of length, stress, and intonation; and also the tonal effects of juncture and transition.

3.5.1. Tone and Length. (see 2.5.1. Length)

The relationship between tone and length is that the toneme clusters have vowel length as a necessary concomitant. Inherent length occurs with both the toneme clusters and imposed length with the HL toneme cluster only. When imposed length is removed, the HL toneme cluster is replaced either by a high toneme,

e.g. /ísí'khwɛ̀mɛ̀+ > ísí'khwámá/ (bag),

/ìzìnkômó+ > ìzìnkómò/ (cattle), /ínjá+ > ínjà/ (dog),

or by a low toneme,

e.g. /ízìkhwâmà+ > ízìkhwàmá/ (bags),

/ɓâ:hâmbà+ > ɓâ:hàmbá/ (they went),

according to the rules of morphotonemic alternation. Inherent length is never removed in this way, but the toneme cluster is sometimes replaced by a high toneme,

e.g. /sì6ònê: à6ántù > sì6òné: à6ántù/ (we have seen the people),

/î:qháwè > í:'qháwè/ (warrior), /î:khèhlá > í:khèhlá/ (elder),

/ò:6à6á "6â:hâmbà+ > ó:6à6á "6á:'hâmbà+/ (our fathers went).

This replacement is correlated with the speed of speech. Vowel length occurs with high and low tonemes as well as with toneme clusters. It is an independent feature, but there is undoubtedly a relationship between it and the toneme clusters. The relationship between tone and length is also apparent in final cadence, where intonational length and allotonic variation by way of falling tones occur concurrently in penultimate syllables.

3.5.2. Tone and Stress (see 2.5.2. Stress)

Stress seems to occur both as a marker of words and as a marker of roots, but, apart from the tendency of initial stress in polysyllabic ideophones to condition high tones, e.g. /gúmbùkùqù ~ gùmbùkùqù/ (head-over-heels), there seems to be no significant relationship between stress and tone. It is true that penultimate syllables (the syllables bearing primary stress) are not subject to tonal assimilation, but so are antepenultimate and postpenultimate syllables in certain circumstances.

3.5.3. Tone and Intonation. (See 2.5.3. Intonation).

In general the effect of intonation on tone is to upset
the significant contrast between the two tonemes, so that it is
only within the unit of the intonational segment where intonation
has no effect, that this significant contrast operates. In
particular the effect of intonation on tone is to give rise to
several allotones of the two tonemes in final cadence. It is
only in hesitation intonation that there is a change in toneme,
where the speaker lengthens the final vowel and raises the final
toneme to indicate that he is still speaking.

3.5.4. Tone and Juncture. (See 2.5.4. Juncture)

Tone plays a part in indicating grammatical juncture, both
with and without vowel length. Tone and length operate together
in final cadence to indicate statements, and, in the case of the
◊HH◊ tonal morpheme, to indicate the syntactical unit of the phrase,
for (HH ∼ LH) > HLL₊. The force of penultimate length in indicating
the phrase is strengthened by the nonoccurrence of final tonal
assimiliation with it. The possibility of the occurrence of final
tonal assimilation without it indicates different types of syntactical
relationship within the phrase. In tonal grammar the covert tonal
steps play an important part in indicating the junctures between
tonal morphemes.

3.5.5. Tone and Transition. (See 2.5.5. Transition).

The normal close transition between words is reflected in
tone in that an initial low toneme remains low after a low toneme
but becomes high after a high toneme, except for initial penultimate
and antepenultimate tonemes which are not subject to tonal
assimilation.

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CHAPTER 4

Outline of Zulu Grammatical Structure

4.1. Introduction

This view of Zulu grammatical structure is based on Guthrie's strictly formal approach[i] and differs from the traditional "form and function" model established by Doke[1]. I have described the structural categories, their formal features and their functional interrelationships, in two articles: The Grammatical Structure of Zulu (African Studies)[2] and Nomino-Verbal Constructions in Zulu (African Language Studies)[3], particularly the first section, Outline of Zulu Grammatical Structure.

4.2. The tripartite basis

Zulu words are divisible phonologically into those with basic root structure C or CVC or CVCVC, e.g. /f/ (die), /6on/ (see), /gijim/ (run), and those with basic root structure CV or CVCV or CVCVCV, e.g. /thí/ (tree), /nkè/ (all), /chá/ (no), /fùlà/ (river), /khúlú/ (big), /fúthì/ (again), /bòxò/ (squelch), /hálàlá/ (hurrah). Morphologically they are divisible into words that are inflectionable, e.g. /úkùfá/ (class 15), /úkú'6ónà/ (class 15), /ùkùgíjìmà/ (class 15), /úmùthí/ (class 3), /6ónkè/ (class 2), /ùmfùlà/ (class 3), . /á6á'khúlú/ (class 2), and /fúthì/, and words that are uninflectionable, e.g. /chá/, /bòxò/, /hálàlá/. These divisions intersect to show three basic categories: _verbals_ (inflectionable words with C/CVC/CVCVC roots), _nominals_ (inflectionable words with CV/CVCV/CVCVCV roots), _particles_ (uninflectionable words with nominal-type roots)[ii]. The tripartite basis of Zulu grammatical structure is apparent at all levels[iii].

At the morphological level particles are distinct in that they are uninflectionable, whereas nominals and verbals are inflectionable

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[i] As presented in lectures on Bantu Grammar at the London School of Oriental and African Studies.

[ii] By "roots" I mean the cores to which inflections are affixed. These cores may or may not be fundamental roots diachronically or even synchronically, and I prefer in future to use the term stem.

[iii] See Hockett: A Course in Modern Linguistics: Grammatical Systems: Parts of Speech: The Tripartite Plan.

but differently so. With nominals there are two layers of inflection: the gender-number-person prefixes are affixed to the stem, e.g. /thí > úmùthí/, and the case prefixes to the word, e.g. /úmùthí > nhòmúthì, ngòmíthì, njéngòmûthí+/. I regard the former as simple forms and the latter as inflected forms, and the prefixes as prefixes and extra prefixes respectively[1]. With verbals there is only a single layer of inflection in which the gender-number-person prefixes occur together with the affixes of mood, tense, aspect, &c. All verbals are therefore inflected forms, even the nonfinite forms[ii]. These nonfinite forms show that the gender-number-person prefixes are not essential with verbals, whereas with nominals they are so, and the case prefixes are "extra" not only morphologically but also in that they are outside the gender system and in that they are not essential[iii]. Thus nominals have stems, simple forms and inflected forms, verbals have stems and inflected forms only, and particles have stems only[iv].

The tripartite basis is apparent syntactically as well as morphologically. Nominals function in several nominal syntax slots but not verbally (except that agentive nominals may function predicatively) or as particles (except that vocative nouns may function interjectively). Verbals function in the verbal syntax slot but not nominally (except the infinitive form) or as particles (except the imperative form). Particles function only as particles. In nomino-verbal construction, however, nominals function freely as verbals (in copulative constructions) and verbals function freely as nominals (in relative constructions).

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[1] These layers are essentially an inner derivational layer and an outer inflectional layer; hence "simple forms" and "inflected forms".

[ii] The infinitive form is both a verbal inflected form and a nominal simple form inflectionable by nominal extra prefixes.

[iii] Possessive prefixes are extra prefixes with gender reference, but they are nevertheless not essential.

[iv] Adverbs are exceptional as nominals in that they have only a single layer of inflection, so that the extra prefixes are not "extra" morphotactically; they are nevertheless "extra" to the gender system and in that they are not essential.

4.3. Morphology

4.3.0. Morphemes

Morphemes are the building-blocks of morphology; they comprise stems, prefixes and suffixes. Nominal and verbal stems have distinct sets of affixes which combine according to morphotactical rules. The term infix may be used for prefixes which occur only after other prefixes and the term pre-prefix for prefixes which occur only before other prefixes. I distinguish between derivational affixes bringing about either internal (/thenga thengisa/(buy ⁄ sell)) or external (/thenga > umthengi/(buy > buyer)) derivation, and affixes which are inflectional in effect; in this usage the term inflection does not indicate linguistic type or technique. The Bantu technique of word-building is agglutination, e.g. /a-ka-sa-ngi-bal-el-i/ (not-he-still-me-write-to-not-now, i.e. he does not still write to me), but there are instances of fusion, e.g. /6on+w+ile/ (see + passive derivational suffix + perfect inflectional suffix) > /6oniwe/ (to have been seen), and the special perfect stems of stative verbs, such as /gcwele/ (to be full) < /gwalile/ (to have become full). Variation in stems also results from the morphophonemic effects of palatalization, e.g. /6opha > 6oshwa/ (to be tied), /6ophela > 6oshelwa/ (to be tied to/for), and nasalization, e.g. /ámá'khósí/ (chiefs) > (ín'kósí/ (chief). Here the fusion at the morpheme boundary is relevant to tone-marking: /ín'kósí/ or /í'nkósí/? The nasal belongs to the prefix and the nasal compound belongs to the stem, but /ín'nkósí/ suggests a double nasal. I adopt /ín'kósí/ in this study, but I do not state that the boundary between prefix and stem lies within the nasal compound. The identification of morphemes and the determination of the boundaries between them do not directly concern this study.

4.3.1. Morphological classes

The three basic categories of Zulu grammar determine the three major morphological classes. Nominals and verbals have distinct sets of inflectional and derivational affixes, and particles are uninflectionable. The subdividion of particles into ideophones and interjections is doubtful morphologically, but ideophones are phonologially set apart by the absence of penultimate stress and close transition and by the presence of initial stress and open transition. There is no subdivision of verbals; hence the single morphological

class of verbs. Nominals are subdivided morphologically into
independent nominals belonging to short series, e.g. /úmùthí,
ímìthí, ùbùthí/ and dependent nominals belonging to long or full
series, e.g. adjectives: /ábá'khúlú, ámá'khúlú, ésí'khúlú/ &c.,
pronouns: /óónkè, sónkè, zónkè/ &c., and demonstratives or
selectors: /láóà, lésì, lézì/ &c.[i] There is also the subdivision
of genderless nominals or adverbs. The fact that they do not be-
long to genders renders them exceptional as nominals: they have
only the extra prefix layer of inflection, so that the simple form
is not prefix + stem but stem only, and they cannot support depen-
dent words by the operation of grammatical agreement. Adverbs
appear to have emerged fairly recently from the body of gender
nominals, for the majority retain initial elements of gender pre-
fix origin, e.g. /ma/ (class 6) in /mánjè/ (now), /màsínyà/ (soon),
&c., /pha/ (old class 16) in /phándlè/ (outside), /phákàthí/
(inside), &c., /ku/ (old class 17) in /kùdè/ (far), /kùfûphì/
(near), &c., /ka/ (old class 12?) in /kàhlé/ (well), /kàkhûlù/
(very much), &c. The latter is now a derivational prefix forming
adverbs from adjective stems, but the rest are difficult to isolate.
Likewise such words as /úvìvì/ (dawn), /ízòlò/ (yesterday),
/ná'mûhlà/ (today), /ngòmûsó/ (tomorrow), /ntá'mbámà/ (afternoon),
are now not nouns but genderless nominals, and /láphà/ (here - old
class 16 selector), /lókhù ~ lókù/ (always, since - old class 17
selector), and /khònà/ (there, then, when - old class 17 pronoun).

The morphological classes are the categories I set up as the
Zulu parts of speech:-

nominals:	gender nominals:	independent:	nouns
		dependent:	pronouns
			selectors
			adjectives
	genderless nominals:		adverbs
verbals:			verbs
particles:			ideophones
			interjections

4.3.2. Grammatical agreement

The system of grammatical agreement operates by means of gender-
number-person prefixes relating to the basic classification of nouns
into genders. This system is irrelevant with particles because they
are uninflectionable. With verbs it is relevant but not fundamental,

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[i] Selectors are words without stems, but they are otherwise regular
nominals.

but with nominals it is fundamental, for all nominals (except adverbs) by definition belong to genders.

There are thirteen noun classes arranged into eight genders. There is also an attenuated ninth gender: its remnants function mostly as adverbs, but the indefinite verbal prefix /ku/ which relates to it is in common use. The first five genders consist of pairs of classes, one to signify the singular and one the plural. Class 11 shares plural class 10 with class 9, thus constituting the sixth gender, and the remaining two classes (Meinhof's classes 14 and 15) comprise the seventh and eighth genders which are neutral as to number. It is only the prefixes of the personal gender that signify person as well as gender and number, so that the set of concords relating to this gender is far more complex than that relating to any other gender.

The following tables set out:

A. the gender system as illustrated by the noun prefixes,

B. the gender and grammatical agreement systems as illustrated by the prefixes of the first gender (nominal classeä 1 and 2), and

C. as illustrated by the prefixes of the sixth gender (nominal classes 11 and 10).

A. <u>Noun Prefixes</u>

Genders	Classes		"Full Form"	"Short Form"
1	1	sg	umu^i ~ u<u>m</u> (~um)	mu^i~ <u>m</u> (~m)
	2	pl	aɓa (~aɓ)	ɓa
	1a	sg	u	$\emptyset$
	2a	pl	o: (~o)	ɓo
2	3	sg	umu^i ~ u<u>m</u> (~um)	mu^i ~ <u>m</u> (~m)
	4	pl	imi ~ i<u>m</u> (~ im)	mi ~ <u>m</u> (~m)
3	5	sg	(ili~) i: (~i)	$\emptyset$ ~ li^i
	6	pl	ama (~a<u>m</u>)	ma
4	7	sg	isi ~ i<u>s</u> (~is)	si ~ <u>s</u> (~s)
	8	pl	izi ~ i<u>z</u> ~ i:	zi ~ <u>z</u> (~$\emptyset$)
5	9	sg	iN	N ~ NN^i
	10	pl	iziN ~ i:N	ziN ~ NN

[1] These forms are used only with monosyllabic stem nouns.

A. Noun Prefixes (continued)

Genders	Classes		"Full Form"	"Short Form"
6	11	sg	(ulu~) u: (~u)	∅ ~lu[i]
	10	pl	iziN ~ i:N	ziN ~ NN
7	14		u6u (~u6)	6u
8	15		uku ~ uk	ku (~k)
(9)	(17)		(uku)	(ku)

Note:

(a) "Full Form". The drift towards monosyllabic noun prefixes
is apparent. The monosyllabic forms (except la and 9), the
syllabic consonant forms (u̱m, i̱s, i̱z), and the long vowel forms
(except 2a, 5 and 11), are not used with monosyllabic stem nouns.
The monosyllabic forms in brackets are rarer than the unbracketed
alternatives, and I would exclude them as careless speech. They
give rise to new consonant clusters and render the stems subject
to tonal change, e.g. /nha + ìsícòcò > nhèsícòcò > nhè̱ṣòcò
(> nhèscócò)/ (with a headring). Such tonal change is normally
the case only in singular classes la and 9, e.g. /nha + ínkòmó >
nhènkómò/, and in plural classes 8 and 10, e.g. /ínkòmó >
ìzìnkómó+ > ì:nkómó+/ (cattle). The disyllabic forms in brackets
are virtually extinct. The forms used with initial vowel stems
are always monosyllabic: /um, a6, am, is, iz,/ &c., e.g. /á'mánzí/
(water),/í'sándlà, í'zándlà/ (hand, hands), &c.

(b) "Short Form ". The vowelless forms (except la and 9, 5 and
11) are not used with monosyllabic stem nouns. The vowelless
forms in brackets I would exclude as careless speech, e.g.
/àkúkhò sìhlàlò, zìhlàlò ~ s̱hlàlò, ẕhlàlò (~ shlàlò, hlàlò)/
(no chair, no chairs). The allomorph NN gives rise to a variety
of syllabic nasals, e.g. /àkúkhò ìntòmbí+/ (there are no girls),
/àkúkhò ŋnkòmó+/ (there are no cattle). Difficulties as to the
placement of penultimate length arise with monosyllabic stem
nouns in classes la and 9, 5 and 11,
e.g. /àkúkhò-njá+/ (there is no dog),
cf. /àkúkhò zìnjá+/ (there are no dogs);
e.g. /àngízwà-zwí+/ (I hear no word),
cf. /àngízwà màzwí+/ (I hear no words).

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[i] These forms are used only with monosyllabic stem nouns.

These difficulties do not arise in the Natal dialect:

/àkúkhò hnjá+/ and /àngízwà lìzwí+/.

The forms used with initial vowel stems are always vowelless:

/ó, s, z,/ &c., e.g. /àkúkhò sándò, zándò/ (there is no hammer/
hammers), /àsì6ónì mânzì+/ (we see no water).

(c) Noun prefixes are mutually exclusive: they cannot combine as in
some other Bantu languages. Gender 1 is personal, gender 7
abstract and gender 8 verbal in meaning, but not much more may
be said concerning the meanings of Zulu genders.

B. **Gender 1 Prefixes**

			indep. prefixes	dependent prefixes				
			indep. nominals	dependent nominals				
		Nouns	Pronouns			Selectors .		Adjectives	Verbs
			(a)	(b)	(c)	(a)	(b)	(a) & (b)	
1st. p. sg.		–	mi	–	nge	–	–	engi(mu)	ngi
1st. p. pl.		–	thi	so	so	–	–	esi(6a)	si
2nd. p. sg.		–	we	–	we	–	–	o(mu)	u
2nd. p. pl.		–	ni	no	no	–	–	eni(6a)	ni
3rd. p. sg.		umu	ye	wo	ye	lo	lowo	o(mu)	u
3rd. p. pl.		a6a	6o	6o	6o	la6a	la6o	a6a	6a

Note:

(a) Pronouns (a) (b) (c) are the absolute with root /na/,
the inclusive with root /nke/ and the exclu-
sive with root /dwa/. Selectors (a) and (b) are the 1st and 2nd
position forms. Adjectives (a) and (b) are the true adjectives
with dependent stems which use the long forms, e.g. /ésí6àdálà/
(we who are old), and the noun adjectives with independent stems
which use the short forms, e.g. /ésí6ùkhálì/ (we who are sharp,
bright). In the third person plural both types use the prefix
/a6a/, but the element /6a/ is a verbal concord with (b) and a
nominal concord with (a)[i].

(b) Where 1st and 2nd person forms are wanting, it is the rule to use
3rd person forms; hence the adjective /ésí6àdálà/ (we who are old),
where the third person concord /6a/ refers to the first person,
and the expression /mìnà 16/ (my very self), where the 3rd person
selector has to agree with the 1st person pronoun.

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[i] The forms described here as "adjectives" are in fact adjectives in
nomino-verbal construction.

C. <u>Gender 6 Prefixes</u>

		indep. prefixes	dependent prefixes				
		indep. nominals	dependent nominals				
	Nouns	Pronouns		Selectors		Adjectives	Verbs
		(a) (b) (c)		(a) (b)		(a) & (b)	
sg	(ulu~) u:	lo		lolu lolo		olu	lu
pl	iziN~ i:N	zo		lezi lezo		ezi(N)	zi

4.3.3. Inflection

4.3.3.1. Nominal inflection

All nominals decline in the same way, although there are four tonal declensions. The case extra prefixes are as follows:-

i) 〉yhi〈 (agentive case) with allomorphs /hh ~ (yh ~ wh ~ ng)/, /hh ~ yh ~ lh/ (class 5) and /hh ~ wh ~ lh/ (class 11) with nouns[1]; /yhi ~ ngu/ with pronouns; /yhi/ with selectors; /ng/ with adjectives; /yhi/ with adverbs. This form functions adverbially after a passive verb to indicate the agent of the action. It also functions predicatively, e.g. /yhimíná+/ (it's me).

ii) 〉nha〈 (conjunctive case) with allomorphs /nha ~ nhe ~ nho ~ nh/. This form functions adverbially in the sense of "with". It also functions as its head word in the sense of "and, also, even", e.g. /ámá'kátì nhézìnjá+/ (cats and dogs), /ízìnjà nhàzó+/ (even dogs).

iii) 〉nga〈 (instrumentive case) with allomorphs /nga ~ nge ~ ngo ~ ng/. This form functions adverbially in the sense of "by, with, by means of", and in combination with adverbs and the locative inflection in the sense of "towards, in the direction of, in the vicinity of".

iv) 〉kunha〈, 〉njenga〈, 〉nganga〈 (comparative cases) with the same allomorphs as 〉nha〈 and 〉nga〈 above. These forms function adverbially to express "rather than", "just as, like", "as large/small as", respectively.

(v) 〉ku〈 (locative case) with allomorphs /ku/ with nouns of the first gender and /e ~ o --- ini ~ ∅/ with nouns of all other

---

[1] There are also the agentive prefixes /sí:/ (cl.7), /zí:/ (cl.8), zí:N/ (cl.10), and (less commonly) /bú:/ (cl.14), which are used instead of (not extra to) the noun prefixes.

genders, with initial vowel elision of the noun; /ku ~ ki/
with pronouns; /ku/ with selectors; /kw ~ k/ with adjectives;
with adverbs it is wanting. This form functions adverbially
to express "in, at, to, from, among".

(vi) ⟨kwa⟩ (locative possessive case) with the same allomorphs as
⟨nha⟩ and ⟨nga⟩ above. It is controlled by adverbs of place,
of which a few control the conjunctive prefix alternatively,
e.g. /é'dúzè kwámì ~ éḍúzè nhámì/ (near me). It is also
prefixed to nouns (with initial vowel elision) and pronouns
of the personal gender only, to express "at, to, from the
home of", e.g. /kwámì/ (at my home).

vii) Possessive case. This prefix is an extra dependent prefix: it
expresses gender-number-person as well as case. As to person,
it has forms for the 3rd person only, which results in such
expressions as /thìnâ"bá"wó:màmé+/ (we of our mothers). It
has the same morphophonemic variations as ⟨nha⟩ and ⟨nga⟩
above, e.g. /6a ~ 6e ~ 6o ~ 6/ (class 2). Class 1a nouns
use instead the independent prefix /ka/ with initial elision,
preceded by a dependent prefix except for noun classes 1,3,4,6,
9, e.g. /ínjà ká6à6á+/ (father's dog), /ízìnjà zìká6à6á+/
(father's dogs), cf. /ízìnjà zàwó:6à6á+/ (fathers' dogs,
Class 2a noun). The possessive form functions qualificatively
after nominals.

viii) "Vocative Case". I once described this form as an inflection
of the noun, not by affixation of extra prefix but by elision
of initial vowel together with tonal change[4], but I now treat
it as a different form of the noun altogether, the short form
(with "short form" prefix) as distinct from the full form
(with "full form" prefix), both of which are inflectionable by
the nominal extra prefixes. The main instances of its use are
as a vocative, e.g. /zìntòmbí+/, cf. /ìzìntômbí+/ (girls), after
/àkúkhò/, e.g. /àkúkhò mùntù+/ (there is no-one), after a nega-
tive verb without object concord, e.g. /à6à6óní mùntù+/ (they
see no-one), in negative copulative constructions, e.g.
/àsì6àfánà+/ (we are not boys), and in positive copulative
constructions of a particular type, e.g. /úzìthò zíndè+/ (he
is long-limbed); after 1st and 2nd person absolute pronouns,
e.g. /thìná bàntù/ (we people), and after all agentive abso-
lute pronouns, e.g. /yì6ónà 6àntù/ (it is the very people);
after 2nd position demonstratives, e.g. /lá6ò-bàntù/ (those
people), and sometimes after 1st position demonstratives as

a variant to the full form with initial elision, e.g. /lá6à-6ântù~
lá6à-6ántù/ (these people); when qualified by the irregular adjec-
tives[i], e.g. /6àfúnà mùntù mùphí+/ (which person do they want?),
cf. /6àfúnà mùphí+ ùmúntù+/ (same meaning, with the noun in apposi-
tion to the adjective). The short form is tonally distinct from
the full form with initial elison, e.g. /àsíyì kùmúntù+/ (we are
not going to the person), cf. /àsíyì kùmùntù+/ (we are not going to
anyone).

These extra prefixes combine according to the following morpho-
tactical rule: nha ± yhi ± (kuna ~ njenga ~ nganga) ± nga ± (ku ~ kwa),
e.g. /nhá"yhín'dúnà/ (and by an induna),
/nhá"nje"ngén'dúnà/ (also like an induna),
/nhángàséndùnênì+/[ii] (even at the induna's),
/nhá"njéngàséndùnênì+/[ii] (and as at the induna's),
/yhí"njéngàkwámì/ (it is as at my home).
The possessive prefixes are mutually exclusive with all other prefixes
except /nga/ and /ku/, with which they combine as follows: possessive
prefixes ± (nga + genderless nominals) ~ (ku ~ (nga + ku) + gender nominals),
e.g. /ín'dáwò yángàsé'dúzè/[iii] (a nearby place),
/ùmúntù wá"kú'léyòndáwò/ (a person of at that place),
/ùmúntù wángàkú'léyòndáwò/ (a person of round-about that place).

There are certain limitations in nominal extra prefix inflection.
Nouns and demonstratives are fully inflectionable and also absolute
pronouns, but inclusive and exclusive pronouns are uninflectionable
and also simple form adjectives[iv]. Adverbs are inflectionable except
locatively, and adverbs of manner have no locative, instrumentive or
possessive inflections. The short form noun is fully inflectionable,
but the agentive inflection occurs very rarely for the noun is able
to function agentively without inflection, e.g. /àsì66nwà mùntù+/
(we are not seen by anyone), /mùntù mùní+"á6áín"fúnàyò+/ (it is what
sort of person that they want?).

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[i] with roots /phí/ (which?), /ní/ (what sort?), and /nyè/ (only
     one), which are exceptional in various ways.
[ii] Locative nouns preplace "s" on inflection.
[iii] Adverbs with initial vowel /e/ preplace "s" on inflection.
[iv] Except the irregular adjectives, e.g. /ngàmúnyè/ (one by one),
     /ngàyìphí+/ (by which one?).

4.3.3.2. Verbal inflection

All verbs conjugate in the same way, although there are two tonal conjugations. The affixes of mood, tense, aspect, pend[i], tive[i], and implication, occur together with the gender-number-person prefixes and do not constitute an extra layer of inflection. The conjugation of the verb has five moods, two nonfinite (infinitive and imperative) and three finite (indicative, subjunctive, potential). The finite moods are subdivided according to tense and aspect and according to pend and tive in such a way that each form is doubly described as indep. pos., indep. neg., dep. pos., dep. neg. There are final and nonfinal forms in all moods,conditioned by the presence or absence of penultimate length[ii]. These distinctions, like the distinctions of tense and aspect, pend and tive, are sometimes indicated by tonal morphemes only. Subject concords occur ‐ only in the finite moods, and object concords optionally in all moods. The finite moods can incorporate prefixes of implication. The indicative mood has /se/ (exclusive) used with positive tenses, /sa/ (progressive) used with the present tense, positive and negative, and in compound tenses, /ka/ (inceptive) used with the present terne. (except perfect aspect), negative only, and in compound tenses. The subjunctive mood has /ma/ (politeness) and /6o/ (obligation) used with the present tense, positive and negative, and the potential mood has /se/ (exclusive) used with positive tenses. All tenses of the finite moods and even the infinitive mood can incorporate the implication prefixes /yo:/ and /zo:/ (future intention), which reduce subsequent morphemes to the positive infinitive pattern, both phonally and tonally, as the subjunctive prefix /6o/ also does. The exclusive implication prefix /se/ reduces subsequent morphemes to the pattern of dependent tenses with some speakers[iii].

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[i] These terms refer to the distinctions between independent and dependent tenses and positive and negative tenses, for which there are no current grammatical terms.

[ii] Forms incorporating the prefix /ya/ (present imperfect) and the suffix /ile/ (present perfect) are final forms, but they can occur nonfinally (without penultimate length) with a syntactically "strong" adjunct such as an adverb of manner, for special emphasis.

[iii] The general rule is to incorporate this prefix into both independent and dependent tenses, as with /sa/ and /ka/, as a fully fledged implication prefix. There are anomalies, however, e.g. /sè6éyá'hám6à+/ (they are now going), where /6e/ and /ya/ are dependent and independent morphemes side by side.

The full morphological complexity (except the tonal aspect)
of the conjugation of the Zulu verb is described in three articles
by Beuchat[5]. Here I simply show the range of affixes by setting
out the conjugation of the verb /úkú'ɓóná/ (to see), a verb of tone
class I. The subject concord is /ɓa/ (first gender, plural number,
third person) throughout, and object concords and implication pre-
fixes are omitted.

I. INFINITIVE MOOD (No tense, aspect, pend, implication;
no reference to gender-number-person
except by object concord, but infini-
tive verbs are also nouns of nominal
class 15).

pos. úkú'ɓóná

neg. ùkúngàɓóní ~ ùkúngàɓónì+

II. IMPERATIVE MOOD (No tense, aspect, pend, tive, implication;
no reference to gender-number-person except
by object concord, but imperative verbs
refer to the second person, singular and
plural).

sg. ɓóná (a)

pl. ɓònánì

III. INDICATIVE MOOD

Tense	Aspect		Pend and Tive	
Simple:-			Positive	Negative
1. Past	—	indep.	ɓâ:ɓòná ~ ɓâ:ɓônà+	(àɓâ:ɓónà)(c) àɓàɓònángà
		dep.	(ɓàɓóná)(b) ɓâ:ɓònà+	(ɓángàɓóná)(d) ɓéngàɓònángà
2. Present	(a) Perfect	indep.	ɓàɓònê: ~ ɓáɓó'nílè+ (f)	àɓàɓònángà (e) àɓàɓònílè+ (g)
		dep.	ɓèɓònê: ~ ɓèɓònílè+ (f)	ɓéngàɓònángà (e) ɓéngàɓònílè+ (g)
	(b) Imperfect or Continuous	indep.	ɓàɓóná ~ ɓáyá'ɓónà+	àɓàɓónì
		dep.	ɓèɓóná ~ ɓèɓônà+	ɓéngàɓóní ~ ɓéngàɓônì+
	(c) Future (h)	indep.	ɓázòɓóná	àɓázùɓóná
		dep.	ɓézòɓóná	ɓéngàzùɓóná
Compound:- (i)				
3. Recent Past	(a) Perfect		ɓèɓèɓònê: ~ ɓèɓèɓònílè+	ɓèɓéngàɓònángà ɓèɓéngèɓònílè+
	(b) Imperfect or Continuous		ɓèɓèɓóná ~ ɓèɓèɓônà+	ɓèɓéngàɓóní ~ ɓèɓéngàɓónì+
	(c) Future		ɓèɓézòɓóná	ɓèɓéngàzùɓóná

III. INDICATIVE MOOD (continued)

	Tense		Aspect	Pend and Tive	
				Positive	Negative
4.	Remote Past	(b)	Imperfect	6â:6ὲ6ɔná~ 6â:6ὲ6ɴὲ+	6â:6éngὰ6ɔní~ 6â:6éngὰ6ɴì+
		(a) and (c)		6â: + forms as above	
5.	Future	(a) (b) (c)		6ázɔ6ὲ + forms as above	

IV. SUBJUNCTIVE MOOD (No aspect, no pend)

	Tense		Tive	
	Simple:-		Positive	Negative
1.	Past		6ὰ6ɔnὰ	(a) 6ángὰ6ɔnὰ
				(c) ὰ6â:6ɔnὰ (j)
2.	Present		6ὰ6ɔné (a)	6ángὰ6ɔní~ 6ángὰ6ɔnì+

V. POTENTIAL MOOD

	Tense	Aspect		Pend and Tive	
	Simple:-			Positive	Negative
1.	Present	Present	indep.	6àngὰ6ɔnὰ (k) (a) 6àngá'bálὰ (c)	6àngê:6ɔnὲ (a) 6àngê:6ɔné~ 6àngê:6ɔnὲ+ (j)
			dep.	6éngὰ6ɔnὰ	6éngê:6ɔnὲ
	Compound:-				
2.	Recent Past	Present		6ὲ6éngὰ6ɔnὰ	6ὲ6éngê:6ɔnὲ
3.	Remote Past	Present		6â:6éngὰ6ɔnὰ	6â:6éngê:6ɔnὲ

Note:

(a) The incorporation of object concords often brings about changes in tonal allomorphs, but here it brings about a change in tonal morpheme: /6ɔnὰ > (yì6ɔné ~ yì6ɔnὲ+)/, /6ὰ6ɔné > (6áyí'6ɔné ~ 6áyí'6ɔnὲ+)/.

(b) Now functioning as the subjunctive positive past tense and replaced by the independent positive tense. The past tense is rarely used dependently, however.

(c) Now functioning as the (c) form of the subjunctive negative past tense and replaced by the original independent negative perfect tense, /ὰ6ὰ6ɔnángὰ/.

(d) Now functioning as the (a) form of the subjunctive negative
past tense and replaced by the original dependent negative
perfect tense, /6éngà6ònángà/.

(e) These forms are past tense in meaning rather than perfect as-
pect; they refer either to recent past or to remote past accor-
ding to context. There seems to have been a drift from a remote
past/recent past/present distinction to a past/present perfect/
present imperfect distinction, but the drift is not yet complete.
These forms (and the forms in /ê:/) retain past tense meaning,
but they occur in compound tenses with perfect aspect meaning.

(f) The positive forms in /ile/ have perfect aspect meaning normally,
and recent past tense meaning only in a context of recent past
time. These final forms occur nonfinally (without penultimate
length) to indicate perfect state, particularly with inchoative
verbs, for the nonfinal forms in /ê:/ indicate recent past action
only.

(g) The negative forms in /ile/ have perfect aspect meaning only, and
these final forms occur nonfinally (but still with penultimate
length) to indicate perfect state, particularly with inchoative
verbs, for there are no nonfinal forms. These forms seem to be a
recent creation to complete the present perfect paradigm.

(h) The future aspect signs are /zò ~ zòkù/ (definite) and /yò ~ yòkù/
(indefinite) in the positive, and /zù ~ zùkù ~ zǔ:/ (definite)
and /yù ~ yùkú ~ yǔ:/ (indefinite) in the negative.

(i) Compound tenses are formed by the verbal auxiliary /6è/ followed
by dependent present tenses, thus:

Recent past imperfect:

    6à6è 6è6ônà > 6è6è6ônà+ (3rd p. pl.)
    ù6è è6ônà > (6èyè6ônà) ~ ù6è6ônà+ (3rd p. sg.)
    ù6è ù6ônà > (6èwù6ônà) ~ ù6ù6ônà+ (2nd p. sg.)

Remote past imperfect:

    6â:6è 6è6ônà > 6â:6è6ônà+ (3rd p. pl.)
    wâ:6è è6ônà > wâ:yè6ônà+ (3rd p. sg.)
    wâ:6è ù6ônà > wâ:wù6ônà+ (2nd p. sg.)

Future perfect:

    6ázò6è 6è6ònîlè+ (they shall have seen)

The full forms occur very rarely in the compound past tenses,
and the bracketted alternatives are less common.

(j) The (c) forms are less common; only polysyllabic stem verbs
of tone class II have (b) forms . The commonest subjunctive
past tense negative infix is /ngâ:/, apparently a combination
of /ngà/ and /â:/.

(k) Note the tonal displacement in /ɓàngà6ónà/, which is blocked in
/ɓàngá'bálà/.

(1) Stative verbs have special perfect stems indicating perfect
state exclusively. Examples of such stative stems are /lele <
lala/ (lie down), /hleli ~ hlezi < hlala/ (sit down), /phethe <
phatha/ (carry), /thwele < thwala/ (carry), /mithi < mitha/
(get pregnant). These verbs are inchoative in meaning, but
there are inchoative verbs without special perfect stems,
e.g. /lamba/ (get hungry),/oma/ (get thirsty). The verb
/úkú'lálà/ (to lie down) has the forms /ɓàlàlê: ~ 6álá'lílè+/
(recent past), /ɓàlélà ~ 6á'lélà+/ (they are lying down (state)
– present perfect), /ɓàlálà ~ 6áyá'lálà+/ (they are lying down
(action) – present imperfect). Even here, however, the dis-
tinction between past action and perfect state is tenuous,
for /6álá'lílè+/ (recent past) may refer to present perfect
state in a context of present time, and there is even the
negative counterpart, /à6àlàlîlé+/. I therefore treat
/6álá'lílè+/ and /6á'lélè+/ as regular and special forms of
the present perfect tense, the former occurring only rarely.
With some verbs these forms occur as alternatives with the
same meaning, e.g. /mi ~ mile < ma/ (stand up), /suthi ~ suthile
< sutha/ (get satiated), /thule ~ thulile < thula/(become quiet).
Polysyllabic stem verbs ending in /ela, ula, ala, ama, ana/ have
perfect stems ending in /ele, ule, ele, eme, ene/. Some
speakers regard these as special stems for which there are
corresponding regular stems of rare occurrence, i.e. as
stative verbs, e.g. /phumule/ (be rested – special stem)
and /phumulê: ~ phumulile+/ (have rested – regular stem), and
some speakers as regular stems for which there are no corres-
ponding special stems, i.e. as nonstative verbs, e.g. /phumulê: ~
phumule+/, where the final form occurs nonfinally (without
penultimate length) to indicate perfect state, and finally to
indicate either perfect state or past action according to con-
text, and the /ile/ form is nonexistant. This is partly a
matter of dialect and partly a matter of idiolect, and it

reflects a state of drift[i]. My conclusion is to classify all forms under the heading of the present perfect tense[ii].

4.3.4. Derivation

4.3.4.1. Nominal derivation

The nominal derivative suffixes are /àná/ (diminutive) and /kàzì ~ àzì/ (augmentative or feminine), which may combine as follows: /(kàzì ~ àzì) ± àná/ > /kázàná ~ ázàná/ (feminine diminutive). All three are found with nouns, e.g. /ín'kósí/ (chief) > /ínkòsáná/ (chief's son), /ínkòsíkàzì/ (chief's wife), /ínkòsázàná/ (chief's daughter), only the first two with adjectives, only the first one with pronouns, and none with selectors. On the other hand the selectors have the suffixes /ò/ and /yâ: ~ yáná/ by which the 2nd and 3rd position forms are derived from the first. The noun prefixes are essentially derivational, as when /ùmúntù/ (person) > /à6ántù/ (plural), /ìsíntù/ (type), /ù6úntù/ (quality), as when /ìsíphò/ (gift) > /ú'Síphò/ (personal name), and as when adjective stems become abstract nouns by the addition of the class 14 prefix, e.g. /hlê > ú6ùhlé/ (beauty), /dè > ù6údè/ (height, depth, length), /ìmnyámà > ú6úm'nyámà/ (darkness). Nouns are derived from verbs by the addition of the suffixes /i/ (personal nouns) and /o/ (impersonal nouhs) and the appropriate prefixes. Compound nouns and reduplicated nouns are also derivations.

4.3.4.2. Verbal derivation

The verbal derivative suffixes are /w/ (passive), /ek ~ akal/ (neuter), /el/ (applied), /is/ (causative), /an/ (reciprocal), /isis/ (intensive), /elel/ (perfective), /ezel/ (persistive), /ul~ulul/ (reversive), only the first five of which are in common use. These suffixes combine according to the following morphotactical rule: /ek ± is ± el ± an ± w/, e.g. /6onelana/ (see for one another), /6oniselana/ (show for one another), /6onakaliswa/ (be made visible). Verbs are derived from ideophones by the addition of the suffixes /l/ (transitive), /k/ (intransitive), /z/ (causative). Reduplicated verbs are also derivations.

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[i] Since Doke's Grammar (1927) /sele < sala/ (remain), /zele < zala/ (give birth), and since Doke's Dictionary (1948) /thethe < thatha/ (take), /vethe < vatha/ (get dressed), now accepted as special stative stems. There are a number of forms such as /hembe < hamba/, /lembe < lamba/, /ceshe < casha/, whose use is at present substandard: they await acceptance.

[ii] Beuchat[6] prefers the perfect tense, regarding recent past action as the main meaning.

4.3.5. Nomino-verbal constructions

I have described these constructions in an article[7]; here I
give a summary. Nomino-verbal constructions are described as such
because morphologically they employ verbal prefixes with nominal
bases and nominal prefixes with verbal bases, and syntactically
they enable nominals to function verbally and verbs to function
nominally. The former are copulative constructions and the latter
relative constructions. These processes of nominalization and ver-
balization open the way for layer upon layer of prefixal inflection.

Copulative constructions are based on nominal extra prefix
inflected forms (simple forms cannot occur copulatively except with
adverbs, adjectives and short form nouns)[i], and enable these forms to
function predicatively, the function characteristic of verbs. These
constructions are conjugated verbally, but the conjugation is limited
to the simple present imperfect tense of the indicative mood, and
compound tenses of imperfect aspect only.[ii] Pend and tive
are fully represented, but there are limitations as to implication[iii].

Relative constructions are based on verbal dependent inflected
forms (the nonfinite and subjunctive moods cannot occur relatively
as they have no pend), and enable these forms to function substan-
tively or qualificatively, the functions characteristic of indepen-
dent and dependent nominals respectively. These constructions are
declined nominally, and the extra prefix inflected forms then function
adverbially, the function characteristic of genderless nominals or
adverbs.

Relative constructions are formed from verbs and copulative con-
structions by the addition of the relative prefix morpheme ⟨a⟩, which
has the allomorphs /a ~ e ~ o/ according to the determination of the

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[i] Also inclusive and exclusive pronouns, e.g. /ngìngédwà/ (I am
alone). These pronouns and adjectives (except the irregular
adjectives) are uninflectionable by nominal extra prefixes.

[ii] The present tense of the potential mood is also possible,
e.g. /àngáyhìnkôsì+/ (he may be a chief), but there is no
negative counterpart.

[iii] The copula verb construction (verbal prefixes + copula verb
+ nominal bases) is fully conjugationable. Here the meaning
is of becoming rather than of being,
e.g. /sìbà-ngàmádbdà/ (we are becoming men),
cf. /sìngàmádbdà/ (we are men);
e.g. /sìzbbà-khbná/ (we will be there - by becoming there),
cf. /sìzbbè sî:khbná/ (we will be there - by being there).

verbal prefix. There is also a relative suffix morpheme /yo/, which
is used with the final forms of certain tenses only. Relative con-
structions are subdivided according to the nature of the relationship:

subjectival, e.g. /úm̓'fáná "óngì6ónàyò+/ (the boy who sees me),
objectival, e.g. /úm̓'fáná "éngìm̓6ónàyò+/ (the boy whom I see),
subjectival possessive, e.g. /úm̓'fánà+ínjà yàkhè éngì6ónàyò+/ (the
                            boy whose dog see me),
objectival possessive, e.g. /úm̓'fánà+ ínjà yàkhè éngìyì6ónàyò+/ (the
                            boy whose dog I see),
adverbial, e.g. /úm̓'fáná "éngì6ónwà ngúyè+/ (the boy by whom I am seen),
/úm̓'fáná "éngìkhùlúmà nhàyé+/ (the boy with whom I speak),
of which there are several varieties depending upon the inflection
of the pronoun: agentive, conjunctive, locative, &c.

4.4. Morphophonology

In section 2.4. (Morphophonology) I briefly described the main
phonologically conditioned changes, particularly the changes conse-
quent upon NC compounds (nasalization) and Cw compounds (palataliza-
tion). Palatalization is sometimes morphologically conditioned in
the formation of passive verbs, e.g. /6ophela > 6oshelwa/, /hla6elela>
hlatshelelwa/, where there is no phonotactical necessity for morpho-
phonemic change. The formation of diminutive nouns also demonstrates
morphologically conditioned palatalization, e.g./íntà6à > ìntátshànà/
(small hill). Palatalization of alveolar as well as labial conson-
ants takes place here (/th>sh, d>j, n>ny/), e.g./ìsíkhàthí > ìsíkhàshánà/
(short time). The morphophonemic change involving the alveolar lateral
sonorant is optional, e.g. /í:thòlè > ì:thódlànà ~ ì:thólànà/ (small calf).

There are other morphologically conditioned changes, as in the
formation of the perfect stem where aCa becomes eCe, e.g. /phatha >
phethe/, /thwala > thwele/,/bonakala > bonakele/; /sala > sele ~
salile/, /zala > zele ~ zalile/, but /vala > valile/ only; /khwela>
khwele ~ khwelile/, but /vela > velile/ only; /thula > thule ~ thulile/,
but /vula > vulile/ only; but it is not the intention to present a
complete statement of all the morphophonemic changes in the language.
However, a complete statement of morphotonology is relevant to this
study: the tonologically conditioned changes are to be found in
section 3.4. (cf. 2.4. under phonology), and the tonomorphologically
conditioned changes are to be found in section 5.4. complementing
3.4. (cf. 4.4. complementing 2.4.).

4.5. Syntax

The three basic categories of Zulu grammar determine the three major syntax classes corresponding to the three major morphological classes. The latter are watertight compartments but the former are not so: infinitive verbs may function nominally, agentive nouns may function verbally, imperative verbs and vocative nouns may function as particles; and nomino-verbal constructions bring about wholesale nominalization and verbalization. The nominal syntax class is subdivided into substantive, delimitative, qualificative, and adverbial, corresponding to the morphological subdivision of noun, pronoun, adjective, and adverb. Adverbials are subdivided into conjunctive and nonconjunctive, and conjunctive adverbials into co-ordinating and subordinating. The verbal or predicative syntax class is subdivided into transitive and intransitive. There are no subdivisions of the interjective syntax class, but some cannot control dependent words (reflecting particles), some can only by grammatical agreement (reflecting nominals) and some can with or without agreement (reflecting verbals). The syntax classes are set out hereunder:-

Basic Categories	Syntax Classes	Morphological Representatives
nominal:	substantive:	simple nouns simple self-standing dependent nominals simple self-standing relative constructions conjunctive nouns, dependent nominals, relative constructions infinitive verbs
	delimitative:(a)	simple pronouns and demonstratives
	qualificative:(b)	simple adjectives (c) simple relative constructions possessive nominals
	adverbial:	
	nonconjunctive:	simple adverbs case (agentive, conjunctive, instrumentive, comparative, locative) inflected nominals and relative constructions short form nouns simple nouns? (d) ideophones? (e)
	conjunctive:	
	subordinating:	some simple adverbs, e.g. uma, nxa, lapha, loku, ngoba.
	co-ordinating:	some simple adverbs, e.g. kanti, kodwa, futhi.

Basic Categories	Syntax Classes	Morphological Representatives
verbal:	predicative:	
	intransitive:	verbs agentive nominals copulative constructions
	transitive:	verbs
particles:	interjective:	interjections ideophones vocative nouns imperative verbs

Note:

(a) The delimitative syntactical slot is before the controlling nominal; after it these words are in apposition.

(b) The qualificative syntactical slot is after the controlling nominal; before it these words are in apposition.

(c) Only irregular adjectives function qualificatively without inflection; otherwise adjectives function qualificatively in relative constructions. The simple form of the adjective occurs only as the base of a copulative construction: it has no independent function.

(d) It is difficult to determine whether a noun after a verb without the possibility of an object concord is functioning adverbially or substantively as object. According to the test of the object concord, it functions adverbially in /ngâ:hlȁlȁ khὸná ísíkhàshénà+/(I stayed there a short time) and substantively in /ísíkhàshéná éngâ:sìhlȁlȁ khὸná+/(the short time that I stayed there).

(e) It is difficult to determine whether an ideophone after a verb is functioning adverbially or interjectively:/índlù yâ:wà yáthì "wὸlὸkὸhlὸ"/ (the building fell down and went crash) and /índlù yâ:wà "wὸlὸkὸhlὸ"/ (the building fell down crash). It certainly functions interjectively as /"wὸlὸkὸhlὸ"/ (crash!).

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C H A P T E R   5

TONAL GRAMMAR

5.1. Historical Introduction

Several scholars have contributed towards the analysis of
Zulu tonal grammar. Beach[1] mentions "the importance of tonetics
in the declension of nouns and the conjugation of verbs", but that
is all. Doke[2] makes a useful classification of "sequences of tones"
into tone patterns which he terms "tonal nuclei". He classifies all
the tonal sequences of disyllabic and trisyllabic words into six
tonal nuclei respectively, attributing to each a main (i.e. tonemic)
representative and several subsidiary (i.e. allotonic) representa-
tives. He notices that there is a correspondence between these two
sets of tonal nuclei, the bitonal and the tritonal, which suggests
that the tonal morphology of all words, regardless of the number of
syllables, could be described in terms of six basic tone patterns.
I would identify the 5.4./3.5.4. nucleus with the 7.4./3.7.4. nucleus
(as he himself suggests) as the LH toneme pattern, and the 3.2.9.
nucleus with the 3.4.9. nuclesu (attributing the difference to up-
step and downstep) together with the 3.9. nucleus as the HL toneme
pattern. I would regard the 3.4. nucleus illustrated by the inflected
monosyllabic demonstratives, /kú'ló:, kú'ló:, kú'lá:/, as a sequence
of two high tonemes on different tonal stops and not as a tonal nu-
cleus at all. Thus I would reduce Doke's six tonal nuclei to four
toneme patterns: LL, LH, HLL, HL. Doke describes the tonal sequences
in great detail, giving eight variations of the 3.9. bitonal nucleus
and twenty-eight variations of the 3.2.9./3.4.9. tritonal nucleus,
all of which I would describe as allotonic variations of the HL
toneme pattern. Doke's analysis is essentially tonetic and he does
not attempt to set up the tone patterns as toneme patterns and the
toneme patterns as allomorphs of tonal morphemes. My investigation
into tonal morphology, however, shows that the toneme patterns LL,
LH, HL, are the normal allomorphs of the tonal morphemes ǀLLǀ, ǀLHǀ,
ǀHLǀ, and the toneme pattern HLL, an allomorph in complementary
distribution with the allomorphs HH and LH of the tonal morphone ǀHHǀ.

Under "Tonal Morphology"[3] Doke deals briefly with noun inflec-
tion and derivation, but the material is too scanty for the gramma-
tical patterns to emerge. He does not notice tonal displacement
which is such an important factor. One of its effects is the

overlapping of tonal allomorphs in certain setms, e.g. /ìzìnkâm̲bà+/
(clay pots) where HLL is an allomorph of the ⦃LL⦄ morpheme con-
ditioned by tonal displacement and penultimate length, and
/ízìnkâóì+/ (oxen) where HLL is the penultimate length allomorph
of the ⦃HH⦄ morpheme; /ngèntámbò/ (by means of string) where HL
is an allomorph of the ⦃LL⦄ morpheme conditioned by tonal dis-
placement, and /ngènqólà/ (by means of a wagon) where HL is the
normal allomorph of the ⦃HL⦄ morpheme. In my Master's thesis[4] I
described the tonal grammar of nouns only: the classification of
nouns into tone classes according to the toneme pattern of the final
two syllables, the determination of prefix tones, prefixal and
suffixal inflection and derivation. With regard to the classifi-
cation of nouns, I would now describe it as "according to the tonal
morpheme of the final two syllables of the simple stem", for iden-
tical toneme patterns sometimes represent different tonal morphemes
as in the case of the examples /ìzìnkâm̲bà+/ and /ìzìnkâóì+/ above,
and the final two syllables of inflected stems of nouns of differ-
ent tone classes sometimes have identical tonal morphemes, e.g.
/è6ùngànênì+/ and /é6úngànênì+/, the locative inflections of
/ù6úngànè/ (friendship) and /ú6ú'ngánè/ (childhood) respectively.

Contributions to the study of tonal grammar have also been
made by Rycroft[5] and Knappert[6]. Rycroft in his study of nouns
discusses the morphotonological relationship between stems and
prefixes, and classifies nouns into four major tone classes accor-
ding to the toneme patterns of stems and prefixes in both simple
and derived or inflected forms. In the course of his article he
makes several stimulating suggestions relating to the tonal grammar
of nouns and other parts of speech. Knappert in his study of tri-
syllabic verbs shows that although these verbs at first sight fall
into eight groups, tonomorphologically they fall into two tone
classes. He discusses tonal grammar in tonetic terms, marking
nonsignificant rising tones due to consonantal influence and non-
significant falling tones due to final cadence, but not the sig-
nificant upsteps and downsteps, which somewhat obscures the gramma-
tical patterns.

The most complete statement of the tonal grammar of a Southern
Bantu language is Letele's statement for Southern Suthu[7]. He
cross-classifies words into two tone classes according to the tones
of the initial stem syllables and four tone classes according to
the tones of the final couplet of stem syllables. Such cross-
classification is possible in Zulu, but seeing that the former are

determined by the latter, the fourfold classification is sufficient.
Letele describes in detail the role of tone in morphological in-
flection and derivation, and in syntactical relationship. He
treats in terms of "tone patterns" rather than the tonal morphemes
they represent, but the pattern of contrasts between tonal mor-
phemes is nevertheless discernible. The next most complete state-
ment is Westphal's study of Venda tonal grammar[8]. He likewise treats
in terms of tone patterns or "tonal profiles", and the pattern of
contrasts is discernible notwithstanding the great effect of tonal
context on the tonal profiles of Venda words. Westphal regards the
establishment of tonal morphemes as outside the scope of his study,
which he modestly presents as simply a compendium of tonal profiles
(p.173).

Lanham has published a small amount of material on Xhosa tonal
grammar[9]. Although his concern is the identification of tonemes,
he considers that "some explanation of the workings of tonal mor-
phology is necessary, if only for the reason that the certain iden-
tification of tonemes is sometimes assisted by reference to tono-
morphemes" (p.99). He also makes a statement of great importance
when he writes that "there is no permanent association between tonemes
and the segmental constituents of syllables but rather between the
tonemes themselves within patterns" (p.98). Tone is imposed rather
than inherent, and it operates primarily at the morphological level.
Its lexical significance is generally a by-product of its gramma-
tical significance. In an earlier article[10] he stated "Xhosa makes
grammatical rather than lexical use of tone", but he omits this state-
ment from the revised version of his article[11]. In an earlier ar-
ticle[12] I also stated that "grammatical tone is more important than
lexical tone", but I too omit this statement here. It is impossible
to weigh the relative importance of lexical and grammatical tone.
With verbs tone is grammatically imposed but nevertheless lexically
significant: the tone pattern HLH of the verb / síthàndé/ indicates
the present subjunctive of a verb of the H conjugation meaning "to
like", whereas the tone pattern LHL of the verb / sìthándè/ indicates
the present subjunctive of a verb of the L conjugation meaning "to
wind". With nouns tone is grammatically imposed but nevertheless
lexically significant with prefix tones, e.g. /úbúngàne > èbúngànênì⁺/
(friendship) and /úbú'ngánè > ébúngànênì⁺/ (childhood), where the
lexical distinction on locative inflection is apparent only in the
prefix tones, and lexically inherent but nevertheless grammatically
significant with stem tones, e.g. /ízìnqólà > ízìnqólànà >
ízìnqòlányànà/ (wagons), where tonal declension on diminutive
derivation is determined by the stem tones.

Lanham presents the tonomorphological classes of Xhosa nouns and verbs with disyllabic stems. The former fall into five groups[i] and the latter into three groups[ii]. He does not indicate that all words fall into these tone classes, but the position is extremely likely to be the same in Xhosa as it is in Zulu. He also presents part of the tonal conjugation of the verb, showing that the toneme patterns are substituted from tense to tense. He uses the term "toneme pattern" because his analysis of tonal morphology is tentative. My analysis establishes these "toneme patterns" as allomorphs of tonal morphemes.

The tonal morpheme of the final couplet of syllables of the simple stem is the most significant unit in Zulu tonal morphology, as it determines the tonal declensions of nominals and the tonal conjugations of verbs[iii]. I term this unit the final tonal morpheme or FTM. Doke's analysis foreshadows this conclusion, and I would describe the tonal sequences of all words in terms of five such units: LL, LH, HH, HL, and HH[iv]. Regarding the Suthu languages, Tucker[15] writes under tonal morphology, the declension of nouns, that "every noun is classified according to the tones of its final two syllables", and under tonal morphology, the conjugation of verbs, that "only the last two syllables of the verb take part in tonal conjugation". In a later article[16] he discusses the marking of "the four tone patterns of Suthu words" and "the four tone patterns of Nguni words", regardless of the number of syllables. This is an oversimplification, but there is no doubt as to the general validity of Tucker's observations.

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[i] The fifth group is very small; it has the toneme pattern HL-HH finally and nonfinally, which Westphal[13] confirms. In Zulu there is also an exceptional fifth group with toneme patterns HH-HH and HL-LH nonfinally and the penultimate length allomorph HLH+ finally.

[ii] The third group has the infinitive toneme pattern HL-HLL, which Westphal[14] confirms. It does not occur in Zulu except perhaps in the dialect extremities which I have excluded from this study.

[iii] With verbs where there are no simple stems, it is best to treat the infinitive form as basic, for it is a nominal simple form as well as a verbal inflected form.

[iv] This last unit is far rarer. It differs in its final allomorph: ◊HH◊ > HLH+ as distinct from ◊HH◊ > HLL+.

By means of the final tonal morpheme or FTM all nominals are classified into four tone classes or declensions and all verbs into two tone classes or conjugations. It seems that this classification according to FTM is peculiar to the languages of the Nguni and Suthu groups. Beuchat[17] reports on Tsonga nouns that there are four possibilities of tone pattern for disyllabic stems, eight for trisyllabic stems, sixteen for quadrisyllabic stems, which she sets up as tonal morphemes[i]. Westphal[18] reports the same possibilities of tone pattern in Venda nouns, but he does not attempt to set up tonal morphemes. Zulu nouns fall into four tone classes regardless of the total pattern. Rycroft[19] gives ten groups of Zulu nouns, but whereas five of them apply only to "non-derivative trisyllabic stems" of which he supplies only one example for each group (I would regard these stems as exceptions), and whereas one of them consists of stems that are so "extremely rare" that he supplies only three examples (I would regard these stems as constituting a fifth exceptional class), the remaining four groups account for the rest of the nouns in the language, thus confirming the fourfold classification according to FTM.

Lanham[20] writes, "The study of the configuration of the large number of tonomorphs in the processes of inflection and derivation reveals a most intricate system of tonal grammar which is still largely unexplored" (p.98). The exploration of this system was the main object of my research, and its description is the main object of my thesis.

5.2. The tripartite basis

The tripartite basis of Zulu grammatical structure is so fundamental in tonal grammar that three different tonal systems are apparent: a nominal system of tonal morphology with morphemes composed of inherent tonemes (except prefixes), a verbal system of tonal morphology with morphemes composed of imposed tonemes (except certain prefixes),and with particles a system of inherent tonemes without tonal morphology.

With nominal stems and suffixes tone is inherent, but these inherent tonemes are not permanent constituents: on suffixal extension they are subject to substitution according to the determination of the final tonal morpheme, e.g. /ámânzí+/ (water) > /ámànzánà+/ (small amount of water). With nominal prefixes tone is imposed, with

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[i] She notes, however, that the language does not seem to use all these possibilities.

gender-number-person prefixes according to tonal morphemes determined by the final tonal morphemes, and with case extra prefixes according to independent tonal morphemes. With verbal stems and affixes tone is imposed according to tonal conjugation, by the substitution of tonal morphemes from tense to tense. With certain prefixes[i] tone is inherent, e.g. /ngá/ (positive potential), /ngê:/ (negative potential). Particles have inherent tonemes and there is a permanent relationship between segmental and suprasegmental constituents of syllables. Here there is no tonal grammar therefore.

Thus the three basic grammatical categories of the language have three different tonal systems. This state pertains to all Nguni languages. Lanham[21] states for Xhosa that "no inherent toneme patterns can be associated with verbal morphemes" (p.102); and so, although he does not explicitly state it, he implies in contrast that "inherent toneme patterns can be associated with nominal morphemes". He also states that "the workings of tonal grammar are basically similar in all (Nguni) languages" (p.120). Such a state is evidently not unique, for Nida[22] observes that in some languages there is a fundamental rift in grammatical structure between morphemes with inherent tone and morphemes without it, between noun stems consisting of segmental and suprasegmental phonemes and verb stems consisting of segmental phonemes only. Southern Suthu[23] is similar to the Nguni languages in this respect, but in Venda[24] the basis of tonal structure is apparently inherent tone throughout. In Zulu we seem to see the effects of linguistic drift from a system of inherent tone (represented by particles, perhaps the most primitive part of the language), through an intermediate system where tone is only partly inherent (represented by nominals), to a system of imposed tone (represented by verbals). From the point of view of tonal grammar it is irrelevant whether the tonal morphemes are composed of inherent or imposed tonemes; they function nevertheless with both lexical and grammatical significance.

From the publications on the subject, it appears that the tonal structure of Bantu languages in general is a matter of the morphotonological interrelationships between inherent tonemes. Thus Sharman[25] describes the tonal structure of Bemba in terms of inherent structural tonemes and representational rules, in terms of morphotonology without tonomorphology. He observes, however, that "in some tenses a total pattern overrides the inherent tones of the

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[i] Never the gender-number-person prefixes.

elements". Richardson[26] describes the tonal structure of Sukuma
in terms of the "tonal distinctiveness" of individual syllables.
A syllable with the "tonal distinctiveness" of a high toneme never
bears it: it is borne on a following syllable, one, two or three
syllables later, according to rules. However, there are "tonally,
neutral" syllables, and certain tenses have tone patterns "regard-
less of the tonal distinctiveness of the constituents": "these
tenses are extra systemic --- (and therefore) outside the scope of
this study". This type of tense is not "extra systemic" in Zulu.
Meussen[27] interprets Carter's Tonga material[28] similarly in terms of
inherent tone: some syllables are tonally "determinant" and others
"neutral", the former determining high tonemes on the latter, accord-
ing to rules. Such an interpretation is impossible in Zulu. Meussen
himself observes that object infixes have no inherent distinctive tone
in the Nguni and Suthu languages[29], and this observation applies to
subject prefixes and indeed to verb stems themselves. In his recent
study of Ganda linguistic structure, Cole[30] sets up tonal morphemes
regardless of whether they are based on inherent or imposed tone: the
question is irrelevant where there is a fully-fledged system of tonal
morphology. I see no alternative to the description of Zulu tonal
structure in terms of an independent system of tonal morphology.

5.3. Tonal Morphology

5.3.0. Tonal Morphemes

5.3.0.1. The final tonal morpheme (FTM)

The FTM of the final couplet is the most significant unit in tonal
morphology. The patterns of contrast between FTM's in nominal declen-
sion and verbal conjugation determine nominal and verbal tone classes,
and these contrasts are significant both lexically and grammatically,
e.g. /sìsíndà/ (we escape) and /sìsìndà/ (we smear)

　　　(indicative mood),

　　　/sìsìndé/ (let us escape) and /sìsíndè/ (let us smear)

　　　(subjunctive mood),

whereas the contrasts between other tonal morphemes indicate grammatical
distinctions only,

e.g. /ùsìndílè, úsìndílè/ (you, he has escaped),

　　　/ùsìndìlè, ùsíndìlè/ (you, he has smeared).

Nominals ITM's and MTM's have a certain amount of lexical significance,
but this significance derives from the fact that they are determined
by the FTM's. Verbal ITM's and MTM's have lexical significance in
certain instances, but this does not invalidate the statement relating

to FTM's. The predominance of the FTM is well illustrated in
nominal tonal declension, where it obliterates inherent stem tonemes,
e.g. /ím'vúlá > ímvùdlánà > ímvùdlànyânà+/ (rain and diminutive
derivations).

The boundaries between tonal morphemes are marked by tonal steps,
except where they occur between low tonemes. The FTM is distinctively
marked by a tonal downstep, either overt (HL) or covert (H'H), or
by an overt tonal upstep (LH). Covert tonal upsteps (H"H) never
mark FTM's and covert tonal downsteps (H'H) mark FTM's only. It is
only when the boundary lies between low tonemes (LL) that the FTM is
not distinctively marked. The following table shows how the transi-
tions to FTM's are reflected tonologically:-

FTM ◊LL◊: L/H-LL, L-HL (tonal displacement).
FTM ◊LH◊: L/H-LH, L-HL (tonal displacement).
FTM ◊HH◊: L-LH, H-'HH, L/H-'H̲L̲L̲+. (L-HH does not occur).
FTM ◊HL◊: L/H-'HL

The most significant fact is that the sequences H-HH and H-HL occur
as H'HH and H'HL. It is only with particles that such sequences as
HHH and HHL occur, indicating that here there is no tonal morphology[i].

5.3.0.2. The initial tonal morpheme (ITM)

The ITM's of nominals are determined by the FTM's of the simple
stems according to tonal dissimilation: FTM's with initial high tonemes
condition the ITM's ◊HL◊ with nouns and ◊L◊ with other nominals, and
FTM's with initial low tonemes condition the ITM's ◊LH◊ with nouns
and ◊H◊ with other nominals. In reflecting this distinction the
ITM's have a certain amount of lexical significance, which assumes
importance when this distinction disappears in nominal declension,
e.g. /èmákhèhlénì < àmákhèhlá/ (elders),
    /émákhòsínì < ámá'khósí/ (chiefs),
especially when words are phonally identical,
e.g. /è6ùngànênì+ < ù6úngànè/ (friendship),
    /é6úngànênì+ < ú6ú'ngánè/ (childhood).
The ITM of extra prefix inflection is generally ◊H◊. With nouns it
is so unless the extra prefix coincides with the initial vowel of
the noun, in which case it adopts its toneme,

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[i] The toneme cluster FTM ◊HL◊ of the perfect suffix /ê:/ (with vowel
length and/or stress) is an exception to the rule that covert up-
steps never mark FTM's, e.g. /6álìmê:~6álí"mê:/. Furthermore,
this suffix is not subject to final tonal assimilation to final
vowel elision.

e.g. /ku+ ùmúntù > kùmúntù/ (to a person),

/njenga+ ùmúntù > njéngòmúntù/ (as a person);

/ku+ yèná > kúyèná ~ kúyè/ (to him),

/yhi+ yèná > (ngùyèná+ ~ ngùyénà) ~ ngúyè/ (by him).

The ITM's of verbs are independent of the FTM's. Like the latter they substitute from tense to tense according to tonal conjugation, but unlike the latter they contrast only from tense to tense and not from tone class to tone class, except in certain instances. Here they have lexical significance, especially where there is no FTM contrast, as in the independent negative tenses of the indicative mood,

e.g. /à6àsíndì/ (they do not escape, they are not a burden),

/à6á'síndì/ (they do not smear).

The object concord eliminates this contrast,

e.g. /àyí6á'síndì/ (it is not too heavy for them),

/à6áyí'síndì/ (they do not smear it).

5.3.0.3. The medial tonal morpheme (MTM)

With nominals the MTM's A and B account for the tonemes of syllables intervening between those covered by ITM's and those covered by FTM's. They occur only with polysyllabic stem nominals, where the FTM ◊HL◊ determines the A allomorphs L ~ LL ~ LLL, &c., and the FTM ◊LL◊ the B allomorphs H ~ LH ~ LLH, &c., depending upon the number of syllables, according to tonal dissimilation. Tonal assimilation affects the A allomorphs as follows: H ~ (HL ~ HH) ~ (HLL ~ HHL), and the B allomorphs as follows: H ~ H"H ~ (HLH ~ HH"H),

e.g. /ámá'kósí/ (chiefs) > /ámákhòsánà ~ ámákhó'sánà/ (diminutive)

> /émákhòsánènì ~ émákhó"sánènì/ (locative diminutive),

cf. /ízìnsízwà/ (young men) > /ízìnsízwànà/ > /ézìnsìzwànênì+/,

where tonal assimilation is blocked by depressors.

With verbs the MTM's A and B are determined by the FTM's ◊HL◊ and ◊LL◊ respectively, but the conditioning factor for allomorphs is not phonological but morphological. Tonal assimilation has the same effects again.

Verbs of tone class I with FTM ◊HL◊ use MTM A with allomorph L^+,

e.g. /sìyà6ònìsísà+/ (we see thoroughly - LLL allomorph),

/6áyá6ònìsísà+/ (they see thoroughly - HLL allomorph due to tonal assimilation).

Verbs of tone class II with FTM ◊LL◊ use MTM B with allomorphs

L^+ ~ (L ~ L^+H) ~ (H ~ L^+H):

The L⁺ allomorph is the norm,

e.g. /sìyàlìmìsìsà+/ (we plow thoroughly - LLL allomorph),

/sìlìmìlè+/ (we have plowed - L allomorph).

The L ~ L⁺H allomorph is conditioned by object concords in certain tenses,

e.g. /sìyàyìlìmísìsà+/ (we plow it thoroughly - LLLH allomorph),

/sìyìlímìlè+/ (we have plowed it - LH allomorph).

The H ~ L⁺H allomorph is conditioned by third person subject concords in certain tenses,

e.g. /6àyàlìmísìsà+/ (they plow thoroughly - LLH allomorph),

/6àlímìlè+/ (they have plowed - H allomorph).

The H ~ L⁺H allomorph is conditioned by all subject concords in certain tenses,

e.g. /sìlímìsà/ (we help to plow (dep.) - H allomorph),

cf. /sìlìmìsà/ (we help to plow (indep.) - L allomorph).

Here the MTM has grammatical (morphological) significance.

Verbs of tone class II with FTM ⎨HL⎬ use MTM BA with the same allomorphs as MTM B except that the high toneme is realized on non-depressor antepenultimate syllables only. This usage is a survival of the use of MTM B with FTM ⎨LL⎬ described above, as the subjunctive past tense shows,

e.g. /sázìkhéthèlà ~ sázìkhé'thélà/ (and we chose for them),

cf. /sázìlèthélà/ (and we brought for them - tone class I),

cf. /sázìgézèlà ~ sázìgèzélà/ (and we washed for them - tone class II,
        with depressor antepenultimate syllable).

The use of MTM BA with FTM ⎨HL⎬ in the indicative negative tenses suggests that they also once used MTM B with FTM ⎨LL⎬,

e.g. /àsíyí"khé'thángà/ (we did not choose it - tone class II),

cf. /àsíyílèthángà/ (we did not bring it - tone class I),

cf. /àsíyígèzángà/ (we did not wash it - tone class II, with depressor antepenultimate syllable).

Here the MTM has slight lexical significance.

With verbs there is also the MTM C, which is used by verbs of both tone classes in tenses incorporating infixes with inherent tonemes. Its allomorphs are L⁺ without object concords and (H~HL⁺) ~ L⁺ with object concords, according to the presence or absence of penultimate length,

e.g. /ùkúngàgìjìmí ~ ùkúngàgìjìmì+/ (not to run),

/ùkúngàvàlí ~ ùkúngàyívàlí+/ (not to shut/shut it - t.cl.II),

/ùkúngàbàlí ~ ùkúngàyí'bàlì+/ (not to write/write it - t.cl.I).

Here the MTM has grammatical (syntactical) significance.

5.3.0.4. Contraction of tonal morphemes

Tonal morphemes may be contracted to cover a single syllable.
The present perfect suffix /ê:/ and the demonstrative suffix /yâ:/
illustrates the contraction of the ◊HL◊ tonal morpheme. The noun
prefixes /î: ~ ï:/ and /û: ~ ŭ:/ illustrate the contraction of the
◊HL◊ and ◊LH◊ tonal morphemes respectively. It is not always possible
to demonstrate that toneme clusters are the result of tonal morpheme
contraction, and sometimes it is certainly not so, e.g. the HLL+
allomorph of the ◊HH◊ tonal morpheme.

5.3.0.5. Expansion of tonal morphemes

Certain tonal morphemes are capable of expansion to cover several
syllables. I indicate the toneme of expansion by a plus sign, e.g.
the ITM for nouns of tone class I is $◊L^{+}H◊$, e.g. /ìsíhlàhlà/ (bush) >
/ìsíhláhlànà/ (diminutive) > /ìsìhlàhlányànà/ (double diminutive).
This potentiality is also a feature of the MTM, which can expand to
cover any number of syllables.

5.3.1. Tonomorphological classes

The three basic tonomorphological categories parallel the three
basic morphological categories, but the subdivisions of the tono-
morphological categories into tone classes do not parallel the sub-
divisions of the morphological categories into parts of speech.
Nominals are subdivided into five parts of speech and five tone classes,but
the classifications cross one another so that there are five tone classes
of nouns, of adverbs, &c.[i]. Verbals undergo no morphological sub-
division so that there is only one verbal part of speech, namely
verbs, but there are two verbal tone classes or conjugations.
Particles have no morphology and no tonal morphology. Phonologi-
cally ideophones are set apart from interjections, but tonologi-
cally these two parts of speech are not distinct. Doke[31] cross-
classifies ideophones according to the number of syllables and
according to the tonemes of syllables, e.g. monosyllabic ideophones
are classified tonologically into HL, H and L, disyllabic ideophones
into LL (the great majority), LH, HH, HL, HHL, LHL, and there is
no reason why the toneme combinations HLL and HLH should not also
occur. Fivaz[32] shows that whereas monosyllabic ideophones are fairly
evenly divided into HL, H and L, 80% of disyllabic and polysyllabic
ideophones have low tonemes on all syllables. I have no more to
say with regard to particles in this study.

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[i] The fifth tone class is a small exceptional class.

5.3.1.1. Nominal tone classes or declensions

(i) The five tone classes of nominals are determined by the FTM's of the simple disyllabic stems as follows:-

I	II	III	IV
LL	LH	HH	HL
ínyàngà (doctor)	ínyàngá (moon)	úm̱'fází[i] (woman)	úm̱'fánà[i] (boy)
ùm̱hlàбà (aloe)	àmáбèlé (kaffir-corn)	úm̱'hláбá (earth)	ámá'бélè (breasts)
ùбúngànè (friendship)	ìsíkhòvá (banana-grove)	ísí'khóvá (owl)	úбú'ngánè (childhood)
ìsíhlàlò (chair)	ìsíkhàthí (time)	ísí'khwámá (bag)	ísí'бáyà (cattle-kraal)
ìsíhlàhlà (bush)	í:khèhlá (elder)	ísí'khúndlá (position)	í:'qháwè (warrior)
índòdà (man)	íntòmbí (girl)	ín'kósí (chief)	ín'sízwà (young man)
àmádòdà (men)	ìzìntómbì (girls)	ámá'khósí (chiefs)	ízìnsízwà (young men)
ínyònì (bird)	ínkòmó (beast)	ín'kúnzí (bull)	ín'dúnà (headman)
ìzìnyónì (birds)	ìzìnkómò (cattle)	ízìnkàбí (oxen)	ízìngánè (children)
ìzíndàбà (affairs)	ìzíndlèбé (ears)	ízìmvùlá (rains)	ízìndáwò (places)
ùm̱lènzè (leg)	úбàбá (father)	úm̱'khónó (arm)	úm̱'khóntò (spear)
ùm̱fùlà[i] (river)	úm̀àmé (mother)	úm̱'zímbá (body)	úm̱'mbílà (mealies)
í:gèjà (hoe)	í:gàzí (blood)	í:'khándá (head)	í:'hháshì (horse)
ú:khàmbà (clay pot)	ú:phàphé (feather)	í:'hláthí (forest)	í:'gúlà (calabash)
índlèlà (way)	ú:dòngá (wall)	ísí'fúбá (chest)	ísí'gúbù (calabash)
íngùбò (blanket)	í:bòdwé (iron pot)	ámá'fúthá (fat)	ámá'kházà (cold)
íntàmbò (string)	íncwàdí (letter)	ín'símú (field)	ín'qólà (wagon)
ímbàzò (axe)	ùбúhlàlú (beads)	úбú'hlúngú (pain)	ím'búzì (goat)

The fifth exceptional class consists of a few nouns only, which are almost entirely reduplications of depressor syllables, e.g. /úm̱'vémvé/ (wagtail, type of bird), /ín'gxángxá/ (type of frog), /ísí'dlwádlwá/ (type of porridge), /ísí'vúvú/ (great heat), /ú:'dwádwá/ (wide expanse),

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[i] Common pronunciations are /úm'fází/, /úm'fánà/, /úmfùlà/, with /mf/ constituting a consonant cluster.

/úm̥'dlúdlú/ (type of assegai, cf. /dlû/, ideophone of piercing),
/úm̥'hháhhá/ (quick action, cf. /hhâ/, interjection of surprise).
Similar reduplications of nondepressor syllables have evidently been
transferred to other tone classes, e.g. /ámá'cícì/ (ear-rings, cf.
/ámá'cící/ (in Xhosa), /àmáqàqá/ (pole-cats, cf. /ámá'qáqá/ in
Xhosa).

(ii) The allomorphs or morphotonemic variants of these FTM's are
as follows:-

I.   LL ~ (<u>HLL+</u> ~ HL) due to tonal displacement,
     e.g. /ìsíhlàlò ~ (ìzìhlâlò+ ~ ìzìhlálͻ̀)/ (chair/chairs).

II. LH ~ (<u>HLH+</u> ~ HL) due to tonal displacement,
     e.g. /ú:phàphé ~ (ìzìmpâphé+ ~ ìzìmpâphè)/ (feather/feathers).

III. (HH ~ LH) ~ <u>HLL+</u>, H determining HH and L determining LH,
     e.g. /(ísí'fú6á ~ ìzìfù6á) ~ (ísí'fû6a+, ìzìfû6à+)/ (chest/
                                                          chests)[i].

IV. HL without variation,
     e.g. /ín'dúnà, ízìndúnà/ (induna/indunas).

V.   (HH ~ LH) ~ <u>HLH+</u>,
     e.g. (ín'gxángxá , ízìngxànxá) ~ (ín'gxângxá+,
     ízìngxângxá+) (frog/frogs).

This table shows the degree and nature of allomorphic overlapping.
Further overlapping arises from the final tonal assimilation of
HL to HH and particularly of LH to LL, predominantly in quick speech.
Also note that there is tonologically no difference between HH after
a covert tonal downstep and LL after an overt tonal downstep, with
nondepressors.

(iii) The declensional FTM substitutions of these tone classes on
suffixal extension of the stem are as follows:-

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[i] There is also the nonfinal tonal displacement allomorph HL used
only with monosyllabic prefix nouns inflected by certain extra
prefixes, e.g. /ín'ká6í/ (ox) > /ngènká6ì/ (by an ox), cf.
/ngènkâ6ì+/ (penultimate length allomorph); and the nonfinal
allomorph LH conditioned by a depressor in the antepenultimate
syllable, e.g. /(ìmvùlá ~ ìm'vúlá) ~ ìm'vûlà+/ (rain), where, ᴜ
of the bracket alternatives, male speakers prefer the former and
female speakers the latter.

	Single Extension	Double Extension

II.   LH >)

             L-HL ~ H-'HL[i]

III.   HH >)

                                   LH-LL ~ H"H-LL[ii]
                                 (LL-HL ~ LL-HLL+)[iii]

IV.   HL >)

             H-LL ~ L-HL[iii]

I.   LL >)

V.   HH >) "H-'HL

Examples:-

		Locative		Locative diminutive
II.	ínkòmó (beast)	> énkó'ménì[i]	>	énkó"nyánènì[ii]
	índlè6é (ear)	> éndlè6énì	>	éndlètshánènì
III.	ín'ká6í (ox)	> énká'6ínì[i]	>	énká"tshánènì[ii]
	ím'vúlá (rain)	> émvùlénì	>	émvùdlànénì[iii]
IV.	ín'qólà (wagon)	> én"qólènì	>	énqó"lánènì
	ín'gánè (child)	> éngànénì[iii]	>	éngànyánènì
I.	ínyònì (bird)	> ènyónìnì	>	ènyònyánènì
	índà6à (affair)	> èndà6énì[iii]	>	èndàtshánènì
V.	ín'gxángxá (frog)	> ín"gxá'ngxánà (diminutive)		

Note:

(a) This table shows that on single extension the fourfold FTM contrast is reduced to a twofold contrast and that on double extension the FTM contrast disappears completely. It may seem, therefore, that nominals progress from class to class on suffixal extension and all finally arrive at tone class I: III /ámá'khósí/ (chiefs) > IV /ámákhòsánà/ (chief's sons) > I /ámákhòsázànà/ (chief's daughters). It is true that all singly extended nominals have only ◊HL◊ and ◊LL◊ FTM's and that all doubly extended nominals have only ◊LL◊ FTM, but it is not true that the former belong to only two tone classes and the latter to only one. Although the FTM is the main determinant of tone class, the ITM (initial tonal morpheme of the prefix) also provides an indication[iv]. With nouns the ITM is either ◊HL◊ or ◊LH◊ according to tonal dissimilation from the FTM: initial H stem toneme conditions ◊HL◊ ITM with HH allomorph due to tonal assimilation, and initial L stem toneme conditions

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[i] Tonal assimilation on antepenultimate syllable.

[ii] Tonal assimilation on pre-antepenultimate syllable.

[iii] Tonal displacement to penultimate syllable.

[iv] Except with monosyllabic prefixes.

◊LH◊ ITM with LL allomorph due to tonal displacement. The significance of the ITM is due to the fact that it is not subject to substitution on suffixal extension, and so serves to indicate tone class membership,

e.g.　II.　/àmákhèhlá/(elders) > /àmákhèhlánà/ (diminutives)

　　　III.　/ámá'khósí/ (chiefs)> /ámákhòsánà/

　　　II.　/àmákhèhlánà　　 > èmákhèhlánènì/ (locative diminutives)

　　　III.　/ámákhòsánà　　 > èmákhòsánènì/

　　　II.　/ìzíndòngá/ (walls) > /èzíndòngénì/ (locatives)

　　　III.　/ízìmvùlá/ (rains) > /ézìmvùlénì/

　　　IV.　/ízìnsízwà/ (youths)> /ézìnsìzwànênì+/ (locative diminutives)

　　　II.　/ìzìncwádì/ (letters)> /èzìncwájànênì+/[i]

With other nominals the ITM provides no indication, but adjectives and adverbs seldom undergo suffixal extension, and pronouns and demonstratives virtually not at all.

(b) Disyllabic stem nominals do not differ whether the stems are derivative or nonderivative, but polysyllabic stem nominals do. Derivative stems show a twofold FTM contrast on single extension and no FTM contrast on double extension, so that the ITM assumes importance in both lexical and grammatical significance, e.g. /è6ùngànênì+/ belongs to tone class I and means "in friendship", /é6úngànênì+/ belongs to tone class II and means "in childhood", but nonderivative stems show a fourfold FTM contrast. Here it may seem necessary to establish subsidiary tone classes to accommodate these nominals, but in fact it is only in tone class III that it is necessary to do so,

e.g. /ínkòmó/ (beast) > /ínkó'nyánà/ (small beast - regular derivation)

　　　　　　　　　≯/ínkó'nyânè+/ (calf - irregular derivation)

　/úṃhlàbâthì+/ (soil), cf. /úṃ'hlâ6à+/ (earth, world) (doubtful derivations)

　/úmá'lûmè+/ (mother's brother),cf. /úmàmê~ú'mâ:/ (mother)

　/í:thùngûlù+/ (wild plum)

　　　　　　　　　　(nonderivative stems)

　/ú:dòndôlò+/ (long staff)

The question of the classification of these nominals (almost entirely nouns) is left to Chapter 6.

(c) Monosyllabic stem nominals belong to tone classes I and IV, those having a low toneme finally to tone class I and those having a high

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[i] This form show tonal displacement of the prefix high toneme and of the antepenultimate high toneme.

toneme finally to tone class IV. Although the simple forms
suggest that the former belong to tone class IV and the latter
to tone class II, the evidence of the tonal morphemes in tonal
declension on suffixal extension shows that this is not so:

I. /àɓántù/ (persons) > /àɓántwànà > àɓàntwányànà/
   /ìzíndlù/ (houses) > /ìzíndlwànà > èzìndlwànênì+/
   /índlù/ (house) > /índlwànà > èndlwànênì+/[i]

IV. /ímìthí/ (trees) > /ímí'thánà > émí"thánènì/
    /ízìnjá/ (dogs) > /ízìnjánà > ézìnjànênì+/
    /ínjà~ínjá+/ (dog) > /ín'jánà > énjànênì+/[ii]

In the simple forms, the final two tonemes constitute a pseudo-
FTM of which the penultimate toneme is an ITM toneme and only
the ultimate toneme an FTM toneme. This toneme partially re-
presents the bitonal FTM, L representing ⟨LL⟩ and H representing
⟨HL⟩; it does not constitute a monotonal FTM. Monosyllabic stem
verbs also illustrate the pseudo-FTM and the partial representa-
tion of the bitonal FTM. Thus the singular of /ízìnjá/ (dogs)
is not /*ín'já/ but /ínjà/, cf. /kú'ló:/ (to this one), and
effect of tonal assimilation on /ímìthí/ (trees) is not
/*ímí'thí/ but /ímìthì/, cf. /áɓá'lá:/ (they who are here).
It is only monosyllabic words such as the demonstrative /ló/
and the adverb /lá/, that have monotonal FTM's. The mono-
syllabic stem adjectives /ɓàhlé/ (good) and /ɓàɓí/ (bad) belong
to tone class IV, and /ɓàdè/ (tall ones, also nominal class 2)
to tone class I. The adverbs /kàhlé/ (well) and /kàɓí/ (badly)
belong to tone class IV, and /phézù ~ phézùlù/ (above) and
/phámbì ~ phámbìlì/ (ahead) to tone class I. The adverbs
/phànsí+ ~ phánsì+/ (below) and /phàndlé+ ~ phándlè+/ belong
to both tone classes in free variation. The absolute pronoun
/ɓòná/ (nominal class 2) belongs to tone class IV and the in-
clusive and exclusive pronouns /ɓónkè > ɓónkànà, ɓódwà > ɓódwànà/
to tone class I. The latter very rarely undergo extension and
the former not at all.

Disyllabic initial vowel stem nouns do not behave as
monosyllabic stem nouns but as disyllabic stem nouns with

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[i] Other nouns of tone class I: /ùmúzì/ (kraal), /ìsítshà/ (dish),
/ìsílò/ (wild animal), /í:zwè/ (country), /í:tshè/ (stone),
/ímvù/ (sheep).

[ii] Other nouns of tone class IV: /úɓusó/ (face), /ìsìfó/ (disease),
/í:zwí/ (word), /ìngwé+~íngwè/ (leopard), /íntó+~íntò/ (thing).

monosyllabic prefixes,

e.g. /á'mánzí/ (water) > /ámànzánà/ > /émànzànyânà+/ (in a little water),

/ú'tshání/ (grass) > /ótshá'nínì/ (on the grass),

/í'sándlà, í'zándlà/ (hand, hands) > /é"sándlènì, é"zándlènì/.

5.3.1.2. Verbal tone classes or conjugations

(i) The two tone classes of verbs are determined by the FTM's of the stems as follows:-

I HL and HH	II LL and LH
6ona (see)	lima (plow)
6onisa (make/help see)	limisa (make/help plow)
6onisisa (see thoroughly)	limisisa (plow thoroughly)
letha (bring)	khetha (choose)
lethela (bring for)	khethela (choose for)
bala (write)	vala (shut)
balela (write for/to)	valela (shut for/against)
dlala (play)	vula (open)
lala (lie down)	hlala (sit down, stay)[i]
lalela (lie down on)	hlalela (sit down on)
lalela (listen, listen to)	hleka (laugh, laugh at)
thanda (like)	thanda (wind)
sinda (escape)	sinda (smear)
hlanza (vomit)	hlanza (wash)
6opha (tie)	hlupha (worry)
6oshwa (be tied)	hlushwa (be worried)
qala (begin)	hlupheka (get worried)
qeda (finish - trans.)	gcina (finish - intrans.)
6uza (ask)	6aza (carve)
cela (request)	6ala (count)
6eka (place)	beka (watch)
6ekelela (pile up)	bekana (watch one another)
ngena (go in)	qhu6a (drive on)
ngenisa (bring in)	qhu6eka (proceed)
phuma (go out)	khipha (take out)
gwaza (stab)	hla6a (stab)
funda (read, learn)	6amba (catch)
fundisa (teach)	6anjwa (be caught)
fundela (read to)	6ambeka (get caught)
fundisana (teach one another)	6ambelela (catch tightly)

---

[i] In the Zululand dialect this verb belongs to tone class I.

I	II
HL and HH	LL and LH
hamba (travel)	fika (arrive)
funa (want)	gqoka (dress)
thenga (buy)	6onga (praise)
thuma (send)	vuma (agree)
zuza (earn)[i]	geza (wash)
se6enza (work)	sondela (approach)
phumula (rest)	phuthuma (hurry)
khathala (get tired)	fiphala (get dark)
fumana (find)	hlangana (meet)
6aleka (run away)	gijima (run)

(ii)   The allomorphs or morphotonemic variants of these FTM's are
as follows:-

    I. HL without variation,

        e.g. /úkú'66nà/ (to see). /ùkúyí'66nà/ (to see it).

               /sìyà66nà+~sì66nà/ (we see).

               /6áyá'66nà+~6à66nà/ (they see).

    (HH ~ LH)~<u>HLL+</u>

        e.g. /ùkúngàbàlí/ (not to write).

               /ùkúngàyí'bàlì+/ (not to write it).

               /yìbàlé~yìbàlè+/ (write it).

               /6éyí'66ná ~ 6éyí'6ônà+/ (they seeing it).

               /síyí'66né ~ síyí'6ônè+/ (let us see it)[ii].

    II. (LL ~ (<u>HLL+</u> ~HL)) ~ HL

        e.g. /ùkúlìmà/ (to plow). /ùkúyí'lìmà/ (to plow it).

               /sìyàlìmà+ ~ sìlìmà/ (we plow).

               /6àyálìmà+~6àlímà/ (they plow).

               /6àlímìlè+/ (they have plowed).

               /6àvàlìlè+/ (they have shut) (tonal displacement).

               /6àgézìlè+/ (they have washed) (no tonal displacement).

    The allomorph HL is conditioned by such factors as subject

    concords and object concords in certain tenses.

---

[i] In the Natal Coast dialect this verb belongs to tone class II.

[ii] There is also the nonfinal tonal displacement allomorph HL
used only with monosyllabic stem verbs with object concord
in the subjunctive present positive tense, e.g. /sí'yídlé>
zìyídlè/ (let us, let them eat it), cf. /sí'yídlè+, zìyídlè+/
(penultimate length allomorph); and the nonfinal allomorph LH
conditioned by a depressor in the antepenultimate syllable,
e.g. /(síyíbàlé~síyí'bálé) ~ síyí'bàlè+/ (let us write it),
where, of the bracket alternatives, male speakers prefer the
former and female speakers the latter.

(LH ~ (H̲L̲H+ ~ HL)) ~ HL

e.g. /ùkúngàvàlí/ (not to shut).

/ùkúngàyívàlí+/ (not to shut it).

/zìlìmé+ ~ zìlímè/ (plow them) (tonal displacement).

/zívàlé+ ~ zívàlé/ (shut them) (no tonal displacement).

/sízìlímè/ (let us plow them) (tonal displacement).

/sí"zívàlé/ (let us shut them) (no tonal displacement).

/sìlímè/ (let us plow). /sí"yílìmé/ (let us plow it).

The allomorph HL is conditioned by the subject concord
without object concord in the subjunctive present posi-
tive tense with disyllabic stem verbs only, e.g.
/sìlímè/ (let us plow).

This table shows the degree and nature of allomorphic overlapping.
Further overlapping arises from the final tonal assimilation of
HL to HH and particularly of LH to LL, predominantly in quick speech.
Also note that there is tonologically no difference between HH after
a covert tonal downstep and LL after an overt tonal downstep, with
nondepressors.

(iii) The conjugational FTM substitutions of these tone classes,
regardless of the number of stem syllables, are as follows:-[i]

	I		II
	HL	contrasting with	LL

I. infinitive positive:

úkú'66nà (to see)	ùkúlìmà (to plow)
ùkúyí'66nà (+ obj.conc.)	ùkúyí'lìmà* (+ obj. conc.)
ùkúzì6ònísà (make them see)	ùkúzìlímìsà (make them plow)
	ùkúyívàlélà* (shut for him)
	ùkúyí"gézèlà (wash for him)

Note effect of object concord.

III. 2a: indicative present perfect, independent positive:

sì6ònílè+ (we)	sìlìmìlè+ (we)
sìyì6ònílè+ (+ obj. conc.)	sìyìlímìlè+ (+ obj. conc.)
6á6ó'nílè+ (they)	6àlímìlè+ (they)
6áyí6ònílè+ (+ obj. conc.)	6áyí"límìlè+ (+ obj. conc.)
sìyìlèthélè+ (bring for him)	sìyìkhéthèlè+ (choose for him)
6álá'lélè+ (listen)	6àsóndèlè+ (approach)
	6àbèkênè+* (watch one another)

---

[i] The headings on the margin indicate mood-tense-aspect: III 2c
indicates indicative mood, present tense, future aspect (see
classification of tenses under 4.3.3.2.). The asterisks indicate
morphotonemic change, except in the case of FTM ∦HH∦, where it is
impossible to say whether HH or LH is the norm.

Note effect of object concord and third person subject
concord. Only verbs with disyllabic stems show this
contrast; polysyllabic stem verbs use FTM ⟨LL⟩ throughout.

III 2b: indicative present imperfect, independent positive:

sìyà66nà+ ~ sì66nà (we)   sìyàlìmà+ ~ sìlìmà (we)
sìyàyì66nà+ ~ sìyì66nà (+ obj.   sìyàyìlímà+*~sìyìlímà*(+ obj.
                    conc.)   .conc.)
sìyà6bnísà+ⁱ~sì6bnísà   sìyàlìmìsà+ⁱ~sìlìmìsà
sìyàyì6bnísà+ ~ sìyì6bnísà   sìyàyìlímìsà+ ~ sìyìlìmìsà*
6áyá'66nà+ ~ 6à66nà (they)   6áyálìmà+~6àlímà* (they)
6áyáyí'66nà+~6àyì66nà (+ obj.   6áyáyí'límà+*~6àyìlímà* (+ obj.
                    conc.)   conc.)
6áyá6bnísà+ⁱ ~ 6à6bnísà   6àyàlímìsà+ⁱ ~ 6àlìmìsà*
6áyáyí6bnísà+~6àyì6bnísà   6áyáyí"límìsà+~6àyìlìmìsà*
                                 6àyàbèkânà+* (watch one another)

Note effect of object concord and third person subject concord.

III 2b: indicative present imperfect, dependent positive:

sì66nà (we) 6èbónà (they)   sìlìmà* (we) 6èlímà* (they)
síyí'66nà (+ obj. conc.)   síyí'límà* (+ obj. conc.)
sì6bnísà (we) 6è6bnísà (they)   sìlìmìsà (we) 6èlímìsà (they)
                                 6èvàlélà* (shut for)
                                 6ègézèlà (wash for)

Note effect of subject concord: only verbs with poly-
syllabic stems show the contrast. The use of FTM ⟨HL⟩
(a form) by verbs of tone class I is alternative to the
use of FTM ⟨HH⟩ (b form). The latter is the standard form,
but the former is widely used with polysyllabic stem verbs.

III 2c: indicative present future, indep./dep., pos./neg.:

sìzb66nà (pos.)   sìzblìmà (pos.)
sìzbyì66nà (+ obj. conc.)   sìzbyìlímà* (+ obj. conc.)
sìzbyì6bnísà   sìzbyìlímìsà
àsízù66nà (neg.)   àsízùlìmà (neg.)
àsízùyí'66nà (+ obj. conc.)   àsízùyí'límà* (+ obj. conc.)
Note effect of object concord.

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[1] The stems /6onisa/ and /limisa/ are transitive; therefore they do
not normally occur finally without object concord, as here.

IV 1: subjunctive past tense, positive and negative:

      sàɓónà, sàɓònísà (pos.)   sàlímà*, sàlímìsà (pos.)

      sángâ:ɓónà, sángâ:ɓònísà (neg.)   sángâ:límà*, sángâ:límìsà (neg.)

                             sàvàlélà* (pos.)

                             sángâ:vàlélà* (neg.)

Only verbs with polysyllabic stems show the contrast. The use of FTM ⟨LL⟩ (a form) by verbs of tone class II is alternative to the use of FTM ⟨HL⟩ (b form)[i].

V 1: potential present tense, positive and negative:

      sìngàɓónà, sìngàɓó'nísà (pos.)   sìngàlímà*, sìngàlímìsà (pos.)

      sìngê:ɓónè, sìngê:ɓònísè (neg.)   sìngê:límè, sìngê:límìsè (pos.)

      sìngáɓàlísà (cause to write)   sìngá"gézìsà (cause to wash)

                               sìngávàlélà* (pos.)

                             sìngê:vàlélè* (neg.)

Only verbs with polysyllabic stems show the contrast. The use of FTM ⟨LL⟩ (a form) by verbs of tone class II is alternative to the use of FTM ⟨HL⟩ (b form)[i] .

             HH   contrasting with   LH

I: infinitive negative:

      ùkúngàɓòní ∼ ùkúngàɓónì+   ùkúngàlìmí ∼ ùkúngàlìmí+

      ùkúngàyí'ɓònì+ (+ obj. conc.)   ùkúngàyílìmí (+ obj. conc.)

      ùkúngàzìɓònì+   ùkúngàzìlìmí+*

II: imperative singular with object concord:

      yìɓòné ∼ yìɓònè+   yílìmé∼(yìlímè*∼ yìlìmé+*)[ii]

      yìɓàlé ∼ yìɓâlè+ (write it)   yívàlé (shut it)

Note the contrast on object concord.

III 1: indicative past tense, indep./dep. positive:

      sâ:ɓòná ∼ sâ:ɓònà+   sâ:lìmá

      sâ:yí'ɓònà+ (+ obj. conc.)   sâ:yílìmá+ (+ obj. conc.)

III 2b: indicative present imperfect, dependent negative:

      síngàɓòní ∼ síngàɓònì+   síngàlìmí

      síngàyí'ɓònì+ (+ obj. conc.)   síngàyílìmí (+ obj. conc.)

---

[i] The two forms are in free variation, but the former is sometimes said to be "better".

[ii] The object concord displaces its high toneme in the bracket alternative.

IV 2: subjunctive present tense positive with object concord:

síyí'óóné ~ síyí'óónè+   sí"yílìmé

sízìóóné ~ sízìóónè+   sízìlímè* ~ sízìlìmé+*

sízìbàlé ~ sízìbàlè+ (write)   sí"zívàlé (shut)

Note the contrast on object concord.

IV 2: subjunctive present tense negative:

síngà6òní ~ síngà6ònì+   síngàlìmí

síngàzì6ònì+ (+ obj. conc.)   síngàzìlìmí+* (+ obj. conc.)

V 1: potential present tense, negative:

sìngê:6òné ~ sìngê:6ònè+   sìngê:lìmé

The use of FTM's 〟HH〟 and 〟LH〟 (c form) is alternative to
the use of FTM's 〟HL〟 and 〟LL〟 (a form) or FTM 〟HL〟 through-
out (b form). The (c) form is less common.

Note: Only verbs with disyllabic stems show the 〟HH:LH〟
           FTM contrast. Polysyllabic stem verbs use FTM 〟HH〟 throughout.

                 HL   contrasting with   LH
         ───

II: imperative singular without object concord:
6ónà (see)   lìmá (plow)
bálà (write)   vàlá (shut)

Only verbs with disyllabic stems show this contrast;
polysyllabic stem verbs use FTM 〟HL〟 throughout.

                 HH   contrasting with   LL
         ───

III 2b: indicative present imperfect, dependent positive:

sì6òná ~ sì6ònà+   sìlímà*

síyí'6óná ~ síyí'6ònà+ (+ obj. síyí'límà* (+ obj. conc.)
                        conc.)

sì6ònìsá ~ sì6ònìsà+   sìlímìsà

Note effect of subject concord. The use of FTM 〟HH〟 (b form)
by verbs of tone class I is alternative to the use of the
FTM 〟HL〟 (a form). The former is the standard form, but
the latter is widely used with polysyllabic stem verbs.

HL — no contrast — HL
_____

II: imperative singular without object concord:

6ònísà (make see)   lìmísà (make plow)

6àlékà (run away)   gìjímà (run)

Only verbs with polysyllabic stems show no contrast;
disyllabic stem verbs use the ⟨HL:LH⟩ FTM contrast.

II: imperative plural:

6ònánì (see ye)   lìmánì (plow ye)

yì6ònénì (+ obj. conc.)   yìlí'ménì[i] (+ obj. conc.)

yìbàlénì (write it)   yívàlénì (shut it)

6àlèkánì (run away)   gìjìmánì (run)

Note the contrast on object concord.

III 1: indicative past tense, indep./dep. negative:

àsì6ònángà (indep.)   àsílí'mángà (indep.)

àsízì6ònángà (+ obj. conc.) àsízìlí'mángà (+ obj. conc.)

àsízìbàlángà (write)   àsízìvàlángà (shut)

síngà6ònángà (dep.)   síngàlìmángà (dep.)

Note the contrast on subject concord without object concord
and on nondepressor antepenultimate syllables in independent
tense.

III 2b: indicative present imperfect, independent negative:

àsì6ónì (we)   àsí'límì (we)

àsíyí'6ónì (+ obj. conc.) àsíyílímì (+ obj. conc.)

à6à6ónì (they)   à6á'límì (they)

à6áyí'6ónì (+ obj. conc.) à6áyí'límì (+ obj. conc.)

Note the contrast on subject concord without object concord.

IV 1: subjunctive past tense, positive and negative:

sà6ónà, sà6ònísà (pos.)   sàlímà. sàlí'mísà (pos.)
sángâ:6ónà, sángâ:6ònísà (neg.) sángâ:límà, sángâ:lí'mísà (neg.)

Note the contrast on nondepressor antepenultimate syllables of
verbs with polysyllabic stems. With tone class II verbs, FTM
⟨HL⟩ (b form) is alternative to FTM ⟨LL⟩ (a form).

_____

[i] The object concord displaces its high toneme.

V 1: potential present tense, positive and negative:

        sìngà6ónà, sìngà6ó'nísà (pos.)   sìngàlímà, sìngàlí'mìsà (pos.)

        sìngê:6ónè, sìngê:6ònísè (neg.)   sìngê:lìmè, sìngê:lí'mìsè (neg.)

        sìngábàlísà (cause to write)   sìngágèzísà (cause to wash)

Note the contrast on nondepressor antepenultimate syllables
of verbs with polysyllabic stems[i]. With tone class II verbs,
FTM ⫽HL⫽ (b form) is alternative to FTM ⫽LL⫽ (a form).

HH	-	no contrast	-	HH

III 2a: indicative present perfect, dependent positive:

        sì6ònìlé ~ sì6ònílè+   sílí'mílé ~ sílí'mílè+

        síyí6ònílè+ (+ obj. conc.)   síyílìmílè+ (+ obj. conc.)

        sìbàlìlé ~ sìbàlílè+   sívàlìlé ~ sívàlílè+

Note the contrast on subject concord without object concord.
Polysyllabic stem verbs use FTM ⫽HH⫽ throughout wherever disyllabic
stem verbs show the ⫽H:LH⫽,FTM contrast.

e.g. I: Negative infinitive:

        ùkúngà6ònìsì ~   ùkúngàlìmìsí ~

        ùkúngàyí6ó'nìsì+   ùkúngàyílí'mìsì+

        The final form is shown with object concord.

e.g. III 1: indep./dep. positive past indicative:

        sâ:6ònìsá ~   sâ:lìmìsá ~

        sâ:yí6ó'nìsà+   sâ:yílí'mìsà+

        The final form is shown with object concord.

e.g. IV 2: positive present subjunctive with object concord:

        síyí6ònìsé ~ síyí6ònìsè+   síyílí'mìsé ~ síyílí'mìsè+

        Note the contrast on nondepressor antepenultimate
        syllables.

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[i] This contrast is eliminated subsequent to the positive tense sign
/ngá/, because of tonal displacement.

LH - no contrast - LH
_____

IV 2: subjunctive present tense positive without object concord:

sí6òné   sìlímè*
zì6ónè* ~ zì6ônè+*   zìlímè*
zíbàlé (write)   zìválè* (shut)
sì6ónìsé   sìlímìsé
sìbàlélè* (write for)   sìvàlélè* (shut for)

Note the contrast on subject concord, with disyllabic
stem verbs only. Only verbs without object concord use
FTM ◊LH◊ throughout; verbs with object concord use either
FTM ◊HH◊ throughout (polysyllabic stems) or the ◊HH:LH◊
FTM contrast (disyllabic stems), which disyllabic stem verbs
with nondepressor penultimate syllables without object con-
cord also sometimes use, e.g. /sí6òné~(sí'66né ~ sí'6ônè+)/,
cf: /síbàlê/only, but this is rare.

LL - no contrast - LL
_____

III 2a: indicative present perfect, independent positive:

sìlèthélènè+ (bring for   sìkhèthélènè+ (choose for
         one another)   one another)
6álé"thélènè+ (they)   6àkhèthélènè+ (they)
sì6àlékìlè+ (run away)   sìgìjìmìlè+ (run)
6á6á"lékìlè+ (they)   6àgìjìmîlè*+ (they)

Note the contrast on third person subject concord or on
antepenultimate syllables (1st and 2nd persons). Only
verbs with polysyllabic stems use FTM ◊LL◊ throughout;
disyllabic stem verbs use the ◊HL:LL◊ FTM contrast, which
polysyllabic stem verbs also sometimes use, e.g./6á6á"lékìlè+
~ 6á6álèkílè+/, but this is rare.

HL - no contrast - HL
_____

III 2a: indicative present perfect, indep./dep. positive, nonfinal form:

sì6ònê: ~ sì6òné: (indep.)   sìlìmê: ~ sìlìmé: (indep.)
6á6òné: (they, indep.)   6álí"mê: (they indep.)
sì6ònê:, síyí6ònê: (dep.)   sìlí"mê:, síyílìmê: (dep.)

Note the contrast on third person subject concord in indep.
tense and on subject concord without object concord in
dep. tense. Note contraction of FTM ◊HL◊.

HLH+   -   no contrast   -   HLH+

III 2a: indicative present perfect, indep./dep. negative:

àsì6ònîlé+ (indep.)   àsílí'mîlé+ (indep.)

àsíyí6ònîlé+ (+ obj. conc.)   àsíyílìmîlé+ (+ obj. conc.)

6éngàhàmbîlé+ (they are not   6éngàfìkîlé+ (they are not
gone, dep.)   come, dep.)

Note the contrast on subject concord without object concord.
This tense has no nonfinal form: it cannot occur without
penultimate length.

Note:

(a) This table shows the significant contrasts relating to FTM sub-
stitutions in verbal conjugation to be ǀHL:LLǀ and ǀHH:LHǀ. There
is a great amount of allomorphic overlapping, particularly between
ǀHLǀ and the HL allomorph of ǀLLǀ and between ǀLHǀ and the LH
allomorph of ǀHHǀ, which obscures these contrasts and so renders
them inclined to redundancy. The ǀHH:LHǀ contrast is already
redundant with polysyllabic stem verbs, and there is a tendency
for disyllabic stem verbs with nondepressor penultimate syllables
to follow this example: to treat the LH allomorph of the ǀLHǀ
FTM of tone class II as the LH allomorph of the ǀHHǀ FTM of tone
class I, and so to substitute the HLL+ allomorph in positions of
penultimate length[i]. On the other hand the ǀHL:LLǀ contrast
is often obliterated by morphotonemic change with disyllabic stem
verbs, and there is a tendency for polysyllabic stem verbs to use
the ǀHLǀ FTM throughout, on false analogy. They already do so in
the past subjunctive and present potential (b) forms, so that for
speakers who consistently use these forms, the ǀHL:LLǀ contrast
is already redundant here. Similarly in the past and present
indicative negative tenses, the use of the ǀHLǀ FTM throughout
probably replaces the use of the ǀHL:LLǀ contrast. Thus there
is a drift towards the incorporation of tone class II into tone
class I by the elimination of the class II FTM's, ǀLLǀ and ǀLHǀ.

On the other hand the positive present subjunctive without
object concord uses FTM ǀLHǀ throughout instead of the ǀHH:LHǀ

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[i] At present this form is to be regarded as a mistake.

contrast, and the indep. pos. present perfect indicative uses
FTM ◊LL◊ throughout with polysyllabic stem verbs, instead of
the ◊HL:LL◊ contrast. Similarly the occasional occurrence of
FTM ◊LL◊ with polysyllabic stem verbs of tone class I in the
indep. pos. present imperfect indicative and in the positive
infinitive, particularly with stems of more than three syllables,
e.g. /úkú6ònìsìsà ~ úkú6ònìsìsà/ (to see thoroughly), points to
the end of the drift as a single tonal conjugation. At present,
however, where there is no FTM contrast, there is often a partly
effective contrast in ITM, e.g. subject concord without object
concord, or in MTM, e.g. nondepressor antepenultimate syllables,
to distinguish the two tonal conjugations.

Where there are FTM contrasts, the FTM's are both lexically
and grammatically significant, but where there are not, the FTM's
function grammatically only. Thus with disyllabic stem verbs the
FTM's ◊HH◊ and ◊LH◊ function grammatically to indicate certain
tenses and lexically to distinguish the two tone classes, e.g.
/sâ:sîndà+/ (we escaped) and /sâ:sìndá+/ (we smeared), but with
polysyllabic stem verbs the FTM ◊HH◊ functions grammatically
only, e.g. /sá:yísìndîsà+/ (we helped him to escape/to smear).
Although it is not possible to attribute grammatical meaning to
particular tonal morphemes, it is noteworthy that the FTM's of
the ◊HL:LL◊ contrast characterize the independent positive pre-
sent tense of the indicative mood and the positive infinitive,
and that the FTM's of the ◊HH:LH◊ contrast characterize the
dependent negative present tense (except perfect and future
aspects) of the indicative mood[i] and the negative infinitive.
The dependent positive present tense (except future aspect) of
the indicative mood is indicated by the ◊HH◊ FTM alone[ii], but
lexical tonal ambiguity is prevented by an ITM contrast, e.g.
/sìsìndîlè+/ (we having escaped) and /sísìndîlè+/ (we having
smeared). The independent negative present tense (except
future aspect) of the indicative mood is indicated by the ◊HH◊
FTM alone, but lexical tonal ambiguity is prevented by an ITM
contrast, e.g. /àsìsíndì/ (we do not escape) and /àsí'síndì/
(we do not smear). Grammatical tonal ambiguity is sometimes
prevented by an ITM contrast ,

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[i] Also the negative present subjunctive and potential tenses,
which are dependent in form but not necessarily in function.

[ii] Except that verbs of tone class II use the ◊LL◊ FTM in the
imperfect aspect.

e.g. /sìyìlímà/ (we plow it, indep. pos. present tense) and

/síyí'límà/ (we plow it, dep. pos. present tense), and

sometimes by an MTM contrast,

e.g. /sìlìmìsà/ (we help to plow, indep. pos. present tense) and

/sìlímìsà/ (we help to plow, dep. pos. present tense).

(b) Disyllabic stem and polysyllabic stem verbs do not differ whether
the stems are nonderivative,

　　e.g. tone class I:　　/6ona/ (see), /bala/ (write), /6aleka/ (run away),

　　　　tone class II:　　/lima/ (plow), /vala/ (shut), /gijima/ (run),

or whether the stems are derivative,

　　e.g. tone class I:　　/fela/ (die for)</fa/ , /dliwa/ (be eaten)</dla/ ,

　　　　　　　　　　　　/dleka/ (be edible)</dla/ , /zwakala/

　　　　　　　　　　　　(be audible)</zwa/ , /6onisa/ (help or

　　　　　　　　　　　　cause to see), /6alekela/ (run away towards);

　　　tone class II:　　/wela/ (fall into)</wa/ , /enziwa/ (be done)

　　　　　　　　　　　　< /enza/ , /limisa/ (help or cause to plow),

　　　　　　　　　　　　/gijimela/ (run towards).

(c) Monosyllabic stem verbs accommodate the bitonal FTM's of verbal
conjugation only partially, and the final two tonemes constitute
a pseudo-FTM of which only the final toneme is an FTM toneme,

　　e.g. tone class I with FTM ﴾HL﴿: /úkùfá/ (to die),

　　　　　　　　　　　/sìyàfá+, 6áyàfá+/ (we/they are dying)[i].

　　　tone class II with FTM ﴾LL﴿: /ùkúwà/ (to fall),

　　　　　　　　　　　/sìyàwà+, 6á'yáwà+/ (we/they are falling)[ii].

However, these verbs can accommodate the FTM'S completely,
where there is an object infix which now bears the first FTM
toneme,

e.g. /sìyàyídlà+/ (we eat it), /àsì'yídlì+/ (we do not eat it);
where there is an inherent toneme infix which now bears the
first FTM toneme in addition to its inherent toneme,

e.g. /ùkúngàfí/ (not to die), LH allomorph of FTM ﴾HH﴿,

　　　/ùkúngàwí/ (not to fall), LH allomorph of FTM ﴾LH﴿;
where there is a disyllabic suffix,

e.g. /sìfílè+, 6á'fílè+/ (we/they are dead) ,

　　　/sìwìlè+, 6áwìlè+/ (we/they are fallen).

Nevertheless, there are certain exceptions in the conjugation
of monosyllabic stem verbs,which are left to Chapter 7.

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[i] Other verbs of tone class I: /dla/ (eat), /zwa/ (hear), /ma/
(stand, stop).

[ii] Other verbs of tone class II: /sha/ (burn), /na/ (rain), /ya/
(go), /za/ (come).

Disyllabic initial vowel stem verbs behave as monosyllabic
stem verbs,

    e.g. /úkwàkhá/ (to build, tone class I).

        /ùkwénzà/ (to do/act/make, tone class II).

5.3.2. Grammatical agreement

The agreement of gender-number-person prefixes is not parallelled
by agreement as to the tonal morphemes they bear. In the three as-
pects of the independent positive present tense of the indicative
mood, 3rd person prefixes generally bear high tonemes where 1st and
2nd person prefixes bear low tonemes, e.g. /úyá'66nà+/ (he sees),
/ùyà66nà+/ (you see), but this distinction is not maintained even
in the nonfinal forms, e.g. /ù66nà/ (he sees), /ù66nà/ (you see)[i].
In the dependent positive present tense, in the indicative negative
tenses, and in all tenses of the subjunctive and potential moods,
there is no such distinction, and with nominal prefixes there is no
such distinction except with conjunctive pronouns, e.g. /nhàyé/
(with him), /nháwè/ (with you).

5.3.3. Inflection

5.3.3.1. Nominal inflection

The tonemes used on suffixal inflection are determined by the
FTM's of nominal tonal declension (see 5.3.1.1.iii). The tonemes
used on prefixal inflection by the first or inner layer of gender-
number-person prefixes are determined by the ITM's, which are gen-
erally conditioned by the FTM's of the simple stems according to
tonal dissimilation. The tonemes used on prefixal inflection by
the outer or extra layer of case prefixes are determined by the
extra ITM's, which are generally independent of the FTM's and the
ITM's. Tonemes not determined by ITM'S and FTM's are determined
by the MTM's A and B described above (5.3.0.3.), the former (L$^+$,
all low tomes) being used with FTM)HL(, and the latter (H ~ L$^+$H,
an antepenultimate high toneme) being used with FTM)LL(.

5.3.3.1.1. Nouns

(a) Full form nouns

The ITM's are)LH(where the first toneme of the simple
stem FTM is L,)HL(where it is H, and)L$^+$H(with nouns of tone

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[i] Some speakers maintain that it is possible in cases of ambiguity
to distinguish between /ù66nà/ (you see) and /ú"66nà/ (he sees),
but covert tonal upsteps do not normally mark FTM's.

class I.. The allomorphs of these tonal morphemes are as
follows:-

ITM ◊L⁺H◊ of tone class I:

L⁺H (normal allomorph),

e.g.　　　/ìsíhlàhlà/ (bush)
　　　　　/ìsìhláhlànà/ (small bush)
　　　　　/ìsìhlàhlányànà/ (very small bush)

L⁺L (tonal displacement),

e.g.　　　/ìzìhlâhlà+ ~ ìzìhláhlà/ (bushes)
cf.　　　 /ìzíndàбà/ (affairs)

H (monosyllabic prefix),

e.g.　　　/íntàmbò/ (string)

L (tonal displacement,

e.g.　　　/ngèntâmbò+/ (by means of　string)

LH ~ H (long vowel prefix),

e.g.　　　/í:gèjà ~ í:gèjà/ (hoe)

LH ~ H (i: < izi),

e.g.　　　/í:mbàzò (~ í:mbàzò)/ (axes)

L (tonal displacement),

e.g.　　　/ì:nyónì/ (birds)

On suffixal extension the monosyllabic and long vowel allomorphs
are replaced by L⁺H,

e.g.　　　/ìntánjànà/ (short string)
　　　　　/èzìmbázwènì ~ è:mbázwènì/ (locative)
　　　　　/ìzìnyónyànà ~ ì:nyónyànà/ (diminutive).

ITM ◊LH◊ of tone class II:

LH (normal allomorph),

e.g.　　　/ìsíkhàthí/ (time)
　　　　　/ìsíkhàshánà (short time)

LL (tonal displacement),

e.g.　　　/ìzìkhâthí+ ~ìzìkháthì/ (plural)
　　　　　/ìzìkhá'shánà/ (diminutive)

H (monosyllabic prefix),

e.g.　　　/íntòmbí/ (girl)

L (tonal displacement),

e.g.　　　/nhèntòmbí+/ (with a girl)

LH ~H (long vowel prefix),

e.g.   /í:khèhlá ~ í:khèhlá/ (elder)

LH ~H (i: < izi),

e.g.   /í:ndòngá (~ í:ndòngá)/ (walls)

L (tonal displacement),

e.g.   /ì:nkómò/ (cattle)

On suffixal extension the monosyllabic and long vowel allomorphs
are retained,

e.g.   /íntònjánà/ (small girl)
            /èzíndòngéni ~ ě:ndòngénì/ (locative)
            /ìzìnkóʰyánà ~ ì:nkó'nyánà/ (diminutive).

ITM ◊HL◊ of tone classes III and IV:

HL (normal allomorph),

e.g.   /ízìkhwàmá/ (bags)
            /ízìkhwànyánà/ (small bags)

HH (tonal assimilation),

e.g.   /ísí'khwámá/(bag)
            /ísíkhwànyánà/ (small bag)

LH (tonal displacement),

e.g.   /ngèsí'khwâmà+/ (by means of a bag)

HL (normal allomorph),

e.g.   /ízìnsízwà/ (young man)
            /ízìnsízwànà/ (diminutive)

H (monosyllabic prefix),

e.g.   /ín'sízwà/ (young man)

L (tonal displacement),

e.g.   /nhènsízwà/ (with a young man)

HL ~H (long vowel prefix),

e.g.   /î:qháwè ~í:'qháwè/ (warrior)

HL ~H (i: < izi),

e.g.   /î:ndúnà (~ í:n'dúnà)/(indunas)

HL ~H (monosyllabic stems),

e.g.   /înjá+ ~ ínjà/ (dog)
            /î:zwí+ ~ (î:zwí ~ í:zwì)/ (word)[i]

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[i] A final high toneme requires a penultimate low toneme for its
realization, and a toneme cluster requires vowel length (either
inherent or imposed) for its realization.

On suffixal extension the monosyllabic and long vowel allomorphs are retained,

e.g. /ín"sízwànà ~ ìnsízwànà/ (small young man)
/ézìndùnénì ~ ê:ndùnénì/ (locative)
/ín'jánà > ínjànyânà+/ (double diminutive).

There is no tonal ambiguity between nouns of tone classes II and III on suffixal extension because of the contrast between the ITM's ⎰LH⎱ and ⎰HL⎱,

e.g. III: /ámákhòsánà, émákhòsánènì< (ámá'khósí ~ámá'khôsì+)(chiefs),
II: /àmákhèhlánà, èmákhèhlánènì< àmákhèhlá/ (elders).

Although the distinction is slight with nondepressors[ii], it is not slight with depressors where there is no tonal assimilation,

e.g. III: /ízìmvùlá > ézìmvùlénì/ (in the rains),
II: /ìzíndòngá > èzíndòngénì/ (on the walls);
III: /ízìnkà6í/ (oxen) > /ízìnkàtshánà > ézìnkàtshánènì/,
II: /ìzìnkómò/ (cattle) > /ìzìnkó'nyánà > èzìnkó"nyánènì/.

Depressors cause tonal displacement: this process is blocked in /ìzíndòngá/ but not in /ìzìnkómò ~ ìzìnkômó+/.

There is no tonal ambiguity between nouns of tone classes I and IV on suffixal extension because of the contrast between the ITM's ⎰L⁺H⎱ and ⎰HL⎱,

e.g. IV. /ízìnsízwà/ (young men) > /ízìnsízwànà > ézìnsízwànênì+/,
I. /àmádòdà/ (men) > /àmàdódànà > èmàdòdànênì+/.

Tonal ambiguity sometimes arises in quick speech because of the substitution of low tonemes for initial high tonemes followed by a tonal upstep,

e.g. IV. /ábá'fánà/ (boys) > /ábá"fányànà ~ àbàfányànà/,
cf. I. /àmádòdà/ (men) > /àmàdódànà/.

Tonal ambiguity arises between nouns of tone classes III and IV on double suffixal extension,
e.g. IV. /á6áfànyányànà/ (double diminutive),
III. /émákhòsánènì/ (locative diminutive);
IV. /ézìnsízwànênì+ < ízìnsízwà/ (young men),
III. /ézìmvùdlànênì+ < ízìmvùlá/ (rains);

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[i] In quick speech it is nonexistant: /émákhó"sánènì, émákhé"hlánènì/.

but not between nouns of tone classes I and II because of the
distinctiveness of ITM ⦃L⁺H⦄ of tone class I,

e.g.   I.   /ìzíndà6à/ (affairs) > /èzìndàtshánènì/,
       II.   /ìzíndlè6é/ (ears) > /èzíndlètshánènì/,
       II.   /ìzìmpáphè/ (feathers) > /èzìmpá"shánènì/,
       II.   /ìzìncwádì/ (letters) > /èzìncwájànênì+/.

With monosyllabic and long vowel prefixes the possibility of
tonal ambiguity on suffixal extension is far greater, because all
ITM's use the H allomorph. The ITM of tone class I is still distinct,
however, in that H is replaced by L⁺H in extensions,

e.g.   I.   /ínyònì/ (bird) > /ìnyónyànà > ènyònyánènì/,
       II.   /énqòlánènì/ (in a small wagon),
       III.   /énkòsánènì/ (to a minor chief),
       IV.   /énkònyánènì/ (on a little beast).

The extra ITM for full form nouns is ⦃H⦄, except where the extra
prefix coincides with the initial vowel of the noun in which case it
adopts its toneme,

e.g.   /índòdà/ (man) > /yhíndòdà/   (by a man)
                          > /nhá"yhí ndòdà/ (and by a man)
                          > /njé"ngéndòdà/ (like a man)
       /ìzímbàzò/ (axes) > /ngèzímbàzò/ (by means of axes)
                          > /nhángèzímbàzò/ (and by means of axes)
       /à6ántwànà/ (children) > /kù6ántwànà/ (to the children)
       /ìzìnkómò/ (cattle) > /èzìnkó'ménì/ (amongst the cattle)
       /íntòmbí/ (girl) > /ú6ùsò 6éntòmbí/ (the girl's face)
       /úyìsé/ (his father) > /à6ántù 6á"káyìsé/ (his father's people)
       /ìzíndlù/ (huts) > /ngèzíndlù/ (by means of huts)
       /ízìnjá/ (dogs) > /ngézìnjá/ (by means of dogs)
       /ìnjá+/ (dog)   > /yhìnjá+/ (by a dog)

Most extra prefixes have depressors causing tonal displacement,

e.g.   /ín'sízwà/ (young man) > /yhìnsízwà/ (by the young man),
cf.   /ízìnsízwà/ (young men)> /yhízìnsízwà/ (by the young men);
e.g.   /íntòmbí/ (girl) > /í'zándlà zèntómbì/ (the girl's hands),
cf.   /ín'gánè/ (child) > /í'zándlà zén'gánè/ (the child's hands);
e.g.   /ín'kósì/ (chief)> /njéngènkósì/ (like a chief),
       /íncwàdí/ (letter) > /nhángèncwádì/ (and by letter),
       /ímìthí/ (trees)> /ím'pándé"yémìthí/ (tree root),
       /ímìthí/ (trees)> /ízìmpàndè zèmíthì/ (tree roots),
       /èzìnkó'ménì/ (to the cattle) > ngàsézìnkó'ménì/ (towards the
                                                    cattle).

In the Zululand dialect the conjunctive prefix is sometimes /na/
instead of /nha/, particularly with the old folk,

e.g. /nén'sízwà/ instead of /nhènsízwà/ (with a young man),
/nèntòmbí/ instead of /nhèntómbì/ (with a girl),
/néndòdà/ instead of /nhéndòdà/ (with a man).

The extra ITM is not capable of expansion, with the result that
on multiple inflection a sequence of tonal upsteps arises,

e.g. /nhá"yhín'dúnà/ (and by an induna),
/nhá"njé"ngén'dúnà/ (even as an induna).

Morphotonemic change tends to substitute a low toneme for an initial
high toneme followed by a tonal upstep,

e.g. /nhàyhín'dúnà/, /nhànjé"ngén'dúnà/.

(b) Short form nouns

The ITM is ⟨L⟩ throughout, and ⟨L⁺⟩ with nouns of tone class I.

I. /sìhlàhlà/ (bush), /zìhlàhlà/ (plural), cf. /ìzìhlâhlà+/;
> /zìhlàhlànà/ (diminutive), cf. /ìzìhláhlànà/.

II. /sìkhàthí/ (time), /zìkhàthí/ (plural), cf. /ìzìkhâthí+/;
> /zìkhàshánà/ (diminutive), cf. /ìzìkhá'shánà/;
> /zìkhàshányànà/, cf. /ìzìkhá"shányànà/ (double diminutive).

III. /sìkhwàmá ~ sìkhwâmà+/, cf./ìsí'khwámá ~ ìsí'khwâmà+/ (bag)

II. /ntòmbí/ (girl), /zìntòmbí/ (girls), cf. /ìzìntômbí+/.

II. /khèhlá/ (elder), /màkhèhlá/ (elders).

IV. /nsízwà/ (young man), /zìnsízwà/ (young men).

IV. /qháwè/ (warrior), /màqháwè/ (warriors).

IV. /njá ~ ìnjá/ (dog), /zìnjá/ (dogs).

IV. /zwí ~ lìzwí/ (word), /màzwí/ (words).

Note the zero prefix forms, e.g. /ntòmbí, nsízwà, njá/. The forms
/njá, zwí/ have no primary stress and therefore no status as words,
e.g. /àngízwà-zwí+/ (I hear no word, Zululand dialect),
cf. /àngízwà lìzwí+/ (I hear no word, Natal dialect).
After demonstratives only the monosyllabic forms are used,
e.g. /lè-njá+/ (this dog), /léyò-njá+/ (that dog),

and as vocatives only the disyllabic forms are used,

e.g. /hnjá/ (dog!).

Tonal ambiguity arises on suffixal extension between nouns of tone classes II and III,

e.g. III. /màkhòsánà, màkhòsányànà < màkhòsí ~ màkhôsì+/(chiefs),

   II. /màkhèlánà, màkhèhlányànà < màkhèhlá/ (elders),

but not between nouns of tone classes I and IV, because the latter employs MTM B (antepenultimate high toneme) conditioned by FTM ⦃LL⦄ , whereas the former employs no MTM because of expandable ITM ⦃L⁺⦄,

e.g. IV. /6àfányànà, 6àfànyányànà < 6àfánà/ (boys),

   I. /sìhlàhlànà, sìhlàhlànyànà < sìhlàhlà/ (bush),

   cf. /ìsìhláhlànà, ìsìhlàhlányànà < ìsíhlàlà/,

the full form noun with expandable ITM ⦃L⁺H⦄. The distinctiveness of the ITM of tone class I is to be correlated with the distinctiveness of the FTM as the only final tonal morpheme without a high toneme constituent.

   The extra ITM for short form nouns is ⦃L⦄ for the first inflection and ⦃H⦄ for subsequent inflections,

e.g. /zìmbàzò/ (axes) >/ngàzìmbàzò zìní+/ (with what sort of axes?),
                  >/nhángàzìm6àzò zìní+/ (and with what sort of
                                            axes?);

   /mùntù/ (person) > /njéngàmùntù mùní+/ (like what sort of person?),

   /zìnkòmó/ (cattle) > /kùzìnkòmò zìphí+/ (amongst which cattle?)[i],

   cf. /èzìnkó'ménì zàkíthì/ (amongst the cattle of our place);

e.g. /ntòm6í/ (girl) > /àsìzwà ngàntòmbí+/ (we hear through no girl),

· · cf. /àsízwà ngèntòmbí+/ (we do not hear through the girl);

e.g. /ngánè/ (child) > /àsínhàngánè+/ (we have no child),

   cf. /sìnhén'gánè+/ (we have a child);

e.g. /nkòsí/ (chief) > /ìzízwè zànkòsì yìnyè/ (tribes of a single
                                            chief)[ii].

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[i] The irregular adjective /phí/ normally precedes the noun which is then in apposition, e.g. /kúzìphí+ ìzìnkômó+/. The irregular adjective /ní/ never precedes the noun. Note the final tonal assimilation from high to low: /zìnkòmó > zìnkòmò/.

[ii] The irregular adjective /nyè/ is rarely used except in copula verb construction, e.g. /ín'kósí"í6è yìnyè/ (a single chief). Note the final tonal assimilation from high to low: /nkòsí > nkòsì/.

5.3.3.1.2. Adjectives

(a) Old or true adjectives

With true adjectives, of which there are less than twenty altogether, the ITM of the dependent prefix is ⟨L⟩,

e.g. IV /ɓàhlánù/ (five), /sìncánè/ (small)
/màdálà/ (old) > /màdádlànà/ (oldish)
/mùhlé/ (good), /ììɓí/ (bad), /ɓùshá/ (new)
/zìphí/ (which?), /zìní/ (what sort?)

III /ɓàthâthù+/ (three), /sìfûphì+/ (short)
/màkhùlú/ (big) > /màkhùdlwánà/ (biggish)

II /ɓàɓìlí/ (two)

I /ɓànè/ (four), /lùdè/ (long), /mùnyè/ (one)

Adjectives have no independent function. They function only in nomino-verbal constructions (q.v.) with or without the copula verb. With the copula verb the ITM is ⟨L⟩,

e.g. /ɓâːɓà – ɓàkhûlù+/ (they became big, great)
/sìzɓôɓà – ɓàɓìlí,– ɓàhlánù/ (we will be(come) two, five)
/ùkúɓà ɓáɓè – mùnyè/ (that they should be one).

Without the copula verb the ITM is ⟨L⟩ except in the independent positive present tense for the third person where no verbal prefix is used, when the ITM is ⟨H⟩. The prefix high toneme is displaced to the following syllable unless tonal displacement is blocked by a depressor, regardless of whether the prefix contains a depressor, in the Natal dialect but not in the Zululand dialect[i],

e.g. /ɓàkhûlù+ ~ ɓá'khûlù+/ (they are big, great)
/ɓàɓìlí+ ~ ɓáɓìlí+/ (they are two, nominal class 2)
/zímɓìlí/ (they are two, nominal class 10)
/ɓá'dálà/ (they are old), cf. /sìɓàdálà/ (we are old)
/ɓàhlé+ ~ ɓàhlè/ (they are good), cf. /sìɓàhlé/ (we are good)
/múnyè/ (he is one), cf. /ngìmùnyè/ (I am one).

cf. /àɓàɓàkhûlù+/ (they are not big)
/àɓàɓàdálà/ (they are not old).

The addition of the relative vowel converts the adjective from predicative function to qualificative function or to substantive function

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[i] Such tonal displacement also occurs with imperative verbs, e.g. /yìlímè/ (plow it), cf. /yívàlé/ (shut it), but not in the Zululand dialect.

(self-standing adjectives),

e.g. /á6á'khûlù+/ (who are big), /ézìnkûlù+/ (which are big)
/á6á'dálà/ (who are old), /ézìndálù/ (which are old)
/á6àshá/ (who are young), /ézìntshá/ (which are new)
/á'6ádè/ (who are tall), /é'zíndè/ (which are long)[i]

Adjectives are not directly inflectionable by nominal extra
prefixes, except the irregular adjectives, /phí/ (which), /ní/
(what sort?), /nyè/ (only one), which function without the relative
vowel, when the extra ITM is ◊H◊,

e.g. /ínjà yámùphí+ ùmúntù+/ (dog of which person?)
/ízìnjá zàmûphí+ ùmúntù+/ (dogs of which person?)
/ngàyîphí+ índlèlà+/(by which way?)

e.g. /ngùmûphí+ ~ mûphí+/ (agentive or predicative),
cf. /mùphí/ (qualificative), /ngùmùntù ~ mùntù/ (short form noun)[ii] ;
e.g. /yhízìphí+ ~ zîphí+/ (by/it is which ones?),
cf. /zìphí/ (which ones?), /yhìzìnjá ~ zìnjá/ (by/it is dogs)[ii].

The adjective /phí/ rarely follows the noun. The adjective /nyè/
normally follows the noun, most often in copula verb construction,
e.g. /hháshì lìnyè ~ í'hháshì lí6è lìnyè/ (only one horse)[iii],and
so is seldom inflected. The adjective /ní/ always follows the noun,
e.g. /mùntù mùní/ (what sort of person?), and so is uninflection-
able. Its root, however, is inflectionable as an independent
entity,

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[i] As with monosyllabic stem nouns and verbs, the final two tonemes
constitute a pseudo-FTM, as the tonal downstep shows.

[ii] With short form nouns the agentive inflection (with low toneme)
is very rare or even nonexistant except with monosyllabic stem
nouns, and the simple form can function agentively or predicatively
without inflection. Adjectives function predicatively with tonal
inflection, e.g. /mûphí+/; but the adjective /phí/ also has an
agentive inflection (with high toneme) which prevents ambiguity
in cases such as /zîphí+ ~ yhízìphí+/ (which are they?), cf.
/zîphí+/ (where are they?).

[iii] The commonest expression of "only one" is by means of the exclu-
sive pronoun, e.g. /í'hháshì élí'lódwà/ (a horse which is only one).

e.g. /yhîní/ (what is it?)

/ngâní/ (by means of what? how? why?)

/ngùmúntù wâní+/ (What sort of person is he?)

/àkùmùntù wàlúthò+ (∼wàlùthó+)/[i] (He is a person of no worth).

This is the only example in Zulu of the use of extra prefixes with gender nominals without gender prefixes. The use of extra prefixes with genderless nominals is common,

e.g. /ûphí+ ú'lá:/ (Where is he? He is here).

(b) New or noun adjectives

With noun adjectives, of which there are more than fifty altogether, the ITM of the independent prefix is ⦃L⦄,

e.g. IV /m̥nyámà/ (black) < /úm̥'nyámà/ (darkness)

/6ùkhálì/ (sharp) < /ú6ú'khálì/ (sharpness)

III /m̥hlôphè+/ (white) < /úm̥'hlôphè+/ (white beast)

/nsûndù+/ (brown)[ii] < /ín'sûndù+/ (brown beast)

/6ùhlûngù+/ (painful) < /ú6ú'hlûngù+/ (pain)

/lùkhûnì+/ (hard) <? /ú:'khûnì+/ (firewood)

II /6ànzí/ (wide)[ii] <?

/6òmvú/ (red)[ii] < /í:6òmvú/ (red ochre)

I /nzìmà/ (strong, heavy)[ii] < ? /ínzìmà/ (black bull)

/6ùthùntù/ (blunt) < /ù6úthùntù/ (bluₙtness)

Adjectives have no independent function. They function only in nomino-verbal constructions (q.v.), either with the copula verb,

e.g. /màzí6è - 6ùkhálì, - 6ùthùntù/ (let them be sharp, blunt),

or without the copula verb, when the prefix low toneme is subject to tonal assimilation to or tonal displacement from the verbal prefix,

e.g. /sí6ú'khálì/ (it is sharp - tonal assimilation)

/zì6ú'khálì/ (they are sharp - tonal displacement)

cf. /àzì6ùkhálì/ (they are not sharp).

The addition of the relative vowel converts the adjective from predicative function to qualificative function or to substantive

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[i] /lúthò ∼ lùthó/, a short form noun used almost exclusively after a negative predicate to mean "nothing".

[ii] These stems have zero prefixes.

function (self-standing adjectives),

e.g. /ésíbú'kháli/ (which are sharp)

/ésíbòmvú/ (red one)

/èzìbómvù/ (red ones).

Noun adjectives derive from short form nouns, but they constitute a separate part of speech in that -

a) the derivation is sometimes uncertain, e.g. /nzìmà/, and
    sometimes nonexistant, e.g. /bànzí/.

b) short form nouns in positive nomino-verbal constructions
    require qualification,
    e.g. /ú'méhló "ábòmvú+/ (he is red-eyed),
        /í:bòdwè élímìlènzè mìthàthù+/ (a three-legged cooking pot),
    whereas noun adjectives do not,
    e.g. /kúnzìmà/ (it is heavy, difficult),
        /kúlú'khûnì+/ (it is hard, difficult).

c) short form nouns function in various ways and are inflection-
    able by nominal extra prefixes, whereas noun adjectives func-
    tion only in nomino-verbal constructions and are not directly
    inflectionable by nominal extra prefixes.

5.3.3.1.3. Pronouns

The ITM's are ⟨L⟩ and ⟨H⟩ according to tonal dissimilation
from the root toneme with absolute, inclusive and exclusive pro-
nouns, e.g. /bòná/ (they), /bónkè/ (all they), /bódwà/ (only they),
and from the adjective prefix high toneme with numeral pronouns,
whose stems are predicative adjectives, e.g. /bóbá6ìlí/ (both of
them), /bòbá'hlánù/ (all five of them, with class 2 reference);
/zòzímbìlí ~ zò:mbìlí/ (both), /zòzìnhlánù ~ zò:nhlánù/ (all five,
with class 10 reference). Only the absolute pronoun is inflection-
able by nominal extra prefixes, and the others may only follow in
apposition, e.g. /ngâzò zónkè/ (through all of them), /kúwò wónkè
úm̱'hlâbà+/ (in all the world).

The extra ITM is ⟨H⟩ with all extra prefixes except ⟨nha⟩ and
⟨kunha⟩, where it is ⟨H⟩ with 1st and 2nd person pronouns which use
the general low toneme allomorph and ⟨L⟩ with 3rd person pronouns
which use the special high toneme allomorph, in the first inflection-
al position only,

e.g. /nhámì/ (with me), /kú'nhámì/ (rather than me),

/nhàyé/ (with him), /kúnhàyé/ (rather than him),

/nhá'ngáyè/ (and through him);

and except in negative copulative constructions where it is ⦃L⦄
with all extra prefixes together with the special high toneme
allomorph. The inflectional allomorphs of the absolute pronoun
are as follows:-

			(a)	(b)	(c)	(d)	(e)
mìná	1st. p. sg.	Cl.1.	mì	mìná	(mì)	(mì)	mí
thìná	1st. p. pl.	Cl.2.	thì	thìná	(thì)	(i)thù	thí
wèná	2nd. p. sg.	Cl.1.	wè	wèná	(wò)	khò	wé
nìná	2nd. p. pl.	Cl.2.	nì	nìná	(nì)	(i)nù	ní
yèná	3rd. p. sg.	Cl.1.	yè	yèná	yé	khè	yé
6òná	3rd. p. pl.	Cl.2.	6ò	6òná	66	(6ò)	66
wòná	3rd. p. pl.	Cl.6.	wò	wòná	wó	(wò)	wó
zòná	3rd. p. pl.	Cl.10.	zò	zòná	zó	(zò)	zó

Note:

(a) The general inflectional allomorph used with ⦃yhi⦄, ⦃nga⦄, ⦃ku⦄,
    and the comparative prefixes,
    e.g. /yhímì/ (by me), /ngámì/ (through me), /kímì/ (to me);
    /ngúyè/ (by him), /ngáyè/ (through him), /kúyè/ (to him);
    /njé'ngáthì/ (like us)[i],
    /nhá'ngázò/ (and by means of them)[i],
    /nhángàkú6ò/ (and in the direction of their place).

(b) The full form allomorph used as an alternative to the general
    allomorph with ⦃yhi⦄ and ⦃ku⦄ only,
    e.g. /(yhìmîná+ ~ yhìmínà) ~ yhímì/ (it is me);
    (ngùyêná+ ~ ngùyénà) ~ ngúyè/ (it is him);
    /yhízòná ~ yhízò/ (it is them);
    /kú6òná ~ kú6ò/ (to them, at their place),
    /kíthìná ~ kíthì/ (to us, at our place).

(c) The special allomorph used with ⦃nha⦄ and ⦃kunha⦄ bearing ⦃L⦄,
    except the bracketted general allomorph used with ⦃nha⦄ and
    ⦃kunha⦄ bearing ⦃H⦄,
    e.g. /nhàyé/ (with him), /nhà66, nhàzó/ (with them),
    /nhámì/ (with me), /nháthì/ (with us);
    /kúnhà66/ (rather than them), /kú'nháthì/ (rather than us)[i].

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[i] The final two tonemes constitute a pseudo-FTM as the tonal
downstep shows.

(d) The special possessive pronoun allomorph used with the possessive prefixes and the locative possessive prefix ⦃kwa⦄. There are only four such forms in fact, two of which have latent "i" causing /a > e/, and the rest (in brackets) represent the general allomorph,

e.g. /índlù yámì/ (my house), /índlù yéthù/ (our house).

There are indications that in some dialects some of these stems condition the extra ITM ⦃HL⦄[i], but the standard dialect uses the extra ITM ⦃H⦄ throughout,

e.g. /ìsígqòkò sákhè/ (his/her hat)

/ìzígqòkò zá6ò/ (their hats, class 2 reference)

/ìzígqòkò zázò/ (their hats, class 10 reference)

/phámbì kwákhè/ (in front of him)

/phézù kwéthù/ (above us).

Possessives take precedence in word order over all qualificatives, and in this position (without penultimate length) the high toneme of the possessive pronoun is sometimes flattened,

e.g. /ìsítshà sàmì ésí'khûlù+/ (my big plate),

cf./ìsítshà sámì+/ (my plate).

(e) These allomorphs are used in negative copulative constructions together with the extra ITM ⦃L⦄,

e.g. /àsìyhì6ó/ (we are not they), cf. /sìyhí6ò/ (positive),

/à6ánhàthí/ (they are not with us), cf./6á'nhâthì/ (positive).

(See 5.3.5. Nomino-verbal constructions).

5.3.3.1.4. Demonstratives

Demonstratives are exceptional in that the agreement element is not a prefix and the stem occurs initially. The stem is related to the adverb /lá/ (here), and it is prefixed to the class concords to build the first position form,

e.g. Cl.1. la + u > /ló ~ lónà/[ii] (this)

Cl.2. la + 6a > /lá6à/ (these)

Cl.9. la + i > /lé ~ lénà/[ii] (this)

Cl.10. la + zi > /lézì/ (these)

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[i] Sometimes it appears to be all stems except /mi/ and /kho/ (Zululand dialect), sometimes only the special stems and sometimes only the plural special stems, so that the situation is confused.

[ii] Selfstanding forms only, e.g. /ló ~ lónà/ (this one), /ùmúntù ló ~ ùmúntù lónà/ (this person), cf. /ló'múntù/. This applies also to the /yánà/ variant of the third position demonstrative.

The second position form is derived from the first by the addition
of /ɔ/,

e.g. /ló > lówɔ̀/ (that), /láɓà > láɓɔ̀/ (those) (first gender)
  ‛/lé > lêyɔ̀/ (that), /lézì > lézɔ̀/ (those) (fifth gender)
The third position form is derived from the first by the addition of
/yâ: ~ yánà/ to the inflectional allomorphs, /lɔ̀:wà/, /là:ɓà/, &c.,

e.g. /lɔ̀:wàyâ:, là:ɓàyâ:/ (yonder - first gender).
There is a further form, possibly a fourth position form, based on
the inflectional allomorphs, /lô:wà/, /lâ:ɓà/,&c.,

e.g. /lô:wàyâ:, lâ:ɓàyâ:/ (far yonder - first gender).

· The demonstrative when not selfstanding is used as a prefix to
the noun, as the tonal downstep shows, e.g. /ló'múntù/ (this person),
/láɓàɓántù ~ lábá'ɓántù/ (these persons). The second position form
is prefixed to the short form noun, e.g. /lówɔ̀múntù, láɓɔ̀ɓántù,
lézɔ̀zìnkɔ̀mó/, and the rest to the long form noun with initial elision,
e.g. /lézìzìnkômó+ ~ lézì:nkômó+/, although the short form noun
sometimes occurs here also, particularly in the Natal Coast dialect.
In this position the third position suffix /yâ:/ usually occurs as
/yá:/, e.g. /lè:zìnyá:'nkômó+/ (yonder cattle). The first position
monosyllabic demonstratives sometimes bring about tonal displacement,
e.g. /ló'múntù ~ lòmúntù/ (this person), /lénkɔ̀mó ~ lènkómɔ̀/ (this
beast), /(lámá'khôsì+ ~ làmá'khôsì+) ~ láwàmá'khôsì+/ (these chiefs).
This fact, together with the fact that tonal displacement is blocked
by the initial consonant of demonstratives in the Natal Coast dialect,
suggests that the consonant is sometimes the depressor /lh/, e.g.
/lhòmúntù/.

    There are no ITM's with demonstratives, for the gender-number-
person concord is not a prefix. The extra ITM is ₣H₣. The mono-
syllabic and disyllabic demonstratives constitute monotonal and
bitonal FTM's respectively, which are therefore marked by tonal
downsteps, and the inflectional allomorphs of the monosyllabic
demonstratives incorporate latent inherent length conditioning final
stress,

e.g. /kú'ló: ~ kú'lónà/ (to this one)
      /nhàló: ~ nhàlónà/ (with this one)
  cf. /nhá'ló:~ nhá'lónà/ (Natal Coast dialect);

e.g. /yhìló:, yhìlówɔ̀,yhìló:wàyâ:/ (by/it is this one, &c)
  cf. /yhí'ló:, yhí'lówɔ̀, yhí'lɔ̀:wàyâ:/ (Natal Coast dialect);

e.g. njéngàló:/ (just as this one)

cf. /njé"ngá'ló:/ (Natal Coast dialect);

cf. /njé'ngálò/ (like it, class 5 absolute pronoun);

e.g. /ngàléndlèlà nhángàléyò/ (by this way and by that)

/ngùmúntù wá"kú'léyòndáwò/ (it is a person of at that place)

/yhízìnjà zángàkú'léyòndáwò/ (it is dogs of roundabout that place).

Sometimes, because of its use as a prefix, the demonstrative FTM
is marked by a tonal upstep instead of a tonal downstep,

e.g. /ín'gánè yá"lómùzì, yá"lówòmùzì/ (child of this kraal, that kraal),

cf. /ín'gánè yá'lómùzì, yá'lówòmùzì/.

The emphatic demonstratives, /nángù/ (this one here), /námpà/
(Zululand)~/ná6à/(Natal) (these ones here), /nà:zìyâ:/ (yonder
ones over there), &c., are uninflectionable by nominal extra pre-
fixes, but they can function predicatively without inflection,

e.g. /nángù/ (here he is), /nángò/ (there he is).

5.3.3.1.5. Adverbs ✶

Adverbs or genderless nominals have emerged fairly recently from
the body of gender nominals. Although the initial syllables are no
longer gender prefixes, it is best to treat in terms of ITM's, for
to do otherwise results in exceptions wholesale. There are never-
theless a number of exceptions, which I mark with asterisks.

(a) Old or true adverbs

Adverbs with initial /ma/ (<class 6), /6u/ (<class 14),
/ka/ (<old class 12), /ku/ (<old class 17), behave as short form
nouns as to ITM, in that the initial toneme is always low,

e.g. I /màndùlò/ (olden tomes), cf. /éndùlò/ (olden times)

/kà6ùthùntù/ (bluntly), /kànzìmà/ (with difficulty)

/kàdè/ (long ago)[i], /kànyè/ (once)

/kûdè/ (far away) > /kùjànà/ (fairly far away)

II /mànìní ~ nìní/ (when?), /kánjàní*/ (how?)

/6ùkhòmó/ (at close quarters)

III /màhhâlà+/ (in vain, for nothing)

/kàkhûlù+/ (very much), /kànîngì+/ (often)

/kà6ùhlûngù+/ (painfully), /kùfûphì+/ (near)

/kùphêlà+/ (only), /kùqâlà+/ (first)

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[i] cf. /kádè/ (deficient verb?), e.g /6â:6èkádè 6èhàmbîlè+/ (they
had just gone).

IV   /màdúzè/ (near), cf. /é'dúzè/ (near)

/(mânjé+ ∼) mánjè ∼ má'njénà/* (now)

/6ùdúzè/ (near), cf. /é'dúzè/ (near)

/ká'njé: ∼ká'njénà/* (like this)

/ká'njálò*/ (like that), /ká'ngákà*/ (so much)

/kà6ùkhálì/ (sharply), /kàncánè/ (slightly)

/kàhlé/ (well) > /kàhlánà/ (rather well)

/kà6í/ (badly) > /kà6ánà/ (rather badly)

/kùdálà/ (long ago), /kùsásà/ (tomorrow)

V   /(màsînyá+ ∼) màsínyà/ (soon) > /màsí'nyánè/ (soon)

Adverbs that behave as short form nouns have extra ITM ∤L∤ for the
first inflection and ∤H∤ for subsequent inflections,

e.g.   /nhàkànyè/ (not even once, after a negative verb)

/nhàkàncánè/ (not in the slightest, after a negative verb)

/nhàkánjàní/ (definitely, regardless)

/kàhlé nhàkà6í/ (well and badly)

/ìzílò zàkùdè, ìzílò zángàkùdè/ (wild animals of far away)

/à6ántù 6ángàkùdè nhángàkùfûphì+/ (people of far and near)

/kùqálà+ > ngàkùqálà+ > nhángàkùqálà+/ (and firstly).

(b) New or noun adverbs

Adverbs with initial /pha/ (<old class 16), /e/ (<old class
23?)[i] and adverbs of various derivations, behave as full form nouns as
to ITM, in that the initial toneme is always high,

e.g.   /phézù ∼phézùlù/ (above), /phám6ì ∼phámbìlì/ (ahead)

/phánsì ∼phánsí+/ (below), /phándlè ∼phândlé+/ (outside)[ii]

/éndùlò/ (olden times), cf. /màndùlò/ (olden times)

/úvìvì ∼ ngóvìvì/ (at dawn)

/ízòlò (yesterday)

II   /phákàthí/ (inside)

/émùvá ∼ ngèmûvá+/ (behind)

/(úmùsó ∼) ngòmùsó+/ (tomorrow)

III   /ná'mûhlà+/ (today)

(Note: /nhàmûhlà+/ is also possible).

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[i] This is the regular locative prefix, and it is sometimes difficult
to determine whether a word is an adverb or a locative noun. The
ability to control grammatical agreement according to gender is
the criterion: adverbs are genderless nominals.

[ii] These adverbs belong to both I and IV in free variation.

IV   /phé'shêyà/ (on the other side)

/(nénò ~) ngànénò/ (on this side)

/é'dúzè/ (near), cf. /màdúzè, 6ùdúzè/ (near)

/ênhlá/ (upwards), /é'nzánsì/ (downwards)

/ékú'sênì/ (in the morning), /ntá'mbámà/ (in the afternoon)

/é'mínì/ (at midday), /ím'pélà/ (indeed).

Adverbs that behave as full form nouns have extra ITM ⟨H⟩,

e.g.   /ngàsé'dúzè/ (nearish, near as opposed to far)

/nhángàsé'dúzè/ (and nearby)

/njéngàyízòlò/ (just as yesterday)

/ngàphézùlù nhángàphánsì/ (up above and down below)

/à6ántù 6ángànénò/ (people of on this side)

/à6ántù 6á'phézù kwéntà6à/ (people of on top of the hill)

/yhìná'mûhlà+/ (it is today).

Noun adverbs derive from nouns, e.g. /phézùlù < íːzùlù/ (the sky), /phándlé+ < índlé+/ (the veld), /é'mínì < í'mínì/ (day, midday), but they constitute a separate part of speech in that the derivation is sometimes uncertain and sometimes nonexistant, and adverbs do not belong to noun classes.

The adverb /khònná/ (here, there) behaves in the matter of extra prefix inflection as the old class 17 pronoun, e.g. /ngàkhônná ~ ngàkhóná/ (thereabouts), and the adverbs /láphà/ (here) and /láphò/ (there) as the old class 16 demonstratives, e.g. /ngàláphà/ (hereabouts) and /ngá'láphà/ (Natal Coast dialect). The monosyllabic adverbs /lá/ (here) and /lé/ (there) have monotonal FTM's, e.g. /ngàláː, nhángàláː/ (hereabouts, even hereabouts) and /ngá'láː, nhá"ngá'láː (Natal Coast dialect).

5.3.3.2. Verbal inflection

The tonemes used on suffixal inflection are determined by the FTM's of verbal tonal conjugation (see 5.3.1.2.iii). The tonemes used on prefixal inflection are determined by the ITM's of verbal tonal conjugation, which are quite independent of the FTM'S. There are also prefixes with inherent tonemes. The verbal ITM's are as follows[i]:-

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[i] The FTM's are shown in square brackets.

5.3.3.2. I.   INFINITIVE MOOD

pos.   tone class I.   HL /úkú'óónà/ (to see)   [HL]
       tone class II. L⁺H /ùkúlìmà/ (to plow) [LL]

neg.   I and II. H + ngà. /ùkúngàlìmí/ (not to plow) [HH & LH]

The ITM's cover the prefix /uku/, which is a noun prefix of class
15. The positive ITM's are in fact the ITM's of nominal tone
classes IV and I as well as the ITM's of verbal tone classes I and
II, for the infinitive is both a noun and a verb. The former occurs
in its tonal assimilation allomorph, e.g. /úkú'óónà/ (to see), and
MTM A is used with polysyllabic stem infinitives, e.g. /úkúóònìsísà/
(to see thoroughly). The latter is expandable, e.g. /ùkúlìmà/ (to
plow), /ùkùlìmísìsà/ (to plow thoroughly), and no MTM is used.
The object concord conditions the LH allomorph in both tone classes,
and the ITM contrast thus disappears, e.g. /ùkúzìóònìsà/ (to make
them see), /ùkúzìlímìsà/ (to make them plow). Infinitives of
tone class II now use MTM B, the L⁺H allomorph with polysyllabic
stems, e.g. /ùkúzìlímìsà, ùkúzìlìmísìsà/, and the L allomorph with
disyllabic stems where the object concord conditions the HL allo-
morph of FTM ⦃LL⦄, e.g. /ùkúzìlímà/. The negative ITM is ⦃H⦄ +
ngà (inherent toneme infix), and the MTM C is used, with allo-
morphs L⁺ without object concord and (H ∼ HL⁺)∼L⁺ with object
concord, according to the presence or absence of penultimate length,
e.g. /ùkúngàyìóòní ∼ ùkúngàyí'óòni+/ (not to see it).

e.g. úkú'óónà: /ùkúyí'óónà/ (to see it), /ùkúyìóònìsà/ (to help
                                                        him see)
               /ùkúzìóònìsà/ (to help them see), /ùkúzìbàlélà/ (to
                                                        write for them)
               /ùkúngàóòní/ (not to see), /ùkúngàyí'óòni+/ (not
                                                        to see it)
               /ùkúngàzìóòni+/ (not to see them), /ùkúngàzí'bàlì+/
                                                        (not to write them)
               /ùkú"yó:'óónà/ (to go and see), /ùkú"yó:yí'óónà/
                                                        (to go and see it)

       ùkúlìmà: /ùkúyí'lìmà/ (to plow it), /ùkúyí"límìsà/ (to help
                                                        him plow)
               /ùkúzìlímìsà/ (to help them plow), /ùkúzìvàlélà/
                                                        (to shut for them)
               /ùkúngàlìmí/ (not to plow), /ùkúngàyílìmí+/ (not
                                                        to plow it)
               /ùkúngàzìlìmí+/ (not to plow them), /ùkúngàzívàlí+/
                                                        (not to shut them)
               /ùkú"yó:lìmà/ (to go and plow), /ùkú"yó:yí'lìmà/
                                                        (to go and plow it)

As a noun, the infinitive controls grammatical agreement in accordance with its gender, e.g. /úkú'fúndà ókú'nìngì+ kúyásíkhàtházà+/ (too much learning tires us). It is inflectionable by nominal extra prefixes, e.g. /ngòkú'fúndà/ (by learning), /ngòkúyí'fúndà/ (by learning it), /kúnhòkú6áfùndísà/ (rather than teaching them). It has a short form with prefix /ku/ and ITM {L}, e.g. /àkúkhò kùfúndà/ (there is no learning), /àkúkhò kùlìmà, kùlìmìsà, kùyìlìmìsà/, cf. /ùkúlìmà/ (to plow), /ùkùlímìsà/ (to help plow), /ùkúyí"límìsà/ (to help him plow). It is thus the short form that is used as the base of the indicative present future tense, e.g. /ngìzògìjìmà/ (I shall run), /àngízùgìjìmà/ (I shall not run), cf. /ùkùgíjìmà/ (to run - full form), but it is only with polysyllabic stem verbs of tone class II without object concord that the fact is apparent.

As a verb, the infinitive can incorporate a negative infix, object concords, and implication prefixes of future intention. Tonomorphologically it behaves as a verb on suffixal extension, whether by nominal inflection, e.g. /ékúfùndénì/[1] (in learning), or by verbal derivation, e.g. /úkúfùndísà/ (to teach), or by both, e.g. /èkú6áfùndìsénì/ (in teaching them). Thus the infinitive is a noun as to its nominal prefix and nominal prefixal inflections (except that it can incorporate verbal prefixes) and in that it functions substantively to the verb, and a verb as to its verbal stem and verbal suffixal derivations (except that it can incorporate the nominal locative suffix) and in that it functions predicatively to the noun as its object.

5.3.3.2. II. IMPERATIVE MOOD

tone class I.	L	/yì6òné ~ yì66nè+/ (see it)	[HH]
		/yì6ònénì/ (plural)	[HL]
tone class II.	H	/yílìmé ~(yìlìmé+ ~yìlìmò/ (plow it)	[LH]
		/yìlí'ménì/ (plural)	[HL]

The ITM's cover the object concord: if there is no object concord, there is no ITM, e.g. /66nà, lìmá/. With verbs of tone class II, the object concord displaces its high toneme unless tonal displacement is blocked by a depressor, always with polysyllabic stem verbs and with disyllabic stem verbs in the Natal dialect e.g. /sìlímé+ sìlímè/ but not in the Zululand dialect, e.g. /sílìmé/[ii],

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[1] Not /ékú"fúndènì/ as a noun, cf. /ísí'6áyà > ésí"6áyènì/ (cattle-kraal).

[ii] The object concords /yi, wu, wa/ occur as /i, u, a/ in the Zululand dialect, with imperative verbs only.

regardless of whether it contains a depressor[1]. The forms with depressors, e.g. /zìlímè/ (plow them) and /zívàlé/ (shut them) are common to all dialects.

e.g.   6ónà: /yì6ônè+, zì6ônè+/

                 /zìbàlé ~ zìbâlè+/ (write them)

                 /yì6ònîsè+/ (make him see), /zì6ònîsè+/

                 /zì6àlèlé ~ zì6àlêlè+/ (write for them)

        lìmá: /yílìmé+ ~ yílìmé+, zìlìmé+/

                 /zívàlé ~ zívàlé+/ (shut them)

                 /yìlí'mìsè+/ (make him plow), /zìlí'mîsè+/

                 /zívàlèlé ~ zívàlêlè+/ (shut for them)

      6ònáni: /yì6ònénì/, /yì6ònìsénì/ (make him see)

                 /zìbàlèlénì/ (write for them)

      lìmáni: /yìlí'ménì/, /yìlímí'sénì/ (make him plow)

                 /zívàlèlénì/ (write for them)

5.3.3.2. III. INDICATIVE MOOD (The ITM covers the subject concord)

    1. Past tense

       indep./dep. pos.

         I & II   H + â:[ii] /sâ:6òná ~ sâ:6ônà+/ (we saw)[iii] [HH & LH]

       (old dep. pos. > pos. past subjunctive).

       (old indep. neg. > neg. past subjunctive (c) form).

       (old dep. neg. > neg. past subjunctive (a) form).

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[1] Such tonal displacement also occurs with predicative adjectives, e.g. /6à6ìlí+ < 6à6ìlí/ (two, class 2 reference), cf. /zìmbìlí < zìmbìlí/ (two, class 10 reference), but not in the Zululand dialect.

[ii] The Zululand dialect tries to maintain a distinction between L + â: (1st and 2nd persons) and H + â: (3rd person), e.g. /wâ:6ònà+/ (you saw) and /wâ:6ònà+/ (he saw), but succeeds only in abnormally slow speech.

[iii] Note permutations with object concord:
zâ:yì6òná ~ zâ:yí'6ònà+ (tone class I)
zâ:zì6òná ~ zâ:zì6ònà+, zâ:zì6ó'nìsà+ (tonal displacement)
zâ:zìbàlá ~ zâ:zí'bàlà+, zâ:zíbàlêlà+ (t.d. blocked)
zâ:yìlìmá ~ zâ:yílìmà+ (tone class II)
zâ:zìlìmá ~ zâ:zìlîmá+ (tonal displacement)
zâ:zìvàlá ~ zâ:zívàlá+ (t.d. blocked)
The male voice is apt to omit the object concord high toneme in /zâ:zí'bàlà+/ but not in /zâ:zívàlá+/.

2. Present tense

indep.pos. (final)

perfect: 1st and 2nd p. I & II. L   /sì6ɔ̀nílè̀+/(we have seen) [HL & LL]

     3rd p. I H /6á6ó'nílè̀+/(they have seen)[i][HL]

        II   L(a) /6àlímìlè̀+/(they have plowed)[ii][LL]

imperfect: 1st and 2nd p. I & II. L   /sìyà66nà+/ (we see) [HH & LL]

     3rd p. I H /6áyá'66nà+/(they see)[iii] [HL]

        II L(a) /6àyálìmà+/(they plow)[iv] [LL]

future: 1st and 2nd p. I & II. L /sìzò66nà/ (we shall see) [HL & LL]

     3rd p. I & II. H /6ázò66nà/ (they shall see)[HL & LL]

indep. pos. (nonfinal)

perfect: 1st and 2nd p. I & II. L /sì6ɔ̀nê:/ (d) [HL]

     3rd p. I L /6à6ɔ̀nê:/ (d) [HL]

        II H /6álìmê: ~6álí"mê:/ [HL]

imperfect: All ps. I & II. L /sì66nà, 6à66nà/ [HL & LL]

future: no final-nonfinal distinction.

dep. pos. (final)

perfect: All ps.   I L(b) /6è6ɔ̀nîlè̀+/ [HH]

        II H /6élí'mîlè̀+/ [HH]

imperfect: All ps. I & II. L(b) /sì6ɔ̀nà+, 6è6ɔ̀nà+/ [HH/HL & LL]

future: All ps. I & II. H /sízò66nà, 6ézò66nà/ [HL & LL]

dep. pos. (nonfinal)

perfect: All ps. I L(b) /6è6ɔ̀nê:/ (d) [HL]

       II H /sílí"mê:, 6élí"mê:/ [HL]

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[i] zì66'nílè̀+, zìyí66'nílè̀+ (tonal displacement)
  zíbàlílè̀+, zízìbàlílè̀+ (t.d. blocked)

[ii] 6àvàlîlè̀+ (tonal displacement)
  6àgézìlè̀+ (t.d. blocked)
  6ázìlímìlè̀+ (with object concord)
  zìyí"límìlè̀+ (tonal displacement)
  zízìlímìlè̀+ (t.d. blocked)

[iii] zìyá'66nà+ (tonal displacement)
  zìyáyí'66nà+, zìyázì66nà+

[iv] 6áyázìlímà+ (with object concord)
  zìyázìlímà+, zìyáyí'límà+ (tonal displacement)
  6áyázìlímìsà+ (with object concord)
  zìyázìlímìsà+, zìyáyí"límìsà+ (tonal displacement)
  6áyázìvàlêlà+ (tonal displacement)
  6áyázìgézìsà+ (t.d. blocked)

imperfect: All ps. I & II. L (b) /sì6ònà, 6è6òná/[i] [HH/HL & LL]

future: no final-nonfinal distinction.

<u>indep. neg.</u>

perfect: I   à + L (c)   /àsì6ònángà/ (we did not see)(e) [HL]

                                    /à6àhàmbìlé+/(they are not gone)(f)[<u>HLH</u>+]

         II   à + H   /àsìlí'mángà/(we did not plow)(e) [HL]

                                      /à6álàmbìlé+/(they are not hungry)(f)[<u>HLH</u>+]

imperfect: I   à + L (c)   /àsì6ònì/ (we do not see)[ii] [HL]

           II   à + H   /àsí'lìmì/ (we do not plow)[iii] [HL]

future: I & II. à + H   /àsìzù6ònà, àsízùlìmà/ [HL & LL]

<u>dep. neg.</u>

perfect: I & II. H + ngà   /síngà6ònángà/ (e) [HL]

                                /6éngàhàmbìlé+/ (f) [HLH+]

imperfect: I & II. H + ngà   /síngà6òní ～síngà6ònì+/ [HH & LH]

future: I & II. H + ngà   /síngàzù6ònà/ [HL & LL]

3. Recent past compound tenses:

     ((L + 6è)[iv] ～ (L + 6) ～6è) + dependent present tenses.

e.g. 6èsì6òná ～ 6èsì6ònà+ (we were seeing)   [HH & LL]

     6èsíyí'6òná ～ 6èsíyí'6ònà+ (with object concord)

     (6èwù6ònà+) ～ ù6ù6ònà+ (2nd. p. sg.)

     (6èyè6ònà+) ～ ù6è6ònà+ (3rd p. sg.)

4. Remote past compound tenses:

     (H + â: + 6è)[iv] ～ (H + â:) + dependent present tenses.

e.g. sâ:sì6òná ～ sâ:sì6ònà+ (we were seeing) [HH & LL]

     sâ:síyí'6òná ～ sâ:síyí'6ònà+ (with object concord)

     wâ:wù6ònà+～wá:wú'6ònà+ (2nd p.sg.)

     wâ:yè6ònà+～wá:yé'6ònà+ (3rd p.sg.)

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[i] Note permutations with object concord:
síyí'6òná, sízì6òná, zìyí'6òná, zízì6òná+
cf. zìyì6ònà, zìzì6ònà (indep. pos.).

[ii] Note permutations with object concord:
àsíyí'6òní, àsìzì6òní, àzìyí'6òní, àzízì6òní.

[iii] àzìlímì (tonal displacement)
àzí'válì (t.d. blocked).

[iv] The full form occurs very rarely.

5. Future compound tenses:

    (L/H + zo + 6è) + dependent present tenses.

e.g. sìzò6è sì6ônà+ (we will be seeing)

      6ázò6è 6è6ônà+ (they will be seeing)

5.3.3.2. IV. SUBJUNCTIVE MOOD (The ITM covers the subject concord)

1. Past tense

pos. I & II. L + à (b)   /sà6ônà/ (and we saw) [HL & HL/LL]

neg. I & II. H + á + ngà∼ngâ:[i] /sángâ:6ónà/ (a form) [HL & HL/LL]

          à + H + â: /àsâ:6ónà/ (c form) (g) [HL & HL/LL]

2. Present tense

pos. I   H/L(a)[ii] /sí6òné/ (and we see, we should see)[iii] [LH/HH] [iv]

                 /sì6ônìsé/ (cause to see)

    II   L(a)   /sìlímè/ (and we plow, we should plow)[v] [LH/HH] [vi]

                 /sìlímìsé/ (cause to plow)

neg. I & II. H + ngà /síngà6òní ∼ síngà6ônì+/ [HH & LH]

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[i] Usually /ngà:/, possibly a combination of /ngà/ and /â:/ (c form).

[ii] ITM ◊H◊ with disyllabic stem verbs.
    ITM ◊L◊ with polysyllabic stem verbs.

[iii] Note permutations:
    zì6ônè ∼ zì6ôné+ (tonal displacement)
    zìyí'6óné ∼ zìyí'6ônè+
    zíbàlé (tonal displacement blocked)
    zízìbàlé ∼ zízìbâlè+
    sì6álèké (we run away, polysyllabic stem)
    sìbàlélè (we write for, tonal displacement).

[iv] FTM ◊LH◊ without object concord.
    FTM ◊HH◊ with object concord.

[v] Note permutations:
    sí"yílìmé (object concord has high toneme)
    zìyílìmé (t.d. from subject to object)
    sízìlímè (t.d. from object to stem)
    zí"zívàlé (t.d. blocked)
    sìgíjìmé (we run, polysyllabic stem)
    sìvàlélè (we shut for, tonal displacement).

[vi] FTM ◊LH◊ with disyllabic stem verbs.
    FTM ◊LH◊ with polysyllabic stem verbs without object concord.
    FTM ◊HH◊ with polysyllabic stem verbs with object concord.

5.3.3.2. V POTENTIAL MOOD (The ITM covers the subject concord)

1. Present tense

indep. pos.   I & II.L + ngá   /sìngà6ónà/(we can/may see)[i] [HL & HL/LL]
dep. pos.   I & II.H + ngá   /síngà6ónà/   [HL & HL/LL]
indep./dep.neg. I & II.L/H + ngê:/sìngê:6ónè/ (a form) [HL & HL/LL]
                 /sìngê:6òné ~sìngê:6ónè+/(c form)(g) [HH & LH]

2. Recent past compound tense   )
)   As for Indicative Mood
3. Remote past compound tense   )

Note:

(a) The object concord conditions a morphotonemic change from L to H
    with these indep. pos. tenses of tone class II (3rd person),
    e.g. /6àlímìlè+ > 6ázìlímìlè+/, /6àyálìmà+ > 6áyázìlímà+/,
    cf. /sìlìmìlè+ > sìzìlímìlè+/, /sìyàlìmà+ > sìyàzìlímà+/;
    and with the pos. present subjunctive of tone class II[ii],
    e.g. /sìlímè > sí"yílìmé, sìzìlímè ~ sìzìlímé+/.

(b) The object concord conditions a morphotonemic change from L to H
    with these dep. pos. tenses,
    e.g. /síyí6ònê: ~ síyí6ònílè+/ < /sì6ònê: ~ sì6ònílè+/,
        /síyí'6óná ~síyí'6ònà+/ < /sì6òná~sì6ònà+/,
        /síyí'límà < sìlímà/, cf. /sìyìlímà < sìlímà./ (indep.);
    and with the pos. past subjunctive (old dep. pos. past indicative),
    e.g. /sà6ónà > sáyí6ónà/.

(c) The object concord conditions a morphotonemic change from L to H
    with these indep. neg. tenses of tone class I,
    e.g. /àsì6ònángà > àsíyí6ònángà/,
        /àsì6óni > àsíyí'6óni/.

(d) These forms indicate recent past action only. To indicate
    present perfect state the final forms occur nonfinally. There
    is a distinction dependently,
    e.g. /6èhàmbílé ~ 6èhàmbílè+/ (they being gone),
        but not independently,
    e.g. /6áhàmbílè ~ 6áhàmbílè+/ (they are gone).

(e) Now functioning as negative past tense, thus replacing the old
    negative past tense now functioning as negative past subjunctive
    tense. It refers to both recent past ("they have notseen")

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[i] Note permutations:
sìngà6ónà, sìngàyí'6ónà (tonal displacement)
sìngá'bálà, sìngázìbálà (t.d. blocked).

[ii] And of tone class I with polysyllabic stem verbs.

and remote past ("they did not see") according to context.

(f) These forms indicate present perfect state only. They are used predominantly with inchoative verbs, especially stative verbs, e.g. /à6àkhàthêlé+/ (they are not tired). There are no nonfinal forms.

(g) The (b) form occurs only with verbs of tone class II and differs from the (a) form only as to FTM. The (c) form is less common.

(h) It is likely that the high toneme of the prefix has been transferred to the stem in cases where the object concord brings about a morphotonemic change from L to H, thus restoring the high toneme (see a, b, c, above):-

a. indep. pos. present tense (final) of tone class II,
   e.g. /*6álìmìlè+ > 6àlímìlè+/, cf. /sìlìmìlè+/,
   /*6áyàlìmà+ > 6àyálìmà+/, cf. /sìyàlìmà+/,
   cf. /6á66'nílè+, 6áyá'66nà+/ (tone class I).

b. dep. pos. present tense
   e.g. /*sílìmà > sìlímà/, cf. /sìlìmà/ (indep.),
   cf. /síyòlìmà/ (future aspect), reflecting its origin
   in /síyà/ (we are going to), for monosyllabic stem
   verbs retain the high toneme.
   cf. /sílí'mílè+/ (tone class II) and /sì6ònílè+/ (tone
   class I), where the former retains the high toneme
   for the sake of conjugational contrast.

c. indep. neg. present tense
   e.g. /*àsí'66nì > àsì66nì/, cf. /àsí'límì/ (tone class II),
   where the latter retains the high toneme for the sake
   of conjugational contrast.

d. also indep. pos. present imperfect tense (nonfinal) of
   tone class II,
   e.g. /*6álìmà > 6àlímà/, cf. /sìlìmà/,
   cf. /6áyòlìmà, sìyòlìmà/ (future aspect), reflecting
   its origin in /6áyà, sìyà/, for monosyllabic stem
   verbs retain the toneme contrast.

e. also the morphotonemic effects of the object concord
   suggest an original "tonal distinctiveness" (Richardson)[i]
   in itself, for it frequently determines a high toneme on

[i] See Richardson: The Role of Tone in Sukuma (S.O.A.S. 1959).

the following syllable with verbs of tone class II.
It does not do so with verbs of tone class I, however,
and it is generally impossible to attribute "tonal
distinctiveness" to individual verbal syllables in
Zulu.

Medial Tonal morphemes

The tonemes not determined by FTM's and ITM's or by the pre-
fixes with inherent tonemes, are determined by the MTM's A,B,C,
and BA, described briefly above (5.3.0.3.) and in detail below:-

Verbs of tone class I with FTM ⟨HL⟩ use MTM A with allomorph
L^+, which is subject to tonal assimilation,

e.g. /sìlèthélà/ (we bring for)

/ɓàlèthélà/ (they bring for)

/sìyìlèthélà/ (we bring for him)

/àsíyílèthélì/ (we do not bring for him).

Verbs of tone class II with FTM ⟨LL⟩ use MTM B with allomorphs
$L^+ \sim (L \sim L^+H) \sim (H \sim L^+H)$, which are subject to tonal assimilation.
The allomorph L^+ is used in the indep. pos. present perfect indica-
tive nonfinal form,

e.g. /sìkhèthèlà/ (we choose for)

/ɓàkhèthélà/ (they choose for)

/sìyìkhèthélà/ (we choose for him),

and in the imperfect and perfect final forms for the 1st and 2nd
persons without object concords, and in the future aspect for all
persons without object concords,

e.g. /sìyàgìjìmà+/ (we are running)

/sìgìjìmìlè+/ (we have run)

/ɓázògìjìmà/ (they will run).

The allomorph $H \sim L^+H$ is used in the imperfect and perfect final
forms for the 3rd person without object concords,

e.g. /ɓàyákhèthà+/ (they are choosing - H allomorph)

/ɓàyàgíjìmà+/ (they are running - LH allomorph)

/ɓàkhéthìlè+/ (they have chosen - H allomorph)

/ɓàgìjìmîlè+/ (they have run - LH allomorph, with tonal
displacement).

The allomorph $L \sim L^+H$ is used in all final forms with object concords,

e.g. /sìyàyìkhéthèlà+/ (we are choosing for him - LLH allomorph)

/sìyìkhéthìlè+/ (we have chosen it - LH allomorph)

/ɓázòyìkhéthà+/ (they will choose it - L allomorph).

The allomorph L⁺ is also used in the imperfect final form for all
persons with object concords with disyllabic stem verbs only, so
that neither /ya/ nor the object concord hears a high toneme
except by tonal assimilation to or tonal displacement from the
previous syllable,

e.g. /sìyàyìkhéthà+/ (we choose it - LL allomorph)

/ɓáyáyí'khéthà+/ (they choose it - HH allomorph due to
tonal assimilation)

/zìyázìkhéthà+/ (they choose them - HL allomorph due to
tonal displacement)

Otherwise only the allomorphs (H ∼ L⁺H) and (L ∼ L⁺H) are used, the
former conditioned by subject concords and the latter by object
concords. Where they concur, the object concord takes precedence
as the conditioning factor, so that it never bears a high toneme
except by tonal assimilation to or tonal displacement from the pre-
vious syllable,

e.g. /sìkhèthèlà, sìkhèthèlànà/ (indep. pos. present imperfect tense)
>/sìkhéthèlà, sìkhèthélànà/ (dep. - H ∼ LH allomorph condi-
tioned by subject concord)

e.g. /sìzìkhéthà, sìzìkhèthélà/ (indep. pos. with object concord)
>/sízìkhéthà, sízìkhéthèlà/ (dep. - L ∼ LH allomorph condi-
tioned by object concord)

e.g. /sázìkhéthèlà/ (and we chose for them) and

/sázìgézèlà/ (and we washed for them - past subj. (a) form).

Verbs of tone class II with FTM ◊HL◊ use MTM BA with allomorphs
(H ∼ L⁺H) ∼ (L ∼ L⁺H) conditioned by subject and object concords
respectively. Here, however, the high tonemes are realized on
nondepressor syllables only. The fact that the past subjunctive
(positive and negative) and the present potential (positive and
negative) use FTM ◊HL◊ with MTM BA and FTM ◊LL◊ with MTM B as
alternatives, points to the conclusion that the tenses now using
FTM ◊HL◊ with MTM BA once used FTM ◊LL◊ with MTM B. Here is a
symptom of the drift to extinction of verbal tone class II.

e.g. /sázìkhé'thélà/ (and we chose for them) and

/sázìgèzélà/ (and we washed for them - past subj. (b) form);

/àsízìkhé'thélì/ (we do not choose for them)

/àsízìgèzélì/ (we do not wash for them)

/àsíyí"khéthélì ∼ àsíyíkhé'thélì/[i] (we do not choose for him).

Verbs of tone class I with FTM ◊HH◊ and verbs of tone class II with
FTM ◊LH◊ (disyllabic stems) or FTM ◊HH◊ (polysyllabic stems), with

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[i] The tonal upstep is often not apparent, a further sign of the
drift from MTM B to MTM A, of which MTM BA represents an
intermediate stage.

inherent toneme infixes, use MTM C with allomorphs L$^+$ without
object concord and (H $\sim$ HL$^+$) $\sim$ L$^+$ with object concord, according
to the presence or absence of penultimate length,

e.g. /sâːɓalêkà+/ (we ran away)

/ùkúngàyìɓòní $\sim$ ùkúngàyí'ɓònì+/ (not to see it)

/ùkúngàyìlìmí $\sim$ ùkúngàyílìmí+/ (not to plow it)

/sâːyígèzìsà+/ (we helped him wash).

Verbs of both tone classes with FTM ⟨HL⟩ and the negative infix
/ngà/ also use MTM C,

e.g. /síngàyìɓònángà $\sim$ síngàyìɓó'nángà+/ (we did not see it).

In the negative past subjunctive MTM C is used in addition to
MTM A (all low tonemes) and MTM B (an antepenultimate high toneme),

e.g. /sángàyìlèthélà $\sim$ sángàyílé'thélà+/ (and we did not bring for him)

/sángàyìkhéthèlà $\sim$ sángàyí"khéthèlà+/ (and we did not choose for him).

Verbs of tone class I with FTM ⟨HH⟩ and no inherent toneme infix
(pos. present subjunctive with object concord) use MTM A,

e.g. /síyí'léthé, sízìlèthé/ (we should bring it, them)

/sízìlèthélà+/ (we should bring for them).

Disyllabic stem verbs of tone class II with FTM ⟨LH⟩ and no in-
herent toneme infix (pos. present subjunctive with object concord)
use MTM B, but the object concord conditions the H $\sim$ L$^+$H allomorph
instead of the L$\sim$L$^+$H allomorph, i.e. it bears the high toneme that
it conditions itself[1],

e.g. /sí"yíkhèthê/ (we should choose it)

/sí"zígèzé/ (we should wash them)

/sízìkhêthè $\sim$ sízìkhêthé+/ (we should choose them).

Polysyllabic stem verbs of tone class II with FTM ⟨HH⟩ and no inherent
toneme infix (pos. present subjunctive with object concord) use
MTM BA,

e.g. /sízìkhé'thèlà+/ (we should choose for them)

/sízìgèzêlà+/ (we should wash for them).

Polysyllabic stem verbs of tone class II with FTM ⟨LH⟩ and no in-
herent toneme infix (pos. present subjunctive without object con-
cord) use MTM B,

e.g. /sìkhéthèlé/ (we should choose for)

/sìgézèlé/ (we should wash for).

Polysyllabic stem verbs of tone class I use FTM ⟨LH⟩ with MTM B
here also, which is the only occasion on which they do so,

e.g. /sìléthèlé/ (we should bring for).

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[1] We could attribute the effect to the subject concord, but the
rule is that where subject concord and object concord concur,
the latter takes precedence as the conditioning factor.

Polysyllabic stem verbs of tone class I use FTM ◊LL◊ with MTM B in
the indep.pos.present perfect indicative final form, which is the
only occasion on which they do so,

e.g. /6ásí6bnísìlè+/ (they have shown us).

Here the L⁺H allomorph is conditioned by all subject concords,

e.g. /sì6àlékìlè+, 6á6á"lékìlò+/ (we/they have run away), whereas
with verbs of tone class II the L⁺H allomorph is conditioned by
3rd person subject concords only, e.g. /sìgìjìmìlè+; 6àgìjìmìlè+/
(we/they have run).

Verbs of both tone classes use MTM A in all forms of the impera-
tive mood, in the /ê:/ (nonfinal positive), /ílé+/ (final indep.
neg.) and /ílè+/ (final dep. pos.) form of the indicative present
perfect tense,

e.g. /à6àhàmbîlé+/ (they are not gone - tone class I)
     /à6álàmbîlé+/ (they are not hungry - tone class II)
     /síyílèthîlè+/ (they having brought it - tone class I)
     /síyíkhèthîlè+/ (they having chosen it - tone class II).

5.3.4. Derivation

5.3.4.1. Nominal derivation

The tonal effects of nominal derivation by the suffixes /ànà/
(diminutive), /kàzì ~ àzì/ (augmentative or feminine), /kázànà ~
ázànà/(feminine diminutive), are the same as the tonal effects of
nominal inflection by the locative suffix /ìnì/. These suffixes
determine nominal declension on the basis of inherent lexical
tone:-

II   ITM ◊LH◊ + FTM ◊LH◊

               + LL > (L)   HL
               + LL > (LH) LL

     e.g. /ìzíndòngá/ (walls) > /ìzíndòngánà/
          /àmákhèhlá/ (elders) > /àmákhèhlánà/
          /ìzìnkómò/ (cattle) > /ìzìnkó'mázì/ (cows)
          /íntòmbí/ (girl) > /íntòmbìkâzì+/ (large girl)

III ITM ◊HL◊ + FTM ◊HH◊

               + LL > (L)   HL
               + LL > (LH) LL

     e.g./ízìnkà6í/ (oxen) > /ízìnkàtshánà/
         /ámá'khósí/ (chiefs) > /ámákhòsánà/ (chief's sons)
         /ín'kósí/ (chief) > /ínkòsíkàzì/ (chief's wife)
         /ín'kósí/ (chief) > /ínkòsázànà/ (chief's daughter)
         /ézìnkùlú/ (big ones) > /ézìnkùdlwánà/ (biggish)

IV   ITM 〖HL〗 + FTM 〖HL〗

                + LL > (H)   LL

                + LL > (LH) LL

e.g. /ízìnzízwà/ (young men) > /ízìnsízwànà/

       /ámá'qháwè/ (warriors) > /ámá"qháwànà/

       /ín'gánè/ (child) > /íngànyànà+/ (small child)

       /ézìncánè/ (small ones) > /ézìncányànà/ (smallish)

I   ITM 〖L⁺H〗 + FTM 〖LL〗

                + LL > (H)   LL

                + LL > (LH) LL

e.g. /àmádòdà/ (men) > /àmàdódànà/ (sons)

       /àmádòdà/ (men) > /àmàdòdàkâzì+/ (daughters)

       /àmádòdà/ (men) > /àmàdòdàkázànà/ (little daughters)

       /phámbìlì/ (ahead) > /phàmbídlànà/ (slightly ahead)

Thus all single extended nominals have either FTM 〖HL〗 or FTM 〖LL〗,
and all doubly extended nominals have FTM 〖LL〗[i]. Tonal ambiguity as
to tone class is prevented by ITM contrast, but not completely (see
discussion of tonal ambiguity under 5.3.3.1.1.).

Nouns derived from verbs of tone class I belong to nominal tone
classes III and IV which have the affinity of FTM's 〖HH〗 and 〖HL〗,
and nouns derived from verbs of tone class II belong to nominal tone
classes I and II which have the affinity of FTM's 〖LL〗 and 〖LH〗.
The great majority belong to tone classes I and IV; derivations in
tone class III are less common and in tone class II very rare.

e.g. /úm̩'hámbì/ (traveller)   /úm̩fìkì/ (visitor)

       /úm̩'fúndì/ (learner)   /ímbòngì/ (praiser)

       /ísí'fúndò/ (lesson)   /ìsí6òngò/ (clan name)

       /úm̩fùndísì/ (teacher)[ii]   /ìzì6óngò/ (praises)[iii]

       /ísí'6óphó/ (rope, < /6óphà/ tie) /ìsíhlàlò/(chair, < /hlàlà/ sit)

       /úm̩'hlánzó/ (vomiting)   /úm̩hlànzò/ (purifying)

       /úm̩'6úzò/ (question, < /6úzà/ ask) /ìm6àzò/ (axe, < /6àzà/ carve)

       /úm̩'théngì/ (buyer)   /úm̩khèthì/ (chooser)

       /ín'téngò/ (barter)   /úm̩khèthò/ (choice)

       /úm̩thèngísì/ (seller)   /ú:khèthò/ (election)

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[i] The question of nominals with simple polysyllabic stems (as
opposed to derivative stems) is considered in Chapter 6.

[ii] Note the irregular derivation /úm̩"fúndìsì/ (missionary, minister),
perhaps in imitation of the missionary's pronunciation.

[iii] Note the tonal displacement of the high toneme from prefix to
stem.

/úm̥sè6ênzì/ (worker)   /ísí"gíjìmì/ (fast runner)

/úm̥sè6ênzì+/ (work)   /ísígìjìmì+/ (messenger)[i]

Compound nouns belong to the tone class of the last constitu-
ent and the FTM of the first constituent is replaced by the MTM,
thus showing the predominance of imposed grammatical tone over in-
herent lexical tone.

e.g. /ú6à6á + m̥'khûlù+ > ú6àbḁ̀m̥khûlù+/ (grandfather)

/úkú'dlúlà + ímìthí > índlùlámìthí/ (giraffe, surpassing the trees)

/úkú'hlóngà + índlè6é > ínhlòngándlè6é/ (obstinate person,with
                                          blocked ears)

/ùkúvùmà + zónkè > úvùmàzónkè/ (yes-man, agreeing to everything)

/á'mándlà + ín'kôsì+ > úm̥àndlènkôsì+/ (Power of God, a personal
                                          name).

5.3.4.2. Verbal derivation

There are no tonal effects of verbal derivation by the suffixes
/w/, /ek/, /el/, /is/, /an/; the FTM's of verbal conjugation are im-
posed regardless of the morphological composition of the final
couplet, e.g. /sì6ónà > sì6ònísà > sì6ònìsánà/ (present indicative).

Verbs derived from ideophones belong mostly to tone class II,
for the great majority of ideophones have inherent low tonemes on all
syllables. The examples are given in the infinitive without its
prefix.

e.g. /bìdlì/ > /bídlìkà/ (collapse), /bídlìzà/ (demolish)

/dàzù/ > /dázùkà/ (split, intrans.), /dázùlà/ (split, trans.)

/qhùmbù/ > /qhúmbùkà/ (get punctured), /qhúmbùzà/ (puncture)

/phòqò/ > /phóqòkà/ (snap, intrans.), /phóqòzà/ (snap, trans.)

/phùcù/ > /phúcùkà/ (be rubbed smooth), /phúcùlà/ (rub smooth),
          /phúcùzà/ (polish), /phùcúzèkà/ (become polished)[ii]

/dà6ù/ > /dà6ùkà+/ (tear, intrans.), /dà6ùlà+/ (tear, trans.)
                              (tonal displacement)

/khùmù/ > /khùmùkà/ (come off/out), /khùmílà/ (take off/out)
                              (exception)

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[i] Doke's dictionary gives /ìsígìjìmí/, but polysyllabic stem nouns
with FTM 〖LH〗 are now very rare. Note also /íntòmbí/ (girl) <
/thòmbà/ (reach puberty), but this is an old derivation and the
average Zulu speaker sees no connection.

[ii] Hence /ìmpúcùkò, ìmpùcúzèkò/ (civilization).

5.3.5. Nomino-verbal constructions

5.3.5.1. Copulative constructions

These constructions prefix verbal concords to nominal bases and conjugate in the indicative mood through tenses of imperfect aspect only, independent and dependent, positive and negative,

e.g. /sìkhɔ̀ná/ (we are present - independent positive present imperfect tense)

/ɓèsî:khɔ̀ná/ (we were present - compound recent past imperfect tense)

/sâ:sî:khɔ̀ná ~ sâ:sí:khɔ̀ná/ (we were present - compound remote past imperfect tense)

In the independent positive present tense the verbal concords use the ITM's of the independent positive present indicative tense (final form), i.e. ◊L◊ for 1st and 2nd persons and ◊H◊ for 3rd persons. The nominal bases with full form nouns are inflected forms only, and with short form nouns inflected forms only when the noun is qualified by an irregular adjective, e.g. /ú"njéngàmùntù mùní+/ (he is like what sort of person?), and simple forms only in copulative constructions of a particular type, e.g. /úzìthɔ̀ zíndè+/ (he is long-limbed). Pronouns and demonstratives use inflected forms only, except the uninflectionable inclusive and exclusive pronouns, e.g. /sìsónkè/ (we are all), /ɓá'bónkè/ (they are all), /ngìngédwà/ (I am alone). Adverbs use either simple or inflected forms, but there are limitations in inflection and in copulative construction. Only the instrumentive inflection occurs freely in copulative constructions, e.g. /ɓángàsé'dúzè+/ (they are nearby), whereas with gender nominals it occurs very rarely, e.g. /í'cálá"língèzìnkômó+/ (the court-case is over cattle). Relative constructions use inflected forms only, e.g. /ɓángà6á"hámbàyò+/ (they are travellers).

e.g. /sìngàmádɔ̀dà/ (we are men), /ɓángàmádɔ̀dà/ (they are men)
/sìnhèndódànà/ (we have a son), /ɓánhèndódànà/ (they have a son)
/ɓá"nhén'gánè/[1] (they have a child,
/ɓá"njé"ngézìnjá/[1] (they are like dogs)
/à6ántwànà 6àsèntá6ènì+/ (the children are on the hill)
/ìzìnkómò zìsén"tá6ènì+/ (the cattle are on the hill)
/sìyhí6ò/ (we are they), /sìnjé'ngá6ò/ (we are like them)
/ngìnháwè/ (I am with you), /ngìnhàyé/ (I am with him)
/únhàzó/ (he has them), /ú'kíthì/ (he is at our place)

/sìyhìlá6ò/ (we are those ones), cf. /sìyhí'lá6ò/ (Natal Coast)

/6á"kú'lówòmùzì/[i] (they are at that kraal)

/6á'phándl'e/ (they are outside), /6á"phákàthí/ (they are inside)

/sìláphà ~ sìlá:/ (we are here), /6á'láphà:/ (they are here)

/6àngàlá:/ (they are hereabouts), cf. /6á"ngá!lá:/ (Natal Coast)

/ízìngáne zìkhóná+/ (the children are present).

In the independent negative present tense the verbal concords use the ITM's of the independent negative present indicative tense, i.e. à + H (of verbal tone class II) with constructions based on conjunctive nominals,and à + L (of verbal tone class I) otherwise. The negative counterparts to the positive constructions based on inflected full form nouns with extra ITM ∅H∅ have inflected short form nouns with extra ITM ∅L∅ as bases, e.g. /6á"nhézìnjá/ (they have dogs) and /à6ánhàzìnjá/ (they have no dogs), except that the simple form is used instead of the agentive inflection, e.g. /6á"yhízìnjá/ (they are dogs) and /à6àzìnjá/ (they are not dogs)[ii]. Some speakers admit /à6àyhìzìnjá/ as a possibility, but it is seldom used. There are no negative counterparts to the positive constructions based on short form nouns, except that /àkàzìthò zìndè/ could be said in direct contradiction to /úzìthò zìndè/ (he is long-limbed). With pronouns and demonstratives the bases are the same in the negative as in the positive, except that the extra ITM is ∅L∅ instead of ∅H∅. Pronouns use inflectional allomorph (e) with extra ITM ∅L∅ (see 5.3.3.1.3.),

e.g. /àsìyhì6ò/ (we are not they), cf. /sìyhì6ò/ (positive),

/à6ánhàthí/ (they are not with us), cf. /6á'nháthì/ (positive),

and the simple form occurs as an alternative to the agentive inflection, e.g. /àsì6òná ~ àsìyhì6ò/ (we are not they)[iii]. With

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[i] Morphophonemic change often substitutes a low toneme for an initial high toneme followed by a tonal upstep.

[ii] The agentive inflection is very rare with short form nouns, which can function agentively or predicatively without inflection, e.g. /àsì6ònwà mùntù/ (we are not seen by anyone), /mùntù mùní "ókwé'nzìl'e+/ (it is what short of person who has done it?)

[iii] There is also a negative agentive inflection in /si~su/, e.g. /àsìyhì6ó ~àsìsì6ó/ (we are not they), /àngìngùyé ~ àngìsùyé/ (I am not he), but it is not common.

adverbs and locative nominals the negative counterparts to the
positive constructions use the negative allomorph /khὸ/ of the
adverb /khὸná/[i], e.g. /6á'láphὰ/ (they are here) > /à6ékhὸ láphὰ/
(they are not here). Some speakers admit /à6àláphὰ/ as a possi-
bility, but it is seldom used. There are no negative constructions
based on relative constructions, e.g. /à6àyhì6ó "á6á"hámbàyὸ+/
(they are not travellers).

e.g. /à6àmàdὸdὰ/ (they are not men)

/àsi6àfánὰ/ (we are not boys)

/à6ánhàndὸdànὰ/ (they have no son)

/àsínhàngánὲ/ (we have no child)[ii]

/ìzìnkómὸ àzíkhὸ èntá6ènì+/ (the cattle are not on the hill)

/àsìyhì6ó ~ àsìyhì6ὸná ~ àsi6ὸná/ (we are not they)

/àngínhàyé/ (I am not with him), /àkánhàmí/ (he is not with me)[ii]

/àsìyhìlá6ὸ/ (we are not these ones)

/à6ékhὸ phákàthí (~ à6àphákàthí)/ (they are not inside)

/ízìngánὲ àzíkhὸ+/ (the children are not present)[iii].

In the dependent positive present tense (which is also used in
compound tenses) the verbal concords use the ITM ⟦HL⟧ with allo-
morphs HL ~ H in free variation, together with the phoneme of morpho-
logical length which tends to disappear when the nominal base consists

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[i] This allomorph conditions a high toneme on the previous syllable.
It has latent "i" in the Natal dialect, e.g. /úkhὸná > àkékhὸ/
(he is/is not present),/6ákhὸná > à6ékhὸ/ (they are/are not
present), but not in the Zululand dialect, e.g. /àkákhὸ, à6ákhὸ/.

[ii] Some speakers maintain that it is possible to distinguish between
"to have" and "to be with", in the negative but not in the posi-
tive, thus: /àsínhàngánὲ/ (we have no child) and /àsìnhàngánὲ/
(we are not with a child), /àsínhàyó"ín'gánὲ/ (we do not have
the child) and /àsìnhàyó"ín'gánὲ/ (we are not with the child),
/àkánhàzó/ (he does not have them), /àkànhàzó/ (he is not with
them), but others deny it.

[iii] There is a common "mistake" in the superimposition of the toneme
pattern L⁺H with negative copulative constructions: /àkànkòsí+/
instead of /àkànkòsì+/ (he is not a chief), /àyìnkùlú+/ instead
of /àyìnkùlù+/ (he is not great), /àngìngèdwá+/ instead of
/àngìngédwà/ (I am not alone), especially in the seldom used
(perhaps "grammatically incorrect") constructions such as
/àkàyhìnkòsí+/. Speakers do not accept these forms when they
are pointed out to them. I can only suggest "continuent
intonation": /à6à6àkhùlú+ —(6àncánὲ)/,with the conclusion
omitted as obvious, cf. English: /they are not big (_ _ _ ‾) —
(they are small)/.

of more than three syllables[i]. The nominal base is as for the independent tense.

e.g. /síngàmádòdà ~ síngàmádòdà/ (we being men)

/6ê:nhèndódànà ~ 6ênhèndódànà/ (they having a son)

/mâ: ìzìnkómò zí:sèntá6ènì+/[ii] (if the cattle are on the hill)

/úmà sî:yhí6ò ~ sí:'yhí6ò/ (if we were they)

/úmà sí:"njê'ngá6ò/ (if we were like them)

/6ê:nháwè/ (they being with you), /6ê:nhàyé/ (they being with him)

/ê:nhàzó/ (he having them), /ê:kíthì/ (he being at our home)

/sî:láphà ~ sí:'láphà ~ sí:'lá/ (we being here)

/úmà zí:'phándlè/[ii·] (if they are outside),

cf. /zìphándlè/ (they are outside);

/mâ: ízìngánè zî:khònâ+/[ii] (if the children are present),

cf. /zìkhônâ+/ (they are present).

In the dependent negative present tense (which is also used in compound tenses) the verbal concords use the ITM's of the dependent negative present indicative tense, i.e. H + ngè (for /nga/ occurs as /nge/ in copulative constructions). The nominal base is as for the independent tense, except that the negative infix· conditions a high toneme on the conjunctive prefix.

e.g. /6éngèmàdòdà/ (they not being men)

/síngè6àfánà/ (we not being boys)

/6éngènhándòdànà/ (they having no son),

cf. /à6ánhàndòdànà/ (indep.)

/síngènhán'gánè/ (we having no child)[iii],

cf. /àsínhàngánè/ (indep.)

/síngèyhì6ó ~ síngèyhì6òná ~ síngè6òná/ (we not being them)

/síngènhá6ó+/ (we not being with them)[ii]

/6éngènhâthí+/ (they not being with us)[iii]

/mâ: ízìngánè zí'ngékhò+/[iv](if the children are not present)·

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[i] The verbal concords of the dependent positive present indicative· tense use the ITM {L} with allomorphs H ~ L according to the pressent or absence of the object concord.

[ii] Depressors do not displace high tonemes from long vowel syllables.

[iii] Again some speakers maintain that it is possible to distinguish between "to have" and "to be with", thus: /síngènhán'gánè/ (we having no child) and /síngènhàngánè/ (we not being with a child), /éngènhâzó+/ (he not having them) and /éngènhàzó+/ (he not being with them), but others deny it.

[iv] The allomorph /kho/ conditions a high toneme on the previous syllable in all circumstances.

Adjectives have no independent function: they function only
in nomino-verbal constructions. The simple forms are uninflection-
able except by verbal prefixes in copulative constructions which
function predicatively, e.g. /í'hháshì líɱ'nyámà/ (the horse is
black), and which the addition of relative prefixes converts to
relative copulative constructions which function qualificatively,
e.g. /í'hháshì élíɱ'nyámà/ (the black horse), or substantively,
e.g. /élíɱ'nyámà/ (the black one), in which case they are inflec-
tionable by nominal extra prefixes, e.g. /kwélíɱ'nyámà/ (on the
black one), and so the process recommences, e.g. /ú"kwélíɱ'nyámà/
(he is on the black one).

Noun adjectives in copulative constructions conjugate regularly,
but true adjectives have no verbal prefixes in the independent
positive present tense except for the 1st and 2nd persons, and
the change in function is reflected in the change from ITM ◊L◊ to
ITM ◊H◊. The prefix high toneme undergoes tonal displacement re-
gardless of whether the prefix contains a depressor, in the Natal
dialect but not in the Zululand dialect.

noun adjectives	true adjectives
/líɱ'nyámà/ (it is black)	/lí'dálà/ (it is old)
/áɱ'nyámà/ (they are black)	/má'dálà/ (they are old)
/àlìɱnyámà/ (it is not black)	/àlìlìdálà/ (it is not old)
/àwàɱnyámà/ (they are not black)	/àwàmàdálà/ (they are not old)
/lî:ɱnyámà/ (it being black)	/lî:lìdálà/ (it being old)
/língèɱnyámà/ (it not being black)	/língèlìdálà/ (it not being old)
/6áɱ'nyámà/ (they are black)	/6àncánè/ (they are small)
	/6á'ncánè/ (Zululand)
/à6àɱnyámà/ (they are not black)	/à6à6àncánè/ (they are not small)
/sìɱnyámà/ (we are black)	/sì6àncánè/ (we are small)
/àsìɱnyámà/ (we are not black)	/àsì6àncánè/ (we are not small)
/6áɱ'hlôphè+/ (they are white)	/6àkhûlù+/ (they are large)
	/6á'khûlù+/ (Zululand)
/à6àɱhlôphè+/ (they are not white)	/à6à6àkhûlù+/ (they are not large)
/6ê:ɱhlôphè+/ (they being white)	/6ê:6àkhûlù+/ (they being large)
true adjective (2nd person)	true adjective (3rd person)
/sì6àhlé/ (we are good)	/6àhlé+/ (they are good)
/àsì6àhlé/ (we are not good)	/à6à6àhlé/ (they are not good)
/ùmùhlé/ (you are nice)	/ɱûhlé+/ (he is nice)

/àwùmùhlé/ (you are not nice) /àkàmùhlé/ (he is not nice)

/mâ: ù:mùhlé/ (if you are good) /mâ: ê:mùhlé/ (if he is good)

/úngèmùhlé/ (you not being good) /éngèmùhlé/ (he not being good)

/ù6ú:mùhlé/ (you were good) /ù6é:mùhlé/ (he was good)

With true adjectives of class 9, the agentive prefix /yhì/ is used
in the absence of a verbal prefix in the independent positive pre-
sent tense,

e.g. /yhìntshá+/ (it is new), cf. /6àshá+/ (they are young),

e.g. /yhì'ndálà/ (it is old), cf. /6á'dálà/ (they are old),

 cf. /î:ntshá/ and /î:ndálà/ (dependent positive).

This prefix is retained even in the negative with monosyllabic stem
adjectives,

e.g. /àyìyhìntshá/ (indep.), /íngèyhìntshá/ (dep.)

 cf. /àyìndálà/ (indep.), /íngèndálà/ (dep.)[i]

 Irregular adjectives are different from true adjectives in
that they have an independent function, either qualificative to the
short form noun, e.g. /6àfúnà mùntù mùní+/ (what sort of person do
they want?), or substantive as object only, e.g. /6àfúnà mùphí+/
(which one do they want?)[ii]. They are therefore directly in-
flectionable by nominal extra prefixes, e.g. /kúmùphí/ (to which
one?), /nhà mùphí+/ (with which one?)[iii], and these inflected forms
occur as copulative construction bases, e.g. /6á"kúmùphí+ ùmúzì+/
(they are at which kraal?), /6ánhàmûphí+ úmntwànà+/ (they are with
which child?), as well as the simple forms, e.g. /ngìmùnyè/ (I am
one). Here, like regular true adjectives, they have no verbal
prefix in the independent positive present tense except for the 1st
and 2nd persons, but there is a tonal change, e.g. /mùnyè > múnyè/

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[i] The Zululand dialect uses the verbal prefix /i/ here, e.g.
/ ìntshá+, í'ndá6à/ (pos.) /àyìyìntshá, àyìndálà/ (neg.).

[ii] As subject they occur only predicatively, e.g. /mùphì
ókwé'nzìlè+/ (it is which one who has done it?), cf. the
interrogative noun /ú6àní/ (who?): /6àfúnà 6àní+/ (whom do
they want?), /ngù6ání ókwé'nzìlè+/ (who has done it?).

[iii] The adjective /ní/ always follows the noun and so is never
inflected. However, its root is inflectionable by nominal
extra prefixes (see 5.3.3.1.2.), e.g. /nhàní+/ (with what?),
ngàní+/ (by means of what? how? why?).

(he is one). The adjective /phi?/ also has an agentive inflection,

e.g. /mùphí > mûphí+ ~ (ngùmûphí+~yhìmûphí+)/ (by/it is which one?)

/6âphí > 6âphí+ ~yhì6âphí+/ (which are they?)

cf. /6âphí+/ (where are they?)

Copula verb constructions consist of the copula verb followed
by the copulative construction nominal bases in close syntactical
relationship. Such constructions are capable of full verbal con-
jugation,

e.g. infinitive: /ùkú6à - yhíndbdà/ (to be a man)

/ùkúngà6í - ndbdà/ (not to be a man)

/ùkú6à - (s)é:'khâyà+/[i] (to be at home)

/ùkú6à - khbná/ (to be present)

/ùkúngà6í - khbná/[ii] (not to be present)

imperative: /yì6á - yhí:'qhâwè/ (be a warrior)

/yì6ání - ngàmá'qháwè/ (be warriors)

indicative past tense:

/sâ:6à-6àdálà/ (we became old)

/sâ:6à-6ùkhálì/ (we became sharp)

indicative present tense:

positive: /ú6à - nhéngùbndb/ (he is getting sense)

negative: /àká6ì - nhàngqbndb/ (he is not getting sense)

subjunctive present tense:

positive: /á6è-nhà66/ (he should be with them)

negative: /ángà6í-nhà66/ (he should not be with them)

potential present tense:

/àngá6à-yhìnkôsì+/ (he may become a chief)

cf. /àngáyhìnkôsì+/ (he may be a chief).

5.3.5.2. Relative constructions

These constructions prefix the relative morpheme ǁaǁ to verbal
and copulative constructions, which converts them from verbal pre-
dicative function to nominal qualificative function or substantive
function (self-standing relative constructions). They are further-
more inflectionable as nominals. The allomorphs of the relative
morpheme are /(a ~ e ~ o) ~ (a: ~ e: ~ o:) / according to coalescence

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[i] Locative nominals usually preplace "s" as on direct inflection.

[ii] The negative allomorph also occurs, but note the alternatives:
/ùkúngà6íkhb ~ ùkúngà6í-'6íkhb/, where the negative stem is
reduplicated for the sake of penultimate stress.

with (a + i > e, a + u > o) or assimilation to (a + li > eli,
a + lu > olu) the verbal concords, even when they themselves are
absent. It is in such constructions without verbal concords that
the long vowel allomorphs occur, e.g. self-standing possessives,
e.g. /éː'yámì, óː'wámì/ (mine), and independent positive present
tense copulative constructions with true adjective stems, e.g.
/áː'6ádè/ (tall ones), but the vowel length tends to disappear,
certainly with trisyllabic stems, e.g. /éyén'dúnà, ówén'dúnà/ (the
induna's), /á6á'dálà/ (old ones). The tonal upstep between the
relative prefix and a subsequent high toneme also tends to disappear,
e.g. /é"síyí"66nàyò+ ~ ésíyí"66nàyò+/ (we who see it).

Relative verbal constructions use subject concords which are
independent morphologically (/a6a/ is /a + 6a/ not /a + 6e/) but
dependent tonomorphologically in that in the positive present tense
they have a low toneme without object concord and a high toneme with
object concord, e.g. /ézìbàlâyò+/ (they who write),/é"zízìbàlâyò+/
(they who write them), and in the negative present tense a high
toneme, e.g. /é"zíngàzí'bâlì+/ (they who do not write them). The
relative suffix /yo/ is necessary only in the positive present im-
perfect tense with penultimate length, where its effect is to
transfer verbs of tone class I to tone class II. Otherwise it is
used optionally in certain tenses, where its effect is simply to
convert verb stems from disyllabic to trisyllabic, or not at all[i].
Relative constructions with verbal bases conjugate through dependent
tenses of the indicative and potential moods,

e.g. /á6áyí"léthàyò+/ (they who bring it, tone class I)
/á6áyí"khêthàyò+/ (they who choose it, tone class II)
/á6áyíbàlâyò+/ (they who write it - tonal displacement)
/á"6ángàyí'lêthì+/ (they who do not bring it)
/á"6ángàyíkhèthí+/ (they who do not choose it)
/á"6ángàzí6âlí+/ (they who do not count them - tonal displacement)
/á6áːyí'lêthà + ~ á6áːyílèthâyò+/ (they who brought it)
/a"6ángàyílé'thángà+/ (they who did not bring it)
/á6áyíkhé'thîlè+/ (they who have chosen it)
/á6ángàyí'khéthà+/ (they who can choose it - potential mood).

Relative copulative constructions use subject concords which
are independent morphologically (/a6a/ is /a + 6a/ not /a + 6eː/)
but dependent tonomorphologically in that they have a high toneme
throughout (but no vowel length), e.g. /é"sí'láphà/ (we who are here),

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[i] Its use is more frequent in Zululand than in Natal.

cf. /sìláphà/ (indep.) and /síː'láphà/ (dep.). Self-standing
possessives are relative constructions without corresponding
copulative constructions, e.g. /éː'yámì, óː'wámì/ (mine),
/éː"zéthù/ (ours), /éː'yákhè, óː'wákhè, éː'zákhè/ (his),
/éʸén'dúnà/ (the induna's), /óʷén'kôsì+/ (the chief's).
Relative constructions with nominal bases conjugate through in-
dicative tenses of imperfect aspect only,

e.g. /é"sìngàmádòdà/ (we who are men)

/á" 6 ángèmàdòdà/ (they who are not men)

/á6ánhèndódànà/ (they who have a son)

/ésìngènhándòdànà/ (we who have no son)

/é"sâːsíːnhà6ó/ (we who were with them)

/á"6âː6éː'nháthì/ (they who were with us)

/á"6ángènhâthí+/ (they who are not with us)

/ésìzò6è sîːkhòná+/ (we who will be there).

The addition of the relative vowel to copulative constructions
based on adjective stems gives rise to the forms generally regarded
as "adjectives". Here the prefix toneme for true adjectives in the
independent positive present tense where no verbal prefixes are used
(except for the 1st and 2nd persons), is neither low as in
/ú6à-mùdè/ (he is getting tall) and /ú6à-mùhlé/ (she is getting
pretty) nor high as in /múdè/ (he is tall) and /múhlè ～ mûhlé+/
(she is pretty), but either high or low according to tonal dissimi-
lation, e.g. /ùmúntù óː'mídè+/ (a tall person) and /ùmúntù óːmùhlé+/
(a nice person). With disyllabic stem adjectives there are alterna-
tive forms in which the prefix toneme is always high, e.g. /ĩːngù6ò
ézìndálà ～ é"zín'dálà/ (old clothes), cf. /zín'dálà/ (they are old),
but these forms are less common. When the prefix toneme is low by
tonal dissimilation, it is subject to tonal assimilation to the high
toneme of the relative vowel, e.g. /á6á'dálà/ (old, class 2), cf.
/ézìndálà/ (old, class 10).

noun adjectives	true adjectives
/éngìm̥nyámà/(I who am black)	/éngìm̥dálà/(I who am old)
/á6ám̥'nyámà/(black ones)	/á6á'dálà/(old ones)
/ézì6úthùntù/ (blunt)	/ézìndálà/(old)
/é"zínzìmà/(heavy)	/é"zímbìlí/(two)
/ézì6ú'khálì/(sharp)	/ézìnhlánù/(five)
/á"6ángèm̥nyámà/(not black)	/á"6ángè6àdálà/(not old)

/é"zíngènzìmà/(not heavy)   /é"zíngèzìmbìlí/(not two)

/ésím̱'hlôphè+/(we who are white)/ésí6á'khûlù+/(we who are great)

/ésâːsíːm̱'hlôphè+/(we who were   /ésâːsíː6á'khûlù+/(we who were
                    white)   great)

/á6âː6éːm̱'nyámà/(they who were   /á6âː6éː6á'ncánè/(they who were
                    black)   small)

/á6âː6éngèm̱nyámà/(they who were /á6âː6éngè6àncánè/(they who were
                    not black)   not small)

   true adjectives (1st person)   true adjectives (3rd person)

/é"sí6àhlé/(we who are good)   /áː6àhlé/(they who are good)

/é"sìngè6àhlé/(not good)   /á"6ángè6àhlé/(not good)

/é"sí6àdè/(we who are tall)   /áː'6àdè/(they who are tall)

/é"sìngè6àdé/(not tall)[i]   /á"6ánɡè6àdé/(not tall)[i]

/ésâːsíː6àdè/(we who were tall)   /á6âː6êː6àdè/(they who were tall)

   true adjectives (class 9)   true adjectives (class 10)

/éːndè/(tall, long)[ii]   /éː'zíndè/(tall, long)

/éngèndé/(not tall)[i]   /é"zíngèzìndé/(not tall)[i]

/êːntshá/(new, young)[ii]   /éːzìntshá/(new, young)

/éngèntshá/(not new)   /é"zíngèzìntshá/(not new)

/éyâːyìːntshá/(which was new)   /ézâːʐíːzìntshá/(which were new)

5.4. Morphotonology

In section 3.4. I wrote "Morphotonology accounts for the tonemic
representation of tonal morphemes, that is for their realization as
allomorphs. --- Phonologically conditioned morphotonemic variation
is relevant to tonology, but not morphologically conditioned varia-
tion. Only the former type of alternation is therefore described
in this section, the description of the latter type being deferred
to the section on tonal morphology". There I described the morpho-
tonological rules of tonal assimilation, tonal dissimilation, and
tonal displacement. Here I describe the morphotonoligical rules
whose reasons are not tonologically apparent. These rules give

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[i]   It is apparently on analogy with /hlé, 6í, shá/ (good, bad, new)
that /dè, nè, nyè/ (tall, four, one) have a final high toneme
in negative constructions: zíndè > àzìzìndé, é'zíndè> é"zíngèzìndé.

[ii] The agentive prefix is used predicatively only: /yhíndè> éːndè/.

rise to morphologically conditioned allomorphs[1].

5.4.1. The ◊HH◊ FTM

The allomorphic variation is ((HH~LH) ~ HL ~ LH) ~ H̲L̲L̲+.
The allomorphs HH~LH depend upon the previous toneme,

e.g. /ísí'khẃamá, ízìkhẃamá/ (bag, bags)

/síyí'6óné, sízì6òné/ (let us see it, see them).

The allomorph HL is due to tonal displacement with monosyllabic
prefix nouns and monosyllabic stem verbs,

e.g. /í'nká6í ⟩ ngènká6ì/ (by an ox), /sí'yídlé ⟩ zìyídlè/(let them eat it).

The allomorph LH is conditioned by a depressor in the antepenul-
timate syllable; it is used predominantly by male speakers,

e.g. /ímvùlá ~ ím'vúlá/ (rain)

/síyíbàlé ~ síyí'bálé/ (let us write it).

The allomorph H̲L̲L̲+ is conditioned by penultimate length,

e.g. /ísí'khwâmà+, ízìkhwâmà+/ (bag, bags)

/síyí'6ônè+, sízì6ônè+/ (let us see it, see them).

5.4.2. Penultimate length

Penultimate length operates as a conditioning factor with the
◊HH◊ FTM (see above), and with the tonal displacement allomorphs
of FTM's ◊LL◊ and ◊LH◊: /H̲L̲L̲+ ~ HL/ and /H̲L̲H̲+ ~HL),

e.g. /ìzìhlâlò+ ~ ìzìhlálò/ (chairs)

/ìzìnkômó+ ~ ìzìnkómò/ (cattle)

/zìkhîphé+ ~ zìkhíphè/ (take them out)

/6àvùmîlè+/ (they have agreed).

It also conditions the H ~ HL[+] allomorph of MTM C of verbs with
object concords in certain tenses with inherent toneme infixes,

e.g. /ùkúngàyì6òní ~ ùkúngàyì'6ònì+/ (not to see it)

/ùkúngàyìlìmí ~ ùkúngàyílìmí+/ (not to plow it)

/síngàlàlêlì+, síngàyílá'lêlì+/ (we not listening, we not
                                            listening to it).

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[1] Nevertheless, phonologically conditioned changes are morpho-
logically conditioned to the extent of the morphological
limitations to the operation of these processes. Tonal assimi-
lation is morphologically conditioned to the extent that it
does not occur in certain instances, and tonal dissimilation
to the extent that it occurs in certain instances only. Tonal
displacement does not take place across word boundaries or
onto word final syllables (although it sometimes does so in
quick speech with words in close syntactical relationship),
but here the word is the limit and the word is, perhaps, a
phonological unit marked by primary stress as well as a mor-
phological unit.

5.4.3. Depressor consonants

Depressors operate as a conditioning factor with the ⟨HH⟩ FTM (see above), and with the tonal displacement allomorphs of FTM's ⟨LL⟩ and ⟨LH⟩: /LL > HLL+ ~ HL) and /LH > HLH+ ~ HL),

e.g. /ìsíhlàlò > ìzìhlâlò+ ~ ìzìhlálò/ (chairs)

/ìsíkhàthí > ìzìkhâthí+ ~ ìzìkháthì/ (times)

/6â:yílìmá+ > 6â:zìlìmá+/ (they plowed it, them).

However, tonal displacement operates according to phonological rules, and it is consequently dealt with elsewhere (3.4.3.). Note, nevertheless, that in the determination of MTM BA allomorphs, the subject concord conditions an antepenultimate high toneme except on depressor syllables,

e.g. /àsí"lí'màngà/ (we did not plow),

cf. /àsígèzángà/ (we did not wash).

5.4.4. The tonal upstep as a conditioning factor

Initial high tonemes tend to be replaced by low tonemes if followed by a tonal upstep,

e.g. /á6á'fánà/ (boys) >/á6á"fányànà ~ à6àfányànà/ (small boys)

e.g. /6àyìlímìlè+, 6ázìlímìlè+/ (they have plowed it, them)

cf. /6áyí6ònílè+, 6ázì6ònílè+/ (they have seen it, them)

e.g. /sìyìkhé'thélé, sízìkhé'thélé/ (we should choose for him,them)

cf. /síyílèthèlé, sízìlèthèlé/ (we should bring for him, them).

This tendency is not apparent with noninitial high tonemes,

e.g. /sè6éyí"límìlè+/ (they have already plowed it)

/màsíyí"khé'thêlè+/ (let us choose for him)

/ìzìmpá'shánà > ìzìmpá"shányànà/ (minute little feathers).

In careful speech the initial high tonemes are retained,

e.g. /à6ántù 6áyí"límìlè+/ (the people have plowed it)

/ùkú6à síyí"khé'thêlè+/ (that we should choose for him).

The initial high toneme of the relative vowel asserts itself even in quick speech, even to the extent of annihilating the tonal upstep, e.g. /é"síy"6ónàyò+ > ésíyí"6ónàyò+/ (we who see it), which is a reflection of its important function in syntax.

5.4.5. Object concords as a conditioning factor

(a) The object concord conditions the HL allomorph of FTM ⟨LL⟩ of verbs of tone class II in the following forms:-

(i) pos. infin. (I) with disyllabic stem verbs only, cf.(b)(i) below,

e.g. ùkúzìlímà, ùkúyí'límà, kùyìlíòà, cf. ùkúlìmà, kùlìmà.
The infinitive verb is also a class 15 noun, hence the short
forms /kùlìmà, kùyìlímà/.

(ii) indep.pos.indic.pres.imperf. (III 2b), nonfinal form,

e.g. sìyìlímà, sìyìlìmísà, cf. sìlìmà, sìlìmìsà.
The L⁺ allomorph of MTM B is used; the object concord does
not condition the L ~ L⁺H allomorph here: /sìyìlìmísà/
not */sìyìlímìsà/.

(iii) indep.pos.indic.pres.imperf. (III 2b), final form, with
disyllabic stem verbs only, cf. (b) (iii) below,

e.g. sìyàyìlímà+, 6áyáyí'límà+, cf. sìyàlìmà+, 6àyálìmà+.
The L⁺ allomorph of MTM B is used; the object concord does
not condition the L ~ L⁺H allomorph here: /sìyàyìlímà+/
not */sìyàyílìmà+/. Thus neither /ya/ nor the object con-
cord bears a high toneme except by tonal assimilation to or
tonal displacement from the previous syllable, e.g.
/6áyáyí'límà+, zìyázìlíòà+/.

(iv) indep./dep., pos./neg., indic.pres.fut. (III 2c), with
disyllabic stem verbs only, cf. (b) (iv) below,
e.g.   sìzòyìlímà, àsízùyí'límà, síngèzùyí'límà,
cf.   sìzòlìòà, àsízùlìmà, síngèzùlìmà.

(b)   The object concord conditions the L ~ L⁺H allomorph of MTM B
(i.e. an antepenultimate high toneme except on itself) of verbs of
tone class II with FTM {LL} in the following forms:-

(i)   pos.infin. (I) with polysyllabic stem verbs only, cf.(a)(i) above,

e.g. ùkúzìlímìsà, ùkúyí"límìsà, kùyìlímìsà,
cf. ùkùlímìsà, kùlìmìsà.
The short form /kùlìòìsà/ shows that the antepenultimate
high toneme in /ùkùlímìsà/ represents the LLH ITM allo-
morph, and the short form /kùyìlímìsà/ shows that the
antepenultimate high toneme in /ùkúzìlímìsà/ represents
the LH MTM allomorph after the LH ITM allomorph, both of
which are conditioned by the object concord. In
/ùkúyí"límìsà/, LH-LH-LL > LHH"HLL.

(ii) indep.pos.indic.pres.perf. (III 2a), final form,

    e.g. sìyìlímìlè+, sìyìlìmísìlè+,

    cf. sìlìmìlè+, sìlìmìsìlè+[i]

(iii) indep.pos.indic.pres.imperf. (III 2b), final form,

    with polysyllabic stem verbs only, cf. (a) (iii) above,

    e.g. sìyàyìlímìsà+, cf. sìyàlìmìsà+[i]

(iv) indep./dep., pos./neg., indic.pres.fut.(III 2c), with

    polysyllabic stem verbs only, cf. (a) (iv) above,

    e.g. sìzòyìlímìsà, àsízùyí"límìsà, síngèzùyí"límìsà,

    cf. sìzòlìmìsà, àsízùlìmìsà, síngèzùlìmìsà.

(c) The object concord conditions the H $\sim$ L$^+$H allomorph of MTM B
(i.e. an antepenultimate high toneme on itself) of verbs of tone class
II with FTM ⦃LH⦄ in the pos.subj.pres.(IV 2), with disyllabic stem verbs
only, cf.(d) below,

e.g. sí"yílìmé, sízìlímè, sí"zìgèzé, cf. sìlímè, sìgézè (see 5.4.7.d.),
which is the only occasion on which it does so[ii].

(d) The object concord conditions the L $\sim$ L$^+$H allomorph of MTM BA
(i.e. an antepenultimate high toneme except on depressor syllables) of
verbs of tone class II with FTM ⦃HH⦄ in the pos.subj.pres.(IV 2), with
polysyllabic stem verbs only, cf. (c) above,

e.g. síyí"lí'mísé, sízìlí'mísé, sízìgèzìsé, cf. sìlímìsé, sìgézìsé,
(see 5.4.7.e.),which is the only occasion on which it does so[ii].

(e) The object concord conditions the H allomorph of ITM ⦃L⦄
of verbs in the following forms:-

(i) dep.pos.indic.pres.imperf. (III 2b),

    e.g. síyí'límà, sízìlímà, cf. sìlímà (tone class II)

    síyí'6ónà, sízì6ónà, cf. sì6ónà (tone class I, (a) form).

    aíyí'6óná, sízì6òná, cf. sì6ónà+ (tone class I,(b) form).

(ii) pos.subj.past (IV 1),

    e.g. sáyí'6ónà, sázì6ónà, cf. sà6ónà (tone class I)

    sáyí'límà, sázìlímà, cf. sàlímà (tone class II)

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[i] The stem /limisa/ normally needs an object. The stem /gijima/ (run)
is intransitive: /sìgìjìmìlè+/ and /sìyàgìjìmà+/.

[ii] The object concord otherwise conditions the L $\sim$ L$^+$H allomorph
of MTM B.

(iii) pos.subj.pres. (IV 2), with polysyllabic stem verbs only,

e.g. sízì6ònìsé, cf. sì6ónìsé (tone class I)

sízìlí'mìsé, cf. sìlímìsé (tone class II)

(f) The object concord conditions the H allomorph of ITM ⟨L⟩

of verbs of tone class I in the following forms, where verbs

of tone class II use ITM ⟨H⟩:-

(i) indep.neg.indic.past (III 1),

e.g. àsíyí6ònángà, cf. àsì6ònángà, cf. àsílí'mángà.

(ii) indep.neg.indic.pres. perf. (III 2a),

e.g. àsíyí6ònìlé+, cf. àsì6ònìlé+, cf. àsílí'mìlé+.

(iii) indep.neg.indic.pres.imperf. (III 2b),

e.g. àsíyí'6ónì, àsízì6óónì, cf. àsì6óónì, cf. àsí'límì.

(iv) dep.pos.indic.pres.perf. (III 2a),

e.g. síyí6ònê: ~ síyí6ònìlè+,

cf. sì6ònê:~ sì6ònìlè+, cf. (sílìmê:~sílí"mê:)~sílí'mìlè+.

(g) The object concord conditions the H allomorph of ITM ⟨L⟩

of verbs of tone class II in the following forms, where verbs of

tone class I use ITM ⟨H⟩:-

(i) indep.pos.indic.pres.perf. (III 2a),final form, 3rd person,

e.g. 6ázìlímìlè+, cf. 6àlímìlè+, cf. 6á6ó'nílè+,

cf. sìzìlímìlè+, sìlìmìlè+ (1st person).

(ii) indep.pos.indic.pres.imperf. (III 2b), final form, 3rd person,

e.g. 6áyázìlímà+, cf. 6àyálìmà+, cf. 6áyá'6ónà+,

cf. sìyàzìlímà+, sìyàlìmà+ (1st person).

(iii) pos. subj.pres. (IV 2), with disyllabic stem verbs only,

e.g. sí"yílìmé, sízìlímè~sízìlìmé+, cf. sìlímè, cf. sí6òné.

(h) The object concord conditions the LH allomorph of the

full form pos. infin. ITM's,

e.g. ùkúyí'6ónà, cf. úkú'6ónà (tone class I)

ùkúyí'límà, cf. ùkúlímà (tone class II)

ùkúyí"límìsà, cf. ùkùlímìsà (tone class II)

The short form ITM's are not subject to morphotonemic change,

e.g. kùyìlímà, kùyìlímìsà, cf. kùlìmà, kùlìmìsà.

(i) The object concord together with penultimate length con-

ditions the H ~ HL[+] allomorph of MTM C of verbs in certain tenses

with inherent toneme infixes,

e.g. /síngàyí'6ônǐ+/ (we not seeing it)
cf. /síngàyí6ònǐ/ (without penultimate length)
e.g. /síngàyílá'lêlì+/ (we not listening to it)
cf. /síngàlàlêlì+/ (without object concord).

5.4.6. Third person subject concords as a conditioning factor

(a) The third person subject concord conditions the HL allomorph
of FTM ⟨LL⟩ of verbs of tone class II in the indep.pos.indic.
pres.imperf. (III 2b), nonfinal form,
e.g. 6àlímà, 6àlìmísà, cf. sìlìmà, sìlìmìsà.
The L^+ allomorph of MTM B is used; the subject concord does
not condition the H $\sim L^+H$ allomorph here:
/6àlìmísà/ not */6àlímìsà/, cf. 5.4.5.(a.ii) above.

(b) The third person subject concord conditions the H $\sim L^+H$ allo-
morph of MTM B of verbs of tone class II with FTM ⟨LL⟩, in
the following forms:-

   (i) indep.pos.indic.pres.perf. (III 2a), final form,
      e.g. 6àlímìlè+, 6àlìmísìlè+, cf. sìlìmìlè+, sìlìmìsìlè+.[i]

   (ii) indep.pos.indic.pres.imperf. (III 2b), final form,
      e.g. 6àyálìmà+, 6àyàlímìsà+, cf. sìyàlìmà+, sìyàlìmìsà+.[i]

5.4.7. Subject concords as a conditioning factor

(a) The subject concord conditions the HL allomorph of FTM ⟨LL⟩
of verbs of tone class II in the following forms:-

   (i) dep.pos.indic.pres.imperf. (III 2b), with disyllabic
      stem verbs only, cf. (b) (i) below,
      e.g. sìlímà, síyí'límà, cf. sìlìmà, sìyìlímà (independent).

   (ii) pos./neg.subj.past (IV 1), with disyllabic stem verbs only,
      cf. (b) (ii) below,
      e.g. sàlímà, sáyí'límà (pos.),
          sángâ:límà (neg.) àsâ:límà (neg.(c) form).

   (iii) pos./neg. pot.pres. (V 1), with disyllabic stem verbs only,
      cf. (b) (iii) below,
      e.g. sìngàlímà, sìngàyí'límà (pos., tonal displacement)
          sìngá'gézà, sìngázìgézà (pos., t.d. blocked)
          sìngê:límè (neg.), cf. síngê:límè+ (neg.(c) form).

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[i] The stem /limisa/ normally needs an object; the stem /gijima/
(run) is intransitive.

(b) The subject concord conditions the H ~ L⁺H allomorph of
MTM B (i.e. an antepenultimate high toneme) of verbs of tone
class II with FTM ⫽LL⫽ in the following forms:-

    (i)   dep.pos.indic.pres.imperf. (III 2b), with polysyllabic
        stem verbs only, cf. (a)(i) above,
        e.g. sìlímìsà, síyí"límìsà, ɓèlímìsà,
        cf. sìlìmìsà, sìyìlìmísà, ɓàlìmísà (independent).

    (ii)   pos./neg.subj.past (IV 1), (a) form, with polysyllabic
        stem verbs only, cf. (a)(ii) above and (c)(i) below,
        e.g. sàlímìsà, sáyí"límìsà sàgézìsà, (pos.)
        sángâ:límìsà (neg.), àsâ:límìsà (neg.(c) form).

    (iii)   pos./neg.pot.pres. (V 1), (a) form, with polysyllabic
        stem verbs only, cf. (a)(iii) above and (c)(ii) below,
        e.g. sìngàlímìsà, sìngàyí"límìsà (pos.,tonal diaplacement)
        sìngá"gézìsà, sìngázìgézìsà (pos., t.d. blocked)
        sìngê:límìsè (neg.), cf. síngê:límìsè+ (neg.(c) form).

(c) The subject concord conditions the H ~ L⁺H allomorph of MTM BA
    (i.e. an antepenultimate high toneme except on depressor sylla-
    bles) of verbs of tone class II with FTM ⫽HL⫽ in the following
    forms:-

    (i)   pos./neg.subj.past (IV 1), (b) form, with polysyllabic
        stem verbs only, cf. (b)(ii) above,
        e.g. sàlí'mìsà, sàgèzísà, sáyígèzísà (pos.)
        sángâ:lí'mìsà, sángâ:gèzísà, àsâ:gèzísà (neg.)

    (ii)   pos./neg.pot.pres (V 1), (b) form, with polysyllabic stem
        verbs only, cf. (b)(iii) above,
        e.g. sìngàlí'mìsà, sìngágèzísà, sìngàyígèzísà (pos.)
        sìngê:lí'mìsè, sìngê:gèzísè, cf. sìngê:gèzísè+ (neg.)

    (iii)   indep.neg.indic.past (III 1),[i]
        e.g. àsí"lí'mángà ~ àsílí'mángà, àsìgèzángà,
        cf. àsìɓònángà, àsíyíɓònángà (tone class I)

    (iv)   indep.neg.indic.pres.imperf. (III 2b), with polysyllabic
        stem verbs only,
        e.g. àsí"lí'mìsì ~ àsílí'mìsì, àsìgèzìsì,
        cf. àsìɓònìsì, àsíyíɓònìsì (tone class I)

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[i] The Zululand dialect uses MTM BA in the dep.neg. as well as in
the indep.neg.
  e.g. /sìngàlí'mángà/ (Zululand),/sìngàlìmángà/ (Natal)
    /sìngàgèzángà, sìngàyígèzángà+/ (both dialects).

Note relating to (i) and (ii): The evidence suggests that
these tenses are changing from FTM ⟨LL⟩ to FTM ⟨HL⟩.

Note relating to (iii) and (iv): The evidence suggests that
these tenses have changed from FTM ⟨LL⟩ to FTM ⟨HL⟩.

(d) The subject concord conditions the HL allomorph of FTM ⟨LH⟩
    of verbs of tone class II in the pos.subj.pres. (IV 2), without
    object concord, with disyllabic stem verbs only, cf.(e) below,
    e.g. sìlímè, sìgézè, cf. sí"yílìmé, sí"zígèzé (see 5.4.5.c.)

(e) The subject concord conditions the H ~ L⁺H allomorph of MTM B
    of verbs of tone class II with FTM ⟨LH⟩ in the pos.subj.pres.
    (IV 2), without object concord, with polysyllabic stem verbs
    only, cf. (d) above,
    e.g. sìlímìsé,sìgézìsé, cf. síyí"lí'mìsé, sízìgèzìsé (see 5.4.5.d.)

(f) The subject concord conditions the H ~ L⁺H allomorph of MTM B of
    verbs of tone class I with FTM⟨LH⟩ in the pos.subj.pres. (IV 2),
    without object concord, with polysyllabic stem verbs only,
    e.g. sìɓónìsé, cf. síyíɓònìsé.
    The only occasion on which verbs of tone class I use FTM ⟨LH⟩
    with MTM ⟨B⟩, and conjugational contrast disappears. It main-
    tains with object concords, depending upon the nature of the
    antepenultimate syllable,
    e.g. sízìɓònìsé ~ sízìɓònìsè+
    cf. sízìlí'mìsé ~ sízìlí'mìsè+ (nondepressor)
    cf. sízìgèzìsé ~ sízìgèzìsè+ (depressor)

(g) The subject concord conditions the H ~ L⁺H allomorph of MTM B
    of verbs of tone class I with FTM ⟨LL⟩ in the indep.pos.indic.
    pres.perf. (III 2a), final form, with polysyllabic stem verbs
    only,
    e.g. sìɓàlékìlè+ (we have run away), ɓáɓá"lékìlè+ (they)
        sìlèthélènè+ (we have brought for one another)
    cf. sìgìjìmìlè+ (we have run), ɓàgìjìmílè+ (they)[i]
        sìkhèthèlènè+ (we have chosen for one another)
The only occasion on which verbs of tone class I use FTM ⟨LL⟩ with
MTM B, but conjugational contrast maintains. It disappears with
object concords,
e.g. /sìyìɓònísìlè+, sìyìlìmísìlè+/
    /ɓázìɓònísìlè+, ɓázìlìmísìlè+/.

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[i] Note tonal displacement: /*ɓàgìjímìlè+ > ɓàgìjìmílè+/.

5.4.8. Implication prefixes as a conditioning factor

(a) The progressive implication prefix ǀsaǀ (still)

This prefix is used in the indicative present tense, all aspects,
positive and negative, and in compound tenses incorporating it. It
has the same effects as the object concord (see 5.4.5.), except in
the future aspect where it occurs before the morphemes ǀzoǀ and ǀyoǀ,
ǀzuǀ and ǀyuǀ, and so has no effect on subsequent tonal morphemes.
In the Zululand dialect it occurs as /sá/, and in the Natal dialect
it occurs as /sá/ except in the imperfect aspect nonfinal form
without object concord. As /sá/ it constitutes a tonal upstep and so
gives rise to the situation for a morphotonemic change from high to
low on initial syllables (see 5.4.4. "the tonal upstep as a condi-
tioning factor"), which I show in the following examples. The ref-
erences are to section 5.4.5., "object concords as a conditioning
factor".

(i)   indep.pos. III 2b, nonfinal form (see (a)(ii),
      e.g. sìsàlímà, sìsàlìmísà, sìsáyí'límà, sìsáyìlìmísà,
      cf. sìlìmà, sìlìmìsà, sìyìlímà, sìyìlìmísà,
      cf. sìsá'límà, sìsálí'mìsà (Zululand).
      e.g. 6àsà6ónà, 6àsà6ònísà, cf. 6à6ónà, 6à6ònísà (t.cl.I).

(ii) indep.pos. III 2b, final form (see (a)(iii),
      e.g. sìsá'límà+, sìsá"límìsà+, sìsáyí'límà+, sìsáyí"límìsà+,
      cf. sìyàlímà+, sìyàlìmìsà+, sìyàyìlímà+, sìyàyìlìmísà+,
      cf. sìsá'límà+, sìsá"límìsà+ (Zululand).
      eg. 6àsá'6ónà+, 6àsá6ó'nísà+, cf. 6áyá'6ónà+, 6áyá6ònísà+ (t.cl.I).
      The final-nonfinal distinction is lost tonally except with poly-
      syllabic stem verbs of tone class II (/límìsà+ ~ lìmísà/), be-
      cause of the effects of /sa/, and phonally because /sa/ and /ya/
      are mutually exclusive. The Natal dialect, however, shows a
      final-nonfinal H-L distinction on the progressive infix without
      object concord,
      e.g. /6àsà6ónà ~ 6àsá'6ónà+/, cf. /6àsáyí'6ónà/.

(iii) dep. pos. III 2b (see (e)(i),
      e.g. sìsá'límà, sìsáyí'límà, sìsáyí"límìsà,
      cf. sìlímà, síyí'límà, síyí"límìsà (tone class II);
      e.g. 6èsá'6ónà, 6èsá6ó'nísà (tone class I, (a) form)
           6èsá'6óná, 6èsáyí'6óná ~ 6èsáyí'6ônà+ ((b) form)
      The independent-dependent distinction is lost tonally to a
      great extent, because of the effects of /sa/.

(iv) indep.pos. III 2a, final form (see (b)(ii),

e.g. sìsá"lámbìlè+ (we are still hungry), cf. sìlàmbìlè+ (t.cl.II),

e.g. bá"sáhàmbílè+ (they are still gone), cf. 6áhàmbílè+ (t.cl.I).

(v) future aspect (III 2c) (see (a)(iv) and (b)(iv),

e.g. sìsázòlìmà, sìsázòyí'límà, àsí"sázùlìmà, àsí"sázùyí'límà,

cf. sìzòlìmà, sìzòyìlímà, àsízùlìmà, àsízùyí'límà.

(vi) indep.neg. III 2b (see (f) (iii),

e.g. àsí"sá'6ónì, àsí"sáyí'6ónì (we do not still see it),

cf. àsì6ónì, àsíyí'6ónì (tone class I).

e.g. àsí"sá'límì, àsí"sáyí'límì (we do not still plow it),

cf. àsí'límì, àsíyí'límì (tone class II).

(vii) dep.neg. III 2b (see (i),

e.g. síngàsá'6óní ~síngàsá'6ónì+, síngàsá"yí'6ónì+.

cf. síngà6óní ~ síngà6ónì+, síngàyí'6ónì+

In copulative constructions /sa/ occurs as /sê: ~ sé:/ in the positive and as /sé:/ in the negative, with the following effects,

(i) indep.pos.

e.g. sìsê:khòná, 6àsê:khòná; sìsê:nhà6ó, 6àsê:nháthì,

cf. sìkhòná, 6ákhòná, sìnhà6ó, 6á'nháthì.

(ii) dep. pos.

e.g. sìsê:khòná, 6èsê:khòná, sìsê:nhà6ó, 6èsê:nháthì,

cf. sî:khòná, 6ê:khòná, sî:nyà6ó, 6ê:nháthì.

(iii) indep, neg.

e.g. àsìsé:khò, à6àsé:khò, àsìsé:nhàbó, àbàsé:nhàthí,

cf. àsíkhò, à6ákhò ~ à6êkhò, àsínhà6ó, à6ánhàthí.

(iv) dep.neg.

e.g. síngàsé:khò, 6éngàsé:khò, síngàsé:nhà6ó, 6éngàsé:nhàthí,

cf. sî'ngêkhò, 6ê'ngékhò, síngènhâ6ó+, 6éngènhâthí+.

(Meaning: we/they are (not) still present,

we/they are (not) still with them/us).

(b) The inceptive implication prefix)ka((not yet)

This prefix is used in the indicative present tense, imperfect and future aspects only, negative only, and in compound tenses in-corporating it. It occurs as /ká/, with the same effects as /sá/.

(i) neg. future aspect III 2c (see (v) above),

e.g. àsí"kázùlìmà, àsí"kázùyí'límà.

(ii) indep.neg. III 2b (see (vi) above),

  e.g. àsí"ká'66nì, àsí"káyí'66nì (we do not yet see it).

(iii) dep.neg. III 2b (see (vii) above),

  e.g. síngàká'66ní, síngàkáyí'66nì+.

This prefix does not occur in copulative constructions, but it occurs in copula verb constructions,

(i) indep.neg.

  e.g. à6á'ká6ì-khòná+ ~ à6á'ká6ì-6íkhò+[i] ~ àbá"ká'6íkhò+.

(ii) dep.neg.

  e.g. 6éngàká6ì-khòná+ ~ 6éngàká6ì-6íkhò[i] ~ 6éngàká'6íkhò+.

  (Meaning: they are not yet present).

(c) The exclusive implication prefix ∥se∥ (now, then, already)

This prefix is used in all positive tenses of the indicative and potential moods. In the Zululand dialect it occurs as /sê/ in independent tenses and as /sè/ in dependent tenses, and in the Natal dialect it occurs as /sê ~ sè/ in independent tenses, the former with and the latter without penultimate length[ii], and as /sè/ in dependent tenses. This prefix seems to have slight stress, and tonal assimilation often does not operate subsequently to it. Its high toneme is often affected by a subsequent tonal upstep (see 5.4.4., "the tonal upstep as a conditioning factor"), which I show in the following examples. The allomorph /s/ occurs where the subject concord consists of a vowel only, and conditions a long vowel in the Zululand dialect, e.g. /sewu ~(usu ~ usu:) (2nd p.sg.), /seye~(use ~ use:/ (3rd p.sg.). The general rule is to incorporate the prefix into both independent and dependent tenses, but with some speakers, predominantly in Zululand, it causes the substitution of dependent patterns regardless of syntactical function[iii]. Otherwise it has no morphotonemic effects.

(i) indep.pos. III 2b, final form,

  e.g. sìyàlìmà+ > sésìyàlìmà+ (we are now plowing)

    6áyá'66nà+ > sé"bêyá'66nà+ (we are now seeing)

  These forms function as emphatic final forms.

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i The negative stem of the copula verb /6a/ is reduplicated for the sake of penultimate stress.

ii There is a certain amount of free variation, however.

iii The subject concord is dependent as to phonal allomorph in both usages, but in the latter it is dependent both phonally and tonally.

(ii) indep.pos. III 2b, nonfinal form,

e.g. sìlìmà > (sèsìlìmà ~ sésìlìmà) ~ sésí'lìmà

sìyìlímà> (sèsìyìlímà ~ sésìyìlímà) ~ sèsíyí'lìmà

6à6ónà> (sè6è6ónà > sé6é'6ónà) ~ sé6é'6ónà

6àyì6ónà> (sè6èyì6ónà ~ sé6èyì6ónà) ~ sè6éyí'6ónà

sìlìmìsà> (sèsìlìmìsà ~ sésìlìmìsà) ~ sèsìlímìsà

These forms function either finally or nonfinally. Of the
bracket alternatives, the former is the Natal nonfinal form
and the latter the Natal final form, and also the Zululand
form. The final alternative occurs predominantly in Zulu-
land; in Natal it is generally regarded as a dependent tense
(see (iii) below).

(iii) dep.pos. III 2b,

e.g. sìlímà > sèsìlímà, síyí'lìmà > sèsíyí'lìmà,

6è6ónà > sè6è6ónà, 6éyí'6ónà > sèbéyí'6ónà,

sìlìmìsà > sèsìlímìsà.

(iv) indep.pos. III 2a, final form,

e.g. sìlìmìlè+ > sésìlìmìlè+ ~ sèsílímìlè+ (sèsíyílìmìlè+)

6àlímìlè+ > sèbèlímìlè+ ~ sèbélímìlè+ (sè6éyílìmìlè+)

sì6ónìlè+ > sésì6ónìlè+ ~ sésì6ónìlè+ (sèsíyí6ónìlè+)

6á66'nílè+ > sè6é66'nílè+ ~ sébè6ónìlè+ (sè6éyíbónìlè+)

úhàmbílè+ > ú"séhàmbílè+ ~úsèhàmbílè+ (he has already gone,

he is now gone).

The final alternative occurs predominantly in Zululand; in
Natal it is generally regarded as a dependent tense (see
(v) below).

(v) dep.pos. III 2a, final form,

e.g. sìlí'mìlè+ > sèsílí'mìlè+, sèsíyílìmìlè+

6è6ónìlè+ > sèbè6ónìlè+, sè6éyí6ónìlè+

(vi) indic.past (III 1),

e.g. sâ:yí'6ónà+ > sèsâ:yí'6ónà+ (we then saw it).

(vii) pot.pres. (V 1),

e.g. sìngàyí'6ónà > sésìngàyí'6ónà (we can now see it).

In copulative constructions /se/ conditions dependent subject
concords, both phonally and tonally, with the following effects,

(i) indep./dep.present tense

sé"sî:khònà, sé"6ê:khònà, sé"sî:nhà66, sé"6ê:nháthì .
(Meaning: we/they are now present,

we/they are not with them/us).

(ii)   recent past compound tense: ɓèsèsî:khɔ̀ná (we were then present).

(iii) remote past compound tense: sâ:sèsî:khɔ̀ná (we were then present).

Note that /ùsê:khɔ̀ná/ is ambiguous: either "he is now present" (exclusive) or "he is still present" (progressive). The three indicative mood implication prefixes are mutually exclusive.

(d) The politeness implication prefix ǀmaǀ

This prefix is used in the present tense of the subjunctive mood, and occurs as /mà~à/. It has no morphotonemic effects.

e.g.   /síɓɔ̀né > màsíɓɔ̀né, màsíyí'ɓɔ̀nè+ (let us see, see it)
       /síngà6òní > màsíngà6òní, màsíngàyí'6òni̇̀+ (let us not see,see it)
       /6á"yílìmé > à6á"yílìmé/ (let them plow it).

(e) The obligation implication prefix ǀ6o:ǀ

This prefix is used in the present tense of the subjunctive mood, and occurs as /6ó:~6ó/. Its effect is the substitution of the basic infinitive pattern.

e.g.   /síɓɔ̀né > sì6ó:'6ónà, sì6óyí'6ónà+/ (we ought to see,see it)
       /síngà6òní > síngà6ó:'6ónà, síngà6óyí'6ónà+/ (we ought not to see it)
       /6á"yílìmé > 6á"6óyí'lìmà+/ (they ought to plow it).

The two subjunctive mood implication prefixes can combine,
e.g.   /màsí"6ó:gìjìmà+/ (let us rather run).

(f) The future intention implication prefixes ǀzó:ǀ and ǀyó:ǀ

These prefixes are used in all moods and in all tenses, and they can combine with all implication prefixes[i]. They reduce subsequent morphemes to the basic infinitive pattern.

e.g.   /ùkùgíjìmà > ùkú"yó:gìjìmà/ (to go and run)
       /6àlímà > 6àyó:lìmà/ (they are going to plow)
       /sìzɔ̀yìlímà > sìzɔ̀yó:yí'lìmà/ (we shall go to plow it)
       /à6á'límì > à6á"zó:lìmà/ (they are not coming to plow)
       /àsízùyí'límà > àsízùzó:yí'lìmà/ (we shall not come to plow it)
       /sâ:sèɓênzà+ > sâ:yó:sé'ɓénzà+/ (we went to work)
       /màsíyí'6ónè+ > màsí"zó:yí'6ónà+/ (let us come and see it).

5.4.9. Other conditioning factors

(a) The future aspect infixes /zù/ and /yù/ condition high tonemes on object concords,

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[i] These are practical limitations which I do not intend to enumerate.

e.g. /àsízùyí'límà/ (we shall not plow it), cf. /àsízùlímà/.

/àsíyùzí'válà/ (we shall not shut them), cf. /àsízùvàlà/.

/àngízùzí'bálà/ (I shall not write them), cf. /àngízùbálà/,

cf. /àngízùkúzìbálà, àngízǔːzìbálà/ (zùkú ~ zǔː ~ zù).

The male voice is apt to omit the object concord high toneme in such a context of depressor syllables.

(b) The dependent negative infix /ngè/ conditions a high toneme on the conjunctive extra prefix in copulative constructions,

e.g. /síngènhá'ngánè/, cf. /àsínhàngánè/ (we have no child).

/síngènhàyó+/, cf. /àsínhàyó+/ (we do not have it).

cf. /síngàséːnhàyó/ (we do not still have it) .

The negative infix occurs as /ngè/ when it is adjacent to the nominal base; only the progressive implication infix can intervene.

(c) The negative allomorph /khò/ of the adverb /khòná/ conditions a high toneme on the previous syllable,

e.g. /àsíkhò/, cf. /àsìláphò/ (we are not there - indep.)

/sí'ngékhò/, cf./síngèláphò/ (we are not there - dep.)

cf. /àsìséːkhò, síngàséːkhò/ (we are no longer there).

5.5. Tonal syntax

Letele classifies syntactical relationships in Southern Suthu into upstep relations and downstep relations[33], but tonal steps serve to mark tonal morphemes in Zulu, as the covert tonal steps between high tonemes most significantly show: convert downsteps mark only FTM's and covert upsteps mark only ITM's and MTM's. The boundaries between words are tonologically reflected in no way differently from the boundaries between tonal morphemes:

H + H (ITM) > H"H (covert step), e.g. /sàː6òná "ín'sízwà/ (we saw a young man), Final elision: LH (overt upstep), e.g. /sàː6òn' ín'sízwà/.

L + H (ITM) > LH (overt upstep), e.g. /sì6ònà ín'sízwà/ (we see a young man), Final elision: H"H (covert upstep), e.g. /sì6ón' "ín'sízwà/.

H + H (FTM) > H'H (covert downstep), e.g. /síngà6òní 'nsízwà/ (we seeing no young man).

H + L (FTM) > HL (overt downstep), e.g. /síngà6òní nàòdà/ (we seeing no man).

cf. /ín"sízwànà/ (covert upstep within word)

/ín'sízwà/ (covert downstep within word)

Similarly tonal assimilation operates between words as well as within words. Even the presence of penultimate length is no bar to its operation, as with final vowel elision,

e.g. /síɓné á"mádòdà+/ (we see men - subj.)

/sí66nà àmádòdà+ ~ sí66n' á"mádòdà+/(we see men - indic.)

/sìyàwà66nɨ́ á"mádòdà+/ (we do see the men).

Tonal assimilation and final vowel elision reflect the close transition between words in Zulu. In quick speech, as a consequence of close transition, tonal displacement sometimes takes place across word boundaries,

e.g. /6àthéng' "ín'qólà+ > 6àthéng' ìnqólà+/ (they buy a wagon), and sometimes onto final syllables,

e.g. /àsìbálì ncwàdí+>àsìbàlí ncwàdí+/ (we write no letter),

cf. /àsíyí'bálɨ̀ "íncwàdí+/ (we do not write the letter).

Syntactical relationships in Zulu are shown by the presence or absence of penultimate length, the marker of phrases, together with the morphotonemic changes that it conditions,

e.g. /sâ:thèngá "ízìnkâ6ì+ ~sá:thèng' î:nkâ6ì+/ (we bought oxen) ,

/ízìnkà6í "zâ:phûmà+ ~ î:nkà6í zá:'phûmà+/ (the oxen went out),

/síngàyì6ònángà ~ síngàyí66'nángà+/(we not having seen it).

Nevertheless the reversal of the rules of final tonal assimilation in constructions of the closest syntactical relationship (see 3.4.1.) is grammatically significant in reflecting a syntax unit smaller than the phrase and larger than the word,

e.g. /thìná-6àntù/ (we people , we Africans), not */thìnà-6àntù/,

/àsì66nì-qháwè ~àsì66ní-'qháwè/ (we see no warrior);

/sìngà6ònì-ndòdà /(we seeing no man), not */sìngà6ònì-ndòdà/,

/ùkúngà6í-ndòdà/ (not to be a man), not */ùkúngà6ì-ndòdà/,

/yì6á-nhàmándlà/ (be strong), /yì6á-yhìnkôsì+/ (be a chief).

Here the role of tone is simply to reflect a syntax unit within the phrase; it is not the prime marker of it. As far as I know, tone plays no greater part in syntax. The analysis of Zulu syntax, however, remains a still largely unexplored field.

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C H A P T E R   6

APPENDIX   A

Summary of nominal tone classes and declensions

Allomorphs of tonal morphemes, where different from the norm,
are given in brackets. The "arrow" indicated the effect of tonal
displacement, and the "tilde" the effects of tonal assimilation.
Final tonal assimilation, which depends upon the context of syntax
and tonal steps, is not shown.

Tone class and declension II

	ITM	MTM	FTM	Example
(a) full form nouns				
	LH	‑	LH	àmákhèhlá (elders)
	LH	A(L⁀H')	HL	àmákhèhlánà (dim.)
	LH	B(LH⁀H"H)	LL	èmákhèhlánènì (loc.)
	LH	‑	LH	ìzíndòngá (walls)
	LH	A(L)	HL	ìzíndòngánà (dim.)
	LH	B(LH>LL)	LL(>HLL+)	èzíndòngànênì+ (loc.)
	LH(H)	‑	LH	íntòmbí (girl)
	LH(>LL)	‑	LH(>HLH+)	ìzìntômbí+ (girls)
	LH(>LL)	‑	LH(>HL)	ìzìntómbì
	LH(>LL)	A(L>H')	HL	ìzìntó'njánà (dim.)
(b) extra prefix				
inflection				
	LH(H>L)	‑	LH(>HLH+)	nhèntômbí+ (with a girl)
	LH(H>L)	‑	LH(>HL)	nhèntómbì
	H+LH(>LL)	‑	LH(> HLH+)	kúnhèzìntômbí+ (rather than girls)
	LH	A(L)	HL	ngèzíndòngánà (by means of little walls)
(c) short form nouns				
	L	‑‑	LH	zìndòngá (walls)
	L(∅)	‑	LH	ntòmbí (girl)
	L+L(∅)	‑	LH	nhàntòmbí (even a girl)
	L+L	‑	LH	nhàzìntòmbí (even girls)
(d) pronouns and demonstratives		None		
(e) adjectives and adverbs				
(i) L	‑		LH	6à6ìlí (two)
(ii) L(∅)	‑		LH	6òmvú (red)
(i) L(∅)	‑		LH	nìní (when)
(ii) H	‑		LH	phákàthí (inside)

·Tone class and declension III

	ITM	MTM	FTM	Example
(a)	full form nouns			
	HL(HH')	–	HH	ámá'khósí (chiefs)
	HL(HH)	A(L⌢H')	HL	ámákhòsénà (dim.)
	HL(HH)	B(LH⌢H"H)	LL	émákhòsénènì (loc.)
	HL	–	HH(LH)	ízìmvùlá (rains)
	HL	A(L)	HL	ízìmvùdlánà (dim.)
	HL	B(LH>LL)	LL(> HLL+)	ézìmvùdlànênì+ (loc.)
	HL(H')	–	HH(HLL+)	ín'kôsì+ (chief)
	HL(H')	–	HH	ín'kósí
	HL(H)	A(L⌢H')	HL	ínkòsánà (chief's son)
(b)	extra prefix inflection			
	HL(H>L)	–	HH(HLL+)	nhènkôsì+ (with a chief)
	HL(H>L)	–	HH(> HL)	nhènkôsì
	H+HL(HH>LH)	–	HH(HLL+)	kúnhàmá'khôsì+ (rather than chiefs)
	HL	A(L)	HL	ngézìmvùdlánà (by means of little rains)
(c)	short form nouns			
	L	–	HH(LH)	zìmvùlá (rains)
	L(∅)	–	HH(LH)	nkòsí (chief)
	L+L(∅)	–	HH(LH)	nhànkòsí (even a chief)
	H+L+L(∅)	–	HH(HLL+)	nhángànkôsì+ (even through a chief)
(d)	pronouns and demonstratives		None	
(e)	adjectives and adverbs			
	(i) L	–	HH(HLL+)	ɓàthâthù+ (three)
	(ii) L	–	HH(HLL+)	ɓùhlûngù+ (painful)
	(i) L+L	–	HH(HLL+)	kàbùhlûngù+ (painfully)
	(ii) H'	–	HH(HLL+)	ná'mùhlà+ (today)

Tone class and declension IV

	ITM	MTM	FTM	Example
(a)	full form nouns			
	HL	-	HL(H)(f)	áɓàfó (men,"fellows")
	HL(HH')	-	HL	áɓá'fánà (boys)
	HL(HH")	B(H)	·LL	áɓá"fányànà (dim.)
	HL(H')	-	HL	ín'sízwà (young man)
	HL	-	HL	ízìnsízwà (young men)
	HL	B(H)	LL	ízìnsízwànà (dim.)
	HL	B(LH>LL)	LL(> HLL+)	ézìnsìzwànênì+ (loc.)
	HL(HL+~H)	-	HL(H+~L)(f)	înjá+, ínjà (dog)
	HL(H')	-	HL	ín'jánà (dim.)
	HL	-	HL(H)(f)	ízìnjá (dogs)
	HL	-	·HL	ízìnjánà (dim.)
	HL	B(H>L)	LL(>HLL+)	ézìnjànênì+ (loc.)
(b)	extra prefix inflection			
	HL(H>L)	-	HL	nhènsízwà (with a youth)
	HL	-	HL	nhézìnsízwà (with youths)
	H"+HL	-	HL	kú"nhézìnsízwà (rather than youths)
	H+HL(HH'>LH')	-	HL	njéngàɓá'fánà (like boys)
	H+HL(HH">LH")	B(H)	LL	njéngàɓá"fányànà (like small boys)
(c)	short form nouns			
	L(L~∅)	-	HL(H) (f)	hnjá, njá (dog)
	L	-	HL	zìnsízwà (youths)
	L(∅)	-	HL	nsízwà (youth)
	L+L(∅)	-	HL	nhànsízwà (even a youth)
	H+L+L(∅)	-	HL	nhángànsízwà (even through a youth)
(d)	pronouns and demonstratives			
	L	-	HL(H) (f)	ɓòná (they)
	H+L		HL(H)	kúɓòná (to them)
	H(>L)+L(>HL+)	-	HL(H+)	yhìɓòná+ (by them)
	H(>L)+L(>H)	-	HL(L)	yhìɓònà (by them)
	H+L	-	-	yhíɓò (by them)
	-	-	HL	láɓà (these ones)
	H'+ -	-	HL	kú'láɓà (to these ones)
	H'+ -	-	HL(H) (f)	kú'lò: (to this one)
(e)	adjectives and adverbs			
	(i) L	-	HL	ɓàhlánù (five)
	(ii) L	-	HL	ɓùkhálì (sharp)
	(i) L+L	-	HL	kàɓùkhálì (sharply)
	(ii) H'	-	HL	phé'shéyà (across)
	H'	-	HL	é'dúzè (near)
	-	-	HL~HL(H) (f)	láphà, lá: (here)
	H>L+ -	-	HL(H) (f)	ngàlá (hereabouts)
	H' + -	-	HL(H) (f)	ngá'lá (Natal Coast dialect)

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Tone class and declension I

ITM	MTM	FTM	Example
(a) full form nouns			
L⁺H(LH)	⸱	LL(L) (f)	à6ántù (people)
L⁺H(LH)	⸱	LL	à6ántwànà (children)
L⁺H(LLH)	⁓	LL	à6àntwányànà (dim.)
L⁺H(LH)	⸱	LL	ìzíndà6à (affairs)
L⁺H(LLH>LLL)	⁓	LL>HL	ìzìndàtshánà (dim.)
L⁺H(LLLH)	⁓	LL	èzìndàtshánènì (loc.)
L⁺H(H)	⸱	LL	ínyònì (bird)
L⁺H(LH>LL)	⸱	LL(>HLL+)	ìzìnyônì+ (birds)
L⁺H(LH>LL)	⸱	LL(>HL)	ìzìnyónì
L⁺H(LLH)	⸱	LL	ìzìnyónyànà (dim.)
L⁺H(H)	⁓	LL(L) (f)	índlù (house)
L⁺H(H)	⁓	LL	índlwànà (dim.)
L⁺H(LH)	⸱	LL(L) (f)	ìzíndlù (houses)
L⁺H(LH)	⁓	LL	ìzíndlwànà (dim.)
L⁺H(LLH>LLL)	⁓	LL(>HLL+)	èzìndlwànênì+ (loc.)
(b) extra prefix inflection			
L⁺H(H>L)	⁓	LL(>HLL+)	yhìnyônì+ (by a bird)
L⁺H(H>L)		LL(>HL)	yhìnyônì
H+L⁺H(LH>LL)	⁓	LL(>HLL+)	njéngèzìhyônì+ (like birds)
(c) short form nouns			
L⁺(L⁓∅)	⸱	LL(L) (f)	hndlù⁓ndlù (house)
L⁺(L)	⸱	LL	zìnyònì (birds)
L+L⁺(L)	⁓	LL	nhàzìnyònì (even birds)
(d) pronouns and demonstratives			
H	⁓	LL(L) (f)	6ónkè (all)
H	⁓	LL	6ónkànà (absolutely all)
(e) adjectives and adverbs			
(i) L	⁓	LL(L) (f)	6ànè (four)
(ii) L	⁓	LL	6ùthùntù (blunt)
(i) L+L	⁓	LL	kà6ùthùntù (bluntly)
(ii) H	⁓	LL	phézùlù (above)
H	⁓	LL	éndùlò (long ago)

Tone class and declension V

ITM	MTM	FTM	Example
HL(H')	⸱	HH(HLH+)	ín'gxàngxá+ (frog)
HL(H')	⁓	HH	ín'gxángxá
HL(H")	B(H')	HL	í"ngxá'ngxánà (dim.)
HL	⁓	HH(LH)	ízìngxàngxá (frogs)
HL	B(H')	HL	ízìngxá'ngxánà (dim.)
H"+HL	⁓	HH(HLH+)	njé"ngézìngxàngxá+ (like frogs)

Note:

(a) Full form nouns have disyllabic (and some monosyllabic) prefixes. The ITM is either ◊HL◊ or ◊LH◊ according to tonal dissimilation from the FTM.

(b) The extra ITM is ◊H◊ except where the extra prefix coincides with the initial vowel of the noun and adopts its toneme.

(c) Short form nouns have monosyllabic (and some zero) prefixes. The ITM is ◊L◊ and the extra ITM ◊L◊ for the first inflection and ◊H◊ for subsequent inflections.

(d) Pronouns and demonstratives do not undergo declension except for /óónkànà/ and /óódwànà/, which are rarities. The pronoun ITM is either ◊H◊ or ◊L◊ according to tonal dissimilation. There is no demonstrative ITM as demonstratives have no gender prefixes. The extra ITM is ◊H◊, except for two instances with the absolute pronoun when it is ◊L◊:

(i) /nhàyé/ (with him), cf. /nhámì/ (with me);

(ii) /à6ánhàmí/ (they are not with me), cf. /6á'nhámì/ (they are

with me).

(e) Adjectives and adverbs undergo declension rather rarely. As to ITM, with adjectives it is ◊L◊ and with adverbs either ◊L◊ (adverbs with initial /ma/, /6u/, /ka/ and /ku/ elements) or ◊H◊ (adverbs with initial /pha/, /e/, and miscellaneous elements). Adjectives have no extra ITM as they are uninflectionable by nominal extra prefixes. Adverbs have either ◊L◊ or ◊H◊ according to the model of either short form nouns with ITM ◊L◊ or full form nouns with ITM ◊H◊.

(f) Monosyllabic stem nouns illustrate the partial representation of the FTM, H representing FTM ◊HL◊ and L representing FTM ◊LL◊. The final two tonemes constitute a pseudo-FTM. Monosyllabic demonstratives and adverbs illustrate the monotonal FTM.

(g) Polysyllabic stem nouns show a twofold FTM contrast on single extension and no FTM contrast on double extension. Although the FTM distinction is reduced, the ITM distinction is maintained; tonal ambiguity is thus prevented, but not completely.

Polysyllabic stem nouns with nonderivative stems show a fourfold FTM contrast. Theoretically these nouns are to be classified into the four main tone classes, on analogy with derivative polysyllabic stem nouns, as follows:-

trisyllabic	quadrisyllabic	
LH - L - HL	LH - LH - LL	(tone class II)
HL - L - HL	HL - LH - LL	(tone class III)
HL - H - LL	HL - LH - LL	(tone class IV)
L$^+$H - LL	L$^+$H - LL	(tone class I)
HL - H - HL		(tone class V)

And into subsidiary tone classes, to account for the four-
fold FTM contrast, as follows:-

trisyllabic	quadisyllabic	
LH - L - LH	LH - LL - HL	(tone class IIa)
HL - L - HH	HL - LL - HL	(tone class IIIa)
HL - L - HL	HL - LH - LL	(tone class IVa)
L$^+$H - LL	L$^+$H - LL	(tone class Ia)
HL - H - HH		(tone class Va)

In practice, however, the situation is by no means so complex.
All nonderivative stems with FTM ⦃LL⦄ fall into tone class I
(which is identical to tone class Ia) with ITM ⦃L$^+$H⦄. No
such nouns have ITM's ⦃HL⦄ and ⦃LH⦄ or MTM's A and B.
The test of the syntactical slot after /àkúkhò -/ (there
are no -), where only nouns of tone class I have no high
tonemes, proves the point,

e.g. /àkúkhò zìnyèmbèzì/, cf. /ìzìnyémbèzì/ (tears)

/àkúkhò zìnyàthèlò/, cf. /ìzìnyáthèlò/ (footsteps)

/àkúkhò màbù6èsì/, cf. /àmàbù6êsì+/ (lions)

cf. /àkúkhò zìnzízwànà/, cf. /ízìnsízwànà/ (small young men -

tone class IV).

All nonderivative trisyllabic stem nouns with FTM ⦃HL⦄ belong
to either tone class III or tone class IVa (which are identical
in toneme pattern), with ITM⦃HL⦄. No such nouns have ITM
⦃LH⦄. I would assign them to tone class III for the sake
of economy; it is likely, furthermore, that the majority of
these nouns are in fact derivations, as the suffixes suggest:
/ana, ane/, /azi, asi, ezi, esi, ozi/, /ala, olo, ulu, ili,
elo/, /athi, othi/. Trisyllabic stem nouns with FTM ⦃HH⦄
belong to tone class IIIa, to which quadrisyllabic stem
nouns with FTM ⦃HL⦄ also belong. No regular derivations
belong here, but there are irregular derivations, e.g.
/ínkó'nyáné ∼ínkó'nyànè+/ (calf), cf. /ínkó'nyánà/ (small
beast)< /ínkòmó/ (beast), and sundry doubtful derivations.
Tone class IIa is tenuous: the majority of nouns given in

Doke's dictionary as /íntúthwânê/ (ant) now fall into
tone class IIIa as /íntú'thwáné~íntú'thwânê+/[i], the
nonfinal allomorphs HH~LH depending upon the presence
or absence of tonal assimilation in the previous syllable.

<u>Nonderivative polysyllabic stem nouns</u>

I/(Ia)	III/(IVa)	IIIa
ìsìnyáthèlò (footstep)	ínkó'nyánà (small beast)	ínkó'nyáné (calf)
ù:nyémbèzì (tear)	úm̱sé'6ênzì (worker)	úm̱sé'6ênzì+ (work)
ì:bù6êsì+ (lion)	í:khí'wánè (wild fig)	í:thùngùlú (wild plum)
ìngònyámà+ (lion)	ú:dèngézì (potsherd)	ú:dòndòló (long staff)
ì:zámbànè (antbear)	íntú'thwánè (ant)	íntú'thwáné (ant)
ùm̱thákàthì (witch)	ímpú'kánè (fly)	úm̱hlà6âthì+ (soil)
ùm̱nùm̱zànè (headman)	ínhlí'zíyò (heart)	ísálùkázì (old woman)
(quadrisyllabic)		(quadrisyllabic)

V	IIa	IIIb
ú:"vé'mvánè (butterfly)	ínkónjàné (swallow)	ím̱vùkùzàné (mole)
< úm̱'vêmvé+ (wagtail)	> ìzìnkónjàné (plural)	~ ímvùkùzànè+
	úm̱zwìlîlí+ (canary)	íntómbàzânè+ (girl - polite term)

These nouns may be prefixally inflected,

  e.g. /ngèzìnyémbèzì/ (by means of tears)
    /ngó:dèngézì/ (by/with a potsherd)
    /ngó:dòndòló/ (by/with a long staff)
    /njéngèsálú'kázì/ (like an old woman)
    /yhìnkó'nyânè+/ (by a calf)

These nouns undergo declension on suffixal extension,

  e.g. /ém̱khìwánènì/ (in a wild fig tree)
    /ém̱thùngùlwínì/ (in a wild plum tree)
    /ém̱sè6ènzínì/ (at work)
    /èngònyámènì/ (to the lion)
    /ì:zàmbànyânà+/ (small antbear)
    /íntùthwànyánà~íntùthwányànà/ (little ant)
    /è:zì6úkwènì/< /ì:zì6ûkò+/ (ford, tone class I)
    /ézì6ùkwénì/< /ízì6ûkò+/ (mirrors, tone class III)

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[i] This word also occurs as /íntú'thwânè/ (tone class III).

CHAPTER 7

APPENDIX B

Summary of verbal tone classes and conjugations

Allomorphs of tonal morphemes are set out below the tonal
morpheme representations. The "arrow" indicates the effect of
tonal displacement, and the "tilde" the effects of tonal assimi-
lation. Final tonal assimilation, which depends upon the context
of syntax and tonal steps, is not shown. The verbs used in illus-
tration are /dla/ (eat), /6ona, 6onisa/ (see, cause to see), /bala,
balela/ (write, write to/for), /6aleka/ (run away), of tone class I,
and /enza/ (do, make)[i], /lima, limisa/ (plow, cause to plow), /vala,
valela/ (shut, shut for/against), /geza, gezisa/ (wash, cause to
wash), /gijima/ (run), of tone class II. Polysyllabic stem verbs
do not differ whether the stems are nonderivative, e.g. /6aleka,
gijima/, or derivative, e.g. /6onisa, limisa/, /balela, valela/.
The subject concords used in illustration are /si/ (we), /6a/ (they,
class 2) and /zi/ (they, class 10). The object concords are /yi/
(class 9, gender 5 sg.) and /zi/ (class 10, gender 5 pl.). Impli-
cation prefixes are omitted, but note that /sá/ and /ká/ have the
same morphotonemic affects as object concords (see 5.4.7.(a) and (b)),
/sé ~ sè/ and /mà/ have no morphotonemic effects (see 5.4.7.(c) and
(d)), and /6ó:/, /zó:/ and /yó:/ bring about the subsequent substi-
tution of the positive infinitive pattern (see 5.4.7.(e) and (f)).

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[i] Disyllabic initial vowel stem verbs behave as monosyllabic
     stem verbs.

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I. INFINITIVE MOOD

Tone class and conjugation I

	ITM	MTM	FTM		
Positive	◊HL◊	◊A◊	◊HL◊		
	HL	–	H	(a)	úkùdlá
	HH'	–	HL	(d)	úkú'dlíwà[i]
	HH'	–	HL		úkú'66nà
	HH	L ~ H'	HL		úkú6ònísà
+ obj.c.	LH'	–	HL	(b)	ùkú'zídlà
	LH	L	HL		ùkúzì66nà
	LH	(L ~)H'	HL		ùkúyí'66nà
	LH	LL	HL		ùkúzì6ònísà
	LH	(Lì~)HL~HH'	HL		ùkúyí6ònísà
locative	HH'	–	HL	(d)	ékú'dlénì
	HH	L ~ H'	HL		ékú6ònénì
+ obj.c.	LH	L	HL	(d)	èkúzìdlénì
	LH	(Lì~)HL ~ HH'	HL		èkúyí6ònénì
Negative	◊LH◊ + ngà	◊C◊	◊HH◊		
		–	LH	(c)	ùkúngàdlí
		–	LH	(d)	ùkúngàdlìwá[i]
		–	LH		ùkúngà6òní
		L	LH	(bb)	ùkúngàzìdlí
		H	H̲L̲L̲+	(bb)	ùkúngàzîdlì+
		L	L̲H̲		ùkúngàzì6òní
		H'	H̲L̲L̲+		ùkúngàzí'bâlì+
		H>L	H̲L̲L̲+		ùkúngàzí6ònì+
		L	L̲H̲		ùkúngà6àlèkí
		L	H̲L̲L̲+		ùkúngà6àlêkì+
		HL	H̲L̲L̲+		ùkúngàzíbàlêlì+
		HL>LH'	H̲L̲L̲+		ùkúngàzì66'nîsì+
		(HÌ~)HH'	H̲L̲L̲+		ùkúngàyí66'nîsì+

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[i] Passive: to be eaten, not to be eaten. Passive verbs do not use the negative suffix /i/.

I. INFINITIVE MOOD

Tone class and conjugation II

	ITM	MTM	FTM		
Positive	◊L⁺H◊	◊B◊	◊LL◊		
	LH	–	L	(a)	ùkwénzà
	LH	–	LL	(d)	ùkwénzìwà[i]
	LH	–	LL		ùkúlìmà
	LLH	–	LL		ùkùlímìsà
+ obj.c.	LH'	–	HL	(b)	ùkú'zénzà
	LH	L	HL		ùkúzìlímà
	LH	(L⌣)H'	HL		ùkúyí'límà
	LH	LH	LL		ùkúzìlímìsà
	LH	(LH⌣)H"H	LL		ùkúyí"límìsà
locative	LH	–	LL	(d)	èkwénzènì
	LLH	–	LL		èkùlímènì
+ obj.c.	LH"	H (e)	LL	(d)	èkú"zénzènì
	LH	(LH⌣)H"H	LL		èkúyí"límènì

	ITM	MTM	FTM		
Negative	◊LH◊ + ngà	◊C◊	◊LH◊		
		–	LH	(c)	ùkúngènzí
		–	LH	(d)	ùkúngènzìwá[i]
		–	LH		ùkúngàlìmí
		L	LH	(bb)	ùkúngàzènzí
		H	LH+	(bb)	ùkúngàzènzí+
		L	LH		ùkúngàzìlìmí
		H	LH+		ùkúngàzívàlí+
		H>L	LH>HLH+		ùkúngàzìlìmí+
		◊C◊	◊HH◊		(polysyllabic stem)
		L	LH		ùkúngàgìjìmí
		L	HLL+		ùkúngàgìjìmì+
		HL	HLL+		ùkúngàzívàlèlì+
		HL > LH'	HLL+		ùkúngàzìlí'mìsì+
		(HL⌣)HH'	HLL+		ùkúngàyílí'mìsì+

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[i] Passive: to be done, not to be done. Passive verbs do not use the negative suffix /i/.

II. IMPERATIVE MOOD

Tone class and conjugation I

	ITM	MTM	FTM	
Singular	–	◊A◊	◊HL◊	
	–	–	HL	6ónà
	–	L	HL	6ònísà
	–	–	◊HL◊~◊LH◊ (f)	(monosyllabic stem)
	–	–	HL~LH	dlánà, yìdlá (eat!)
	–	–	LH	yàkhá (build!)
+ obj.c.	◊L◊	◊A◊	◊HH◊	
	L	–	LH	yì6òné
	L	–	HLL+	yì6ònè+
	L	L	LH	yì6ònìsé
	L	L	HLL+	yì6ònìsè+
	–	–	◊HL◊ (f)	(monosyllabic stem)
	–	–	HL (b)	yídlè (eat it!)
	–	–	HL (b)	yákhè (build it!)
Plural	–	◊A◊	◊HL◊	
	–	L	HL	6ònánì
	–	LL	HL	6ònìsánì
	–	L	HL (d)	dlànínì, yìdlánì
	–	L	HL (d)	yàkhánì (build!)
+ obj.c.	◊L◊	◊A◊	◊HL◊	
	L	L	HL	yì6ònénì
	L	–	HL (d)	yìdlénì (eat it!)
	L	–	HL (d)	yàkhénì (build it!)

Tone class and conjugation II

	ITM	MTM	FTM	
Singular	–	–	◊LH◊	(disyllabic stem)
	–	–	LH	lìmá
	–	◊A◊	◊HL◊	(polysyllabic stem)
	–	L	HL	lìmísà
	–	–	◊LH◊~◊HL◊ (f)	(monosyllabic stem)
	–	–	LH~HL	yìwá, wánà (fall!)
	–	–	LH	yènzá (do!, act!)
+ obj.c.	◊H◊	–	◊LH◊	(disyllabic stem)
	H>L	–	LH > HL	yìlímè[i]
	H>L	–	LH > HLH+	yìlímé+[i]
	H	–	LH	zívàlé
	◊H◊	◊A◊	◊HH◊	(polysyllabic stem)
	H>L	L>H'	HH	yìlí'mísé[ii]
	H>L	L>H'	HLL+	yìlí'mìsè+[ii]
	H	L	LH	zívàlèlé
	H	L	HLL+	zívàlèlè+
	–	–	◊HL◊ (f)	(monosyllabic stem)
	–	–	HL (b)	yénzè (do it!)
Plural	–	◊A◊	◊HL◊	
	–	L	HL	lìmánì
	–	LL	HL	lìmìsánì
	–	L	HL (d)	yìwánì, wánínì
	–	L	HL (d)	yènzánì (act!)
+ obj.c.	◊H◊	◊A◊	◊HL◊	
	H>L	L>H'	HL	yìlí'ménì[iii]
	H	L	HL	zívàlénì
	H'	–	HL (d)	yé'nzénì (do it!)

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[i] The object concord displaces its high toneme. The form /yílìmé/ occurs less commonly, but the form /yívàlé/ is the only possibility.

[ii] The object concord displaces its high toneme. The form */yílìmîsè+/ does not occur, but the form /yívàlêlè+/ is the only possibility.

[iii] The object concord displaces its high toneme.

III. INDICATIVE MOOD: 1. past tense

Tone class and conjugation I

	ITM	MTM	FTM	
Positive (indep./dep.)[i]	◊H◊ + â:(~á:)	◊C◊	◊HH◊	
		–	LH+~HL (c)	sâ:dlá+~sá:dlà
		–	LH	sâ:6ǒná
		–	HLL+	sâ:6ônà+
		L	LH (bb)	sâ:zǐdlá
		H	HLL+ (bb)	sâ:zîdlà+
		H'	HLL+	sâ:zí'bâlà+
		H'	HLL+	sâ:yí'6ônà+
		H>L	HLL+	sâ:zǐ6ônà+
		L	LH	sâ:6àlèká
		L	HLL+	sâ:6àlêkà+
		HL~HH'	HLL+	sá:yí66'nîsà+

Negative[ii] = Present perfect in /anga/ (q.v.).

Tone class and conjugation II

	ITM	MTM	FTM	
Positive (indep./dep.)[i]	◊H◊ + â: (~á:)	◊C◊	◊LH◊	
		–	LH+~HL (c)	sê:nzá+~sé:nzà
		–	LH	sâ:lǐmá
		–	LH+	sâ:lǐmá+
		L	LH (bb)	sâ:zènzá
		H	LH+ (bb)	sâ:zênzá+
		H	LH+	sâ:zívàlá+
		H	LH+	sâ:yílǐmá+
		H>L	LH>HLH+	sâ:zǐlîmá+
		◊C◊	◊HH◊	(polysyllabic stem)
		L	LH	sâ:gǐjǐmá
		L	HLL+	sâ:gǐîmà+
		HL~HH'	HLL+	sá:yílí'mîsà+

Negative[ii] = Present perfect in /anga/ (q.v.)

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[i] The old dep.pos. tense now functions as the positive past subjunctive.

[ii] The old indep. and dep.neg. tenses now function as alternatives of the negative past subjunctive.

III.   <u>INDICATIVE MOOD</u>: 2a. Present perfect tense

<u>Tone class and conjugation I</u>

	ITM	MTM	FTM	
Indep.pos. (nonfinal)	◊L◊	◊A◊	◊HL◊	
	L	–	<u>HL</u> (d)	sìdlê:, 6àdlê:
	L	L	<u>HL</u>⁓H	sì6ònê:, 6à6ònê:
	L	LL	<u>HL</u>⁓H	sìyì6òné:
(final)[i] 1/2 p.	◊L◊	◊A◊	◊HL◊	
	L	–	HL (d)	sìdlílè+
	L	L	HL	sì6ònílè+
	L	L	HL (d)	sìyìdlílè+
	L	LL	HL	sìyì6ònílè+
	◊L◊	◊B◊	◊LL◊	(polysyllabic stem)
	L	LH	LL	sì6àlékìlè+
	L	LLH	LL	sìyì6ònísìlè+
(final)[i] 3 p.	◊H◊	◊A◊	◊HL◊	
	H'	–	HL (d)	6á'dlílè+
	H	(L⁓)H'	HL	6á66'nílè+
	H>L	L>H'	HL	zì66'nílè+
	H	L	HL	6ábàlílè+
	H	L	HL (d)	6ázìdlílè+
	H	LL	HL	6ázì6ònílè+
	H	(LL⁓)HL⁓HH'	HL	6áyí6ònílè+
	◊H◊	◊B◊	◊LL◊	(polysyllabic stem)
	H	(LH⁓)H"H	LL	6á6á"lékìlè+
	H	(LLH⁓)HLH⁓HH"H	LL	6áyí6ònísìlè+

---

[i] These forms also occur nonfinally with perfect state meaning, particularly with stative verbs.

III. INDICATIVE MOOD: 2a. Present perfect tense

Tone class and conjugation II

	ITM	FTM	MTM		
Indep.pos.	◊L◊	◊A◊	◊HL◊		
(nonfinal) 1/2 p.	L	–	HL	(d)	sènzê:
	L	L	HL~H		sìlìmê:
	L	L	HL~H	(d)	sìzènzé:
	L	LL	HL~H		sìzìlìmé:
(nonfinal) 3 p.	◊H◊	◊A◊	◊HL◊		
	H"	–	HL	(d)	6é"nzê: (~6ènzê:)
	H	(L~)H"	HL		6álí"mê:
	H	L	HL~H	(d)	6ázènzé:
	H	LL	HL~H		6ázìlìmé:
(final)[i] 1/2 p.	◊L◊	◊B◊	◊LL◊		
	L	L	LL		sìlìmìlè+
	L	LL	LL		sìgìjìmìlè+
+ obj.c.	L	LH	LL		sìyìlímìlè+
	L	LH>LL	LL>HLL+		sìyìvàlîlè+
	L	LLH	LL		sìyìlìmísìlè+
	L	LLH>LLL	LL>HLL+		sìyìgèzìsîlè+
	◊L◊	◊B◊	◊LL◊		(monosyllabic stem)
	L	–	LL	(d)	sènzìlè+
+ obj.c.	L	H(e)	LL	(d)	sìyénzìlè+
(final)[i] 3 p.	◊L◊	◊B◊	◊LL◊		
	L	H	LL		6àlímìlè+
	L	H>L	LL>HLL+		6àvàlîlè+
	L	LH>LL	LL>HLL+		6àgìjìmìlè+
+ obj.c.	H	LH	LL		6ázìlímìlè+
	H	(LH~)H"H	LL		6áyí"límìlè+
	H>L	LH>H"H	LL		zìyí"límìlè+
	H>L	LLH>(HLH~)HH"H	LL		zìyílí"mìsìlè+
	◊H◊	◊B◊	◊LL◊	(f)	(monosyllabic stem)
	H	–	LL	(d)	6énzìlè+
+ obj.c.	H	H(e)	LL	(d)	6á"yénzìlè+

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[i] These forms also occur nonfinally with perfect state meaning,
particularly with stative verbs.

III.   INDICATIVE MOOD: 2a. Present perfect tense

Tone class and conjugation I

	ITM	MTM	FTM		
Dep.pos.	◊L◊	◊A◊	◊HL◊		
(nonfinal)	L	–	HL	(d)	sìdlê:
	L	L	HĿ⌣H		6è6ònê:
+ obj.c.	H	L	HĿ⌣H	(d)	sízìdlê:
	H	LL	HI⌣H		6ézì6òné:
(final)[i]	◊L◊	◊A◊	◊HH◊		
	L	–	HLL+	(d)	sìdlîlè+
	L	L	HLL+		6è6ònîlè+
+ obj.c.	H	(Ŀ⌣)H'	HLL+	(d)	síyí'dlîlè+
	H	(LĿ⌣)HĿ⌣HH'	HLL+		6éyí6ònîlè+
	H	LLL	HLL+		sízì6ònìsîlè+

Tone class and conjugation II

	ITM	MTM	FTM		
Dep.pos.	◊H◊	◊A◊	◊HL◊		
(nonfinal)	H"	–	HL	(d)	sé"nzê: (~sènzê:)
	H	(L⌣)H"	HĿ⌣H		6élí"mê:
	H	L	HĿ⌣H	(d)	sízènzê:
	H	LL	HĿ⌣H		6ézìlìmé:
(final)[i]	◊H◊	◊A◊	◊HH◊		
	H'	–	HLL+	(d)	sé'nzîlè+
	H	(Ŀ⌣)H'	HLL+		6élí'mîlè+
	H	(L⌣)H'	HLL+	(d)	síyé'nzîlè+
	H	(LĿ⌣)HĿ⌣HH'	HLL+		6éyílìmîlè+
	H	LLL	HLL+		sízìlìmìsîlè+

---

[i] These forms occur nonfinally with perfect state meaning, when
HLL+ > LH⌣HH,
e.g. /6èhàmbìlé/ (they being gone), /6éfí'kílé/ (they being come).

III. INDICATIVE MOOD: 2a. Present perfect tense

Tone class and conjugation I

	ITM	MTM	FTM	
Indep.neg.	à + ◊L◊	◊A◊	◊HL◊	(anga)[i]
	L	-	HL (d)	àsìdlángà
	L	L	HL	àsì6ònángà
+ obj.c.	H	L	HL (d)	àsízìdlángà
	H	LL	HL	àsízì6ònángà
	H	(LL⌣)HL⌣HH'	HL	àsíyí6ònángà
	à + ◊L◊	◊A◊	◊HLH+◊	(ile+)[ii]
	L	-	H̲L̲H̲+ (d)	à6àfìlé+[ii.a.]
	L	L	H̲L̲H̲+	à6àhàmbìlé+
dep.neg.	◊H◊ + ngà	◊C◊	◊HL◊	(anga)[i]
		-	HL (d)	síngàdlángà
		L	HL	síngà6ònángà
		HL	HL+	síngàzíbàlángà+
	◊H◊ + ngà	◊C◊	◊HLH+◊	(ile+)[ii]
		-	H̲L̲H̲+ (d)	6éngàfìlé+[ii.a.]
		L	H̲L̲H̲+	6éngàhàmbìlé+

Tone class and conjugation II

	ITM	MTM	FTM	
Indep.neg.	à + ◊H◊	◊BA◊	◊HL◊	(anga)[i]
		-	HL (d)	àsé'nzángà
		L	HL	àsígèzángà
		"H'⌣H'[iii]	HL	àsílí'mángà
		L	HL (d)	àsízènzángà
		LL	HL	àsízìgèzángà
		LH'	HL	àsízìlí'mángà
		(LH⌣)H"H'⌣HH'	HL	àsíyí"lí'mángà
	à + ◊H◊	◊A◊	◊HLH+◊	(ile+)[ii]
		-	H̲L̲H̲+ (d)	à6á'wìlé+[ii.b.]
		(L⌣)H'	H̲L̲H̲+	à6áfí'kìlé+
		L	H̲L̲H̲+	à6álàmbìlé+
dep.neg.	◊H◊ + ngà	◊C◊	◊HL◊	(anga)[i]
		-	HL	síngènzángà
		L	HL	síngàlìmángà
		HL	HL+	síngàzígèzángà+
	◊H◊ + ngà	◊C◊	◊HLH+◊	(ile+)[ii]
		-	H̲L̲H̲+	6éngàwìlé+[ii.b.]
		L	H̲L̲H̲+	6éngàfìkìlé+
		L	H̲L̲H̲+	6éngàlàmbìlé+

---

[i] Past action in meaning, recent or remote, according to context.

[ii] Perfect state in meaning. There is no nonfinal allomorph.
a) they are not dead, they are not gone.
b) they are not fallen, they are not come, they are not hungry.

[iii] The tonal upstep is often not apparent.

III. <u>INDICATIVE MOOD</u>: 2b. Present imperfect tense

<u>Tone class and conjugation I</u>

	ITM	MTM	FTM	
Indep.pos.	◊L◊	◊A◊	◊HL◊	
(nonfinal)	L	–	HL	sì6ónà, 6à6ónà
	L	L	HL	sì6ònísà
	L	–	HL (b)	sìyídlà, 6àyídlà
	L	L	HL	sìyì6ónà
	L	LL	HL	6àyì6ònísà
1/2 p. -o.c.	◊L◊	–	◊LL◊ (f)	(monosyllabic stem)
	L	–	L (a)	sìdlà
3 p. -o.c.	◊H◊	–	◊LL◊ (f)	(monosyllabic stem)
	H	–	L (a)	6ádlà
(final) 1/2 p.	◊L◊	◊A◊	◊HL◊	
	L	L	H (aa)	sìyàdlá+
	L	L	HL	sìyà6ónà+
	L	LL	HL	sìyà6àlékà+
	L	L	HL (b)	sìyàyídlà+
	L	LL	HL	sìyàyì6ónà+
	L	LLL	HL	sìyàyì6ònísà+
(final) 3 p.	◊H◊	◊A◊	◊HL◊	
	H	L	H (aa)	6áyàdlá+
	H	(I~)H'	HL	6áyá'6ónà+
	H	(LI~)HI~HH'	HL	6áyá6àlékà+
	H	(I~)H'	HL (b)	6áyá'yídlà+
	H	(LI~)HI~HH'	HL	6áyáyí'6ónà+
	H>L	LL>HL	HL	zìyázì6ónà+
	H	(LLI~)HHI~HHH'	HL	6áyáyì6ònísà+
	H>L	LLL>HLL	HL	zìyázì6ònísà+

III. <u>INDICATIVE MOOD</u>: 2b. Present imperfect tense

<u>Tone class and conjugation II</u>

	ITM	MTM	FTM	
Indep.pos.	◊L◊	◊B◊	◊LL◊	
(nonfinal)	L	–	L (a)	sènzà
	L	–	LL	sìlìmà
	L	L	LL	sìlìmìsà
+ obj.c.	L	–	HL (b)	sìyénzà, 6àyénzà
	L	L	HL	sìyìlímà
	L	LL	HL	6àyìlìmísà
3 p. -o.c.	L	–	HL	6àlímà
	L	L	HL	6àlìmísà
3 p. -o.c.	◊H◊	–	◊LL◊ (f)	(monosyllabic stem)
	H	–	L (a)	6énzà
(final) 1/2 p.	◊L◊	◊B◊	◊LL◊	
	L	L	L (aa)	sìyènzà+
	L	L	LL	sìyàlìmà+
	L	LL	LL	sìyàgìjìmà+
+ obj.c.	L	L	HL (b)	sìyàyénzà+
	L	LL	HL	sìyàyìlímà+
	L	LLH	LL	sìyàyìlímìsà+
	L	LLH>LLL	LL>HLL+	sìyàyìvàlélà+
(final) 3 p.	◊L◊	◊B◊	◊LL◊	
	L	H	LL	6àyálìmà+
	L	LH	LL	6àyàgíjìmà+
+ obj.c.	H	(L~)H'	HL (b)	6áyá'yénzà+
	H	(LL~)HL~HH'	HL	6áyáyí'límà+
	H>L	LL>HL	HL	zìyázìlímà
	H	(LLH~)HLH~HH"H	LL	6áyáyí"límìsà+
	H>L	LLH>HLH	LL	zìyázìlímìsà+
	H	(LLH~)HLH>HLL	LL>HLL+	6áyázìvàlélà+
3 p. -o.c.	◊H◊	◊B◊	◊LL◊ (f)	(monosyllabic stem)
	H'	H	L (aa)	6á'yénzà+

III. **INDICATIVE MOOD**: 2b. Present imperfect tense.

Tone class and conjugation I

	ITM	MTM	FTM	
Dep.pos.	◊L◊	◊A◊	◊HL◊	((a) form)
	L	–	HL	sìbónà, 6è6ónà
	L	L	HL	sì6ònìsà
+ obj.c.	H'	–	HL(b)	sì'yidlà
	H	L	HL	sìzì6ónà
	H	(L⌣)H'	HL	síyí'6ónà
	H	(LL⌣)HL⌣ HH'	HL	síyí6ònìsà
Dep.pos.	◊L◊	◊A◊	◊HH◊	((b) form)
	L	–	LH	sì6óná, 6è6óná
	L	L	LH	sì6ònìsá
+ obj.c.	H'	–	HH (b)	sì'yidlá
	H	L	LH	sìzì6òná
	H	(L⌣)H'	HH	síyí'6óná
	H	(LL⌣)HL⌣HH'	HLL+	síyí6ònìsà+
– obj.c.	◊H◊	–	◊LL◊(f)	(monosyllabic stem)
	H	–	L (a)	sídlà, 6édlà

Tone class and conjugation II

	ITM	MTM	FTM	
Dep.pos.	◊L◊	◊B◊	◊LL◊	
	L	–	HL	sìlímà, 6èlímà
	L	H	LL	sìlímìsà
+ obj.c.	H'	–	HL (b)	sì'yénzà
	H	L	HL	sìzìlímà
	H	(L⌣)H'	HL	síyí'límà
	H	LH	LL	sìzìlímìsà
	H	(LH⌣)H"H	LL	síyí"límìsà
	H	(LH⌣)H"H >HL	LL> HL	síyívàlélà
– obj.c.	◊H◊	–	◊LL◊ (f)	(monosyllabic stem)
	H	–	L (a)	sénzà, 6énzà

III. **INDICATIVE MOOD**. 2b. Present imperfect tense.

Tone class and conjugation I

	ITM	MTM	FTM	
Indep.neg.	à + ◊L◊	◊A◊	◊HL◊	
	L	–	HL	àsì66nì
	L	L	HL	àsì6onísì
+ obj. c.	H'	–	HL (b)	àsí'yídlì
	H	L	HL	àsízì66nì
	H	(L~)H'	HL	àsíyí'66nì
	H	(LL~)HL~HH'	HL	àsíyí6onìsì
– obj. c.	à + ◊H◊	–	◊HL◊ (f)	(monosyllabic stem)
	HL+~H	–	H+~L (a)	àsîdlí+, àsídlì
Dep.neg.	◊H◊ + ngà	◊C◊	◊HH◊	
		–	LH (c)	síngàdlí
		–	LH	síngà6oní
		L	LH (bb)	síngàzìdlí
		H	HLL+ (bb)	sìngázîdlì+
		H'	HLL+	síngàyí'66nì+
		L	LH	síngà6onìsí
		(HL~) HH'	HLL+	síngàyí66'nîsì+
		HL	HLL+	síngàzíbàlêlì+

Tone class and conjugation II

	ITM	MTM	FTM	
Indep.neg.	à + ◊H◊	◊BA◊	◊HL◊	
		–	HL	àsí'límì
		L	HL	àsígèzísì
		"H'~H'[i]	HL	àsílí'mísì
		–	HL (b)	àsí'yénzì
		L	HL	àsízìlímì
		LL	HL	àsízìgèzísì
		LH'	HL	àsízìlí'mísì
		(LH~)H"H'~HH'	HL	àsíyí"lí'mísì
– obj. c.	à + ◊H◊	–	◊HL◊	(monosyllabic stem)
	HL+~H	–	H+~L (a)	àsênzí+,àsénzì
Dep. neg.	◊H◊ + ngà	◊C◊	◊LH◊	
		–	LH (c)	síngènzí
		–	LH	síngàlìmí
		L	LH (bb)	síngàzènzí
		H	LH+ (bb)	síngàzênzí+
		H	LH+	síngàyílìmí+
		H>L	LH>HLH+	síngàzìlìmí+
		H	LH+	síngàzívàlí+
		◊C◊	◊HH◊	(polysyllabic stem)
		L	LH	síngàlìmìsí
		(HL~)HH'	HLL+	síngàyílí'mìsì+
		HL	HLL+	síngàzígèzêlì+

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[i] The tonal upstep is often not apparent.

III. INDICATIVE MOOD: 2c. Present future tense

Tone class and conjugation I

		ITM	MTM	FTM
Indep.pos. 1/2 p.		⟨L⟩ + (zò~zòkù)[1]	⟨A⟩	⟨HL⟩
			−	H (a) sìzò(kù)dlá[ii]
			−	HL sìzò6ónà
			L	HL sìzò6ònísà
			−	HL (b) sìzò(kù)yídlà
			L	HL sìzòyì6ónà
			LL	HL sìzòyì6ònísà
	3 p.	⟨H⟩ + (zò~zòkù)	⟨A⟩	⟨HL⟩
			−	H (a) 6ázò(kù)dlá[ii]
			−	HL 6ázò6ónà
			L	HL 6ázò6ònísà
			−	HL (b) 6ázò(kù)yídlà
			L	HL 6ázòyì6ónà
			LL	HL 6ázòyì6ònísà
Dep.pos.		⟨H⟩ + (zò~ɛòkù)	⟨A⟩	⟨HL⟩
			−	H (a) sízò(kù)dlá[ii]
			−	HL sízò6ónà
			−	HL (b) sízòyídlà
			L	HL 6ézòyì6ónà

Tone class and conjugation II

		ITM	MTM	FTM
Indep.pos. 1/2 p.		⟨L⟩ + (zò~zòkù)[1]	⟨B⟩	⟨LL⟩
			−	L (a) sìzòkwènzà[iii]
			−	LL sìzòlìmà
			L	LL sìzòlìmìsà
+ obj.c.			−	HL (b) sìzò(kù)yénzà
			L	HL sìzòyìlímà
			LH	LL sìzòyìlímìsà
	3 p.	⟨H⟩ + (zò~zòkù)	⟨B⟩	⟨LL⟩
			−	L (a) 6ázòkwènzà[iii]
			−	LL 6ázòlìmà
			L	LL 6ázòlìmìsà
+ obj.c.			−	HL (b) 6ázò(kù)yénzà
			L	HL 6ázòyìlímà
			LH	LL 6ázòyìlímìsà
Dep.pos.		⟨H⟩ + (zò~ɛòkù)	⟨B⟩	⟨LL⟩
			−	L (a) sízòkwènzà[iii]
			−	LL sízòlìmà
+ obj.c.			−	HL (b) sízòyénzà
			L	HL 6ézòyìlímà

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[1] Definite future morpheme ⟨zo⟩ or indefinite future morpheme ⟨yo⟩.

[ii] The allomorph /zòkù/ is less common except with monosyllabic stem verbs.

[iii] The special allomorph /zòkw/ is compulsory with initial vowel stem verbs without object concords.

III. INDICATIVE MOOD: 2c. Present future tense

Tone class and conjugation I

	ITM	FTM	MTM	
Indep.neg.	à + ◊H◊ +₁(zù~ zùkú~zù:)[i]	◊A◊	◊HL◊	
		-	H (a)	àsízùdlá[ii]
		-	HL	àsízù66nà[iii]
		L	HL	à6ázù6ònísà
		-	HL (b)	àsízùyídlà[iv]
		(L>)H'[v]	HL	àsízùyí'66nà
		(L>)H'[v]	HL	àsízùzí'bálà
		L	HL	àsízù:zìbálà
		LL	HL	à6ázù:zì6ònísà
Dep.neg.	◊H◊ + (ngà~ngè)[i] + (zù~zùkú~zù:)	◊A◊	◊HL◊	
		-	H (a)	síngèzùdlá[ii]
		-	HL	síngàzù66nà[iii]
		-	HL (b)	síngàzùyídlà[iv]
		(L>)H'[v]	HL	síngèzùyí'66nà

Tone class and conjugation II

	ITM	MTM	FTM	
Indep.neg.	à + ◊H◊ +₁(zù~ zùkú~zù:)[i]	◊B◊	◊LL◊	
		-	L (a)	àsízù:kwènzà[vi]
		-	LL	àsízùlìmà[vii]
		L	LL	à6ázùlìmìsà
+ obj.c.		-	HL (b)	àsízùyénzà
		(L>)H'[v]	HL	àsízùyí'lìmà
		(L>)H'[v]	HL	àsízùzí'válà
		L	HL	àsízù:zìválà
		LH	LL	à6ázù:zìlímìsà
Dep.neg.	◊H◊ + (ngà~ngè)[i] + (zù~zùkú~zù:)	◊B◊	◊LL◊	
		-	L (a)	síngèzù:kwènzà[vi]
		-	LL	síngàzùlìmà[vii]
+ obj. c.		-	HL (b)	síngàzùyénzà
		(L>)H'[v]	HL	síngèzùyí'lìmà

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[i] Definite future morpheme ◊zu◊ or indefinite future morpheme ◊yu◊. The optional allomorph /ngè/ of the negative morpheme ◊ngà◊ is conditioned by the former only.

[ii] Or /àsízùkûdlá+~àsízùkúdlà/ (indep.), /síngèzùkûdlá+/ (dep.).

[iii] Or /àsízùkú'66nà~àsízù:'66nà/ (indep.), /síngèzù:'66nà/ (dep.).

[iv] Or /àsízùkú'yídlà~àsízù:'yídlà/ (indep.), /síngèzù:'yídlà/ (dep.).

[v] The allomorph /zù/ conditions a high toneme object concord.

[vi] The special allomorph /zù:kw/ is compulsory with initial vowel stem verbs without object concords, e.g. /àsízù:kwènzà/ (we will not act), cf. /àsízùkwénzà/ (we will not do it).

[vii] Or /àsízù:lìmà/ (indep.), /síngèzù:lìmà/ (dep.).

IV. <u>SUBJUNCTIVE MOOD</u>: 1. Past tense

<u>Tone class and conjugation I</u>

	ITM	MTM	FTM	
Positive	◊L◊ + à	◊A◊	◊HL◊	
	L	–	HL	sà66nà, 6à66nà
	L	L	HL	sà6ònísà
obj. c.	H'	–	HL (b)	sá'yídlà
	H	(L~)H'	HL	sáyí'66nà
	H	LL	HL	sázì6ònísà
–obj. c.	◊H◊	–	◊LL◊(f)	(monosyllabic stem)
	H	–	L (a)	sádlà, 6ádlà

<u>Tone class and conjugation II</u>

	ITM	MTM	FTM	
Positive	◊L◊ + à	◊B◊	◊LL◊	((a) form)
	L	–	HL	sàlímà, 6àlímà
	L	H	LL	sàlímìsà
	L	H	LL	sàgézìsà
+ obj. c.	H'	–	HL (b)	sá'yénzà
	H	(L~)H'	HL	sáyí'límà
	H	LH	LL	sázìlímìsà
–obj. c.	◊H◊	–	◊LL◊(f)	(monosyllabic stem)
	H	–	L (a)	sénzà, 6énzà
Positive	◊L◊ + à	◊BA◊	◊HL◊	((b) form)
	L	–	HL	sàlímà, 6àlímà
	L	H'	HL	sàlí'mísà
	L	L	HL	sàgèzísà
+ obj. c.	H	LH'	HL	sázìlí'mísà
	H	LL	HL	sázìgèzísà

IV. <u>SUBJUNCTIVE MOOD</u>: 1. Past tense

<u>Tone class and conjugation I</u>

	ITM	MTM	FTM	
Negative	◊H◊ + á + ngâ:[i]	◊A◊ + ◊C◊	◊HL◊	((a) form)
		–	HL	sángâ:6ónà
		L	HL	sángâ:6ònísà
		–	HL (b)	sángâ:yídlà
		L	HL	sángâ:yì6ónà
		H'+	HL	sángâ:yí'6ónà+
		(HL~)HH'+	HL	sángâ:yí6ón'nísà+
		–	◊LL◊ (f)	(monosyllabic stem)
		–	L (c)	sá'ngâ:dlà
	à + H + â:	◊A◊ + ◊C◊	◊HL◊	((c) form)
		–	HL	àsâ:6ónà
		H'+	HL	àsâ:yí'6ónà

<u>Tone class and conjugation II</u>

	ITM	MTM	FTM	
Negative	◊H◊ + á + ngâ:[i]	◊B◊ + ◊C◊	◊LL◊	((a) form)
		–	L (c)	sá'ngê:nzà
		–	HL	sángâ:límà
		H	LL	sángâ:límìsà
		H	LL	sángâ:gèzìsà
		–	HL (b)	sángâ:yénzà
		H"H~HH[ii]	LL	sángâ:yí"límìsà+
	◊H◊ + á + ngâ[i]	◊BA◊'+ ◊C◊	◊HL◊	((b) form)
		–	HL	sángâ:límà
		H'	HL	sángâ:lí'mísà
		L	HL	sángâ:gèzísà
		H"H'~HH'[ii]	HL	sángâ:yílí'mísà+
	à + H + â:	◊B◊~◊BA◊ + ◊C◊	◊LL◊~◊HL◊ ((c) form)
		–	HL	àsâ:límà
		H'+	HL	àsâ:yí'límà

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i   The negative infix is /(ngâ:~ngá:)~ngà/.

ii The tonal upstep is usually apparent with MTM ◊B◊ but not with MTM ◊BA◊.

IV. SUBJUNCTIVE MOOD: 2. Present tense

Tone class and conjugation I

	ITM	MTM	FTM		
Positive	◊H◊	–	◊LH◊		(disyllabic stem)
	H	–	LH		síɓòné, ɓáɓòné
	H>L	–	LH > HL		zìɓóně
	H>L	–	LF>HLH+		zìɓóné+
	H	–	LH		zíɓàlé
	◊L◊	◊B◊	◊LH◊		(polysyllabic stem)
	L	H	LH		sìɓónìsé
	L	H>L	LH > HL		sìɓàlélě
	L	H	LH		ɓàɓálèké
	◊H◊	–	◊LL◊	(f)	(monosyllabic stem)
	H	–	L	(a)	sídlě, ɓádlě
+ obj. c.	◊H◊	◊A◊	◊HH◊		
	H'	–	HH	(b)	sí'yídlé
	H>L	–	HH > HL	(b)	zìyídlě
	H	–	LH ~ HH	(b)	zìzìdlé, zí'zídlé
	H'	–	HLL+	(b)	zí'zîdlě+
	H	(L~)H'	HH		síyíɓóné,
	H	L	LH		sìzìɓóné
	H>L	L>H'	HLL+		zìyí'ɓóně+
	H	(LL~)HL	LH		síyìɓónìsé ~
		~HH'	HH		síyíɓó'nísé
	H	LL	LH		sìzìɓónìsé
	H	LL	HLL+		sìzìɓónìsě+
Negative	◊H◊ + ngà	◊C◊	◊HH◊		
		–	H	(c)	síngàdlí
		–	LH		síngàɓóní
		L	LH	(bb)	síngàyìdlí
		H	HLL+	(bb)	síngàyîdlì+
		H'	HLL+		síngàyí'ɓònì+
		(HL~)HH'	HLL+		síngàyíɓó'nìsì+

IV. __SUBJUNCTIVE MOOD__: 2. Present tense

Tone class and conjugation II

	ITM	MTM	FTM	
Positive	◊L◊	◊B◊	◊LH◊	
	L	–	HL	sìlímè, 6àlímè
	L	–	HL	zìválè
	L	H	LH	sìlímìsé
	L	H>L	LH>HL	sìvàlélè
	L	H	LH	6àgíjìmé
+ obj. c.	H'	H	(LH>)HL(bb)	sí'yénzè
	H'	H	LH+ (bb)	sí'yênzé+
	H>L	H	LH+ (bb)	zìyênzé+
	H'	H	LH	sí"yíllmé
	H	H>L	LH>HL	sízìlímè
	H	H>L	LH>HLH+	sízìlímé+
	H>L	H	LH	zìyíllmé
	H"	H	LH	zí"zìválé
–obj. c.	◊H◊	–	◊LL◊ (f)	(monosyllabic stem)
	H	--	L (a)	sénzè, 6énzè
+ obj. c.	◊H◊	◊BA◊	◊HH◊	(polysyllabic stem)
	H	(LH'~)H"H'	HH	síyí"lí'mísé ~
		~HH'	HH	síyílí'mísé
	H	LH'	HH	sízìlí'mísé
	H	LH'	HLL+	sízìlí'mìsè+
	H	(LL~)HL	LH	síyígèzìsé
	H	(LL~)HL	HLL+	síyígèzìsè+
Negative	◊H◊ + ngà	◊C◊	◊LH◊	
		–	LH (c)	síngènzí
		–	LH	síngàlìmí
		L	LH (bb)	síngàyènzí
		H	LH+ (bb)	síngàyênzí+
		H	LH+	síngàyílìmí+
		◊C◊	◊HH◊	(polysyllabic stem)
		(HL~)HH'	HLL+	síngàyílí'mìsì+

V. __POTENTIAL MOOD__: Present tense

Tone class and conjugation I

	ITM	MTM	FTM		
Positive	◊L◊ + ngá	◊A◊	◊HL◊		
	+ HL+ ~H	–	H+~L	(a)	sìngâdlá+, sìngádlà
	+ H'	–	HL		sìngá'bálà
	+ H≻L	–	HL		sìngà66nà
	+ H≻L	L≻H'	HL		sìngà66'nísà
	+ H'	–	HL	(b)	sìngá'zídlà
	+ H	L	HL		sìngázì66nà
	+ H≻L	L≻H'	HL		sìngàyí'66nà
	+ H	L	HL		sìngázì6ònísà
Negative	◊H◊ + ngê:	◊A◊	◊HL◊		((a) form)
		–	HL		sìngê:66nè
		–	HL	(b)	sìngê:yídlè
		L	HL		sìngê:yì66nè
		LL	HL		sìngê:yì6ònísè
	◊H◊ + ngê:	◊C◊	◊HH◊		((c) form)
		–	LH	(c)	sìngê:dlé
		–	LH		sìngê:6òné
		H'	HLL+		sìngê:yí'6ônè+

Tone class and conjugation II

	ITM	MTM	FTM		
Positive	◊L◊ + ngá	◊B◊	◊LL◊		((a) form)
	+ H	–	L	(a)	sìngénzà
	+ H'	–	HL		sìngá'válà
	+ H≻L	–	HL		sìngàlímà
	+ H≻L	H	LL		sìngàlímìsà
	+ H'	–	HL	(b)	sìngá'zénzà
	+ H	L	HL		sìngázìlímà
	+ H≻L	L≻H'	HL		sìngàyí'límà
	+ H	LH	LL		sìngázìlímìsà
	+ H	LH	LL		sìngázìgézìsà
Positive	◊L◊ + ngá	◊BA◊	◊HL◊		((b) form)
	+ H'	–	HL		sìngá'válá
	+ H	LH'	HL		sìngázìlí'mísà
	+ H	LL	HL		sìngázìgèzísà
Negative	◊H◊ + ngê:	◊B◊	◊LL◊		((a) form)
		–	HL		sìngê:límè
		–	HL	(b)	sìngê:yénzè
		H	LL		sìngê:zìlímìsè
		H	LL		sìngê:zìgézìsè
	◊H◊ + ngê:	◊BA◊	◊HL◊		((b) form)
		–	HL		sìngê:límè
		LH'	HL		sìngê:zìlí'mísè
		LL	HL		sìngê:zìgèzísè
	◊H◊ + ngê:	◊C◊	◊LH◊		((c) form)
		–	LH	(c)	sìngê:nzé
		–	LH		sìngê:lìmé
		H	LH+		sìngê:yílìmé+

Notes on monosyllabic stem verbs

(a) Partial FTM representation, H representing FTM ⟨HL⟩ and
L representing FTM ⟨LL⟩. The final two tonemes constitute a
pseudo-FTM.

(aa) The infix /ya/ bears the MTM toneme and not the first
toneme of the FTM, which is borne by the final syllable.
Hence partial FTM representation,
e.g. /sìyàdlá+, 6áyàdlá+/ not /*sìyádlà+, *6á'yádlà+/.

(b) Full FTM representation with object concords, which bear
high tonemes here. Otherwise they do not bear high tonemes
except by tonal assimilation to or tonal displacement from
the previous syllable.

(bb) The object concord bears the MTM toneme as well as the first
toneme of the FTM, by overlap. Hence full FTM representation,
with overlap,
e.g. /ùkúngàzênzí+/ not /*ùkúngàzênzí+/.

(c) Full FTM representation with inherent toneme infixes by over-
lap. Note that the FTM ⟨HH⟩ final allomorph HLL+ does not
occur: the nonfinal allomorph LH functions both finally and
nonfinally.

(d) Full FTM representation with disyllabic suffixes.

(e) The object concord conditions the H allomorph of MTM B in
these cases only, i.e. it bears the high toneme that it con-
ditions. Otherwise it conditions the L ∼ L⁺H allomorph.

(f) Here monosyllabic stem verbs have different tonal morphemes
from disyllabic stem verbs.

(g) Stative verbs with special disyllabic perfect stems behave
as monosyllabic stem verbs. There are several examples in
tone class I, e.g. /lele < lala/ (lie down), /phethe < phatha/
(carry), /thwele < thwala/ (carry), but only one example in
tone class II, /hleli∼hlezi < hlala/ (sit down). In the
Zululand dialect this verb belongs to tone class I, and even
in the standard dialect there are alternative forms of the
perfect stem. These stative verbs partially follow the
pattern of the imperfect aspect, which provides a final-non-
final distinction. In this respect they behave exceptionally,
in a way which stative verbs with special trisyllabic stems
(e.g. /khathele < khathala/) do not follow.

indep. pos.

I   sìlélè ~sìlélè+ (we are lying down, asleep)
    6àlélè (= imperf.) ~ 6á'lêlè+

II (sìhléli (= I)~sìhlèli) ~ sìhlèli+ (or less commonly
    as I, sìhléli+ (we are sitting down, seated).
    (6àhléli (= imperf. I/ II) ~ 6áhlèli) ~6áhlèli+
    (or less commonly as I, bá'hléli+ (they are seated).

dep. pos.

I   6èlèlé ~6èlêlè+

II (6èhléli (= imperf.) ~ bé'hléli)~6é'hlêli+ (or rarely
    as I, 6èhlèlí ~6èhlêli+).

indep. neg. (no nonfinal·forms)

I   à6àlêlé+ (they are not lying down)

II àbá'hlêlí+ (they are not sitting down)

dep. neg. (no nonfinal forms)

I & II 6éngàlêlé+, 6éngàhlêlí+

Compare /khathele <khathala/ (get tired):-

indep. pos.   sìkhàthélè, 6ákhá'thélè (final or nonfinal)

dep. pos.   6èkhàthèlé ~6èkhàthêlè+

neg.   àbàkhàthêlé+, 6éngàkhàthêlé+ (no nonfinal forms).