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THE TONAL STRUCTURE OF BEMBA

(Abstract of Thesis)

The purpose of this thesis is to establish the part played by tone in the facts and operations of the language. This is achieved by analysing the observed speech-tones.

In connected speech several tone-levels are used, but frequently the difference between two of these proves not t be significant. An initial investigation leads to a hypothesis of two essential tones. From the behaviour of certain tone-patterns two distinct kinds of high-tones have to be recognized.

The essential tones of basic nominals are discovered b observing their tone-patterns in given contexts. In this there is established the existence of a single alternance o tone on each lexical syllable, and the absence of any tonal alternance on prefix syllables. Variations occur in the tones of some nominals according to their context, but frequently the tone-patterns are invariable. The tonal behaviour of compound nominals is related to the form as we as to the tones of their components. Where one nominal is based on another there is a close relationship between thei tone-patterns.

Verbals and nomino-verbals have a tonal behaviour diff from that of nominals, but their syllables also display eit a single tonal alternance or none at all. Several cases occur where the meaning of a verbal can be determined only when its tones are known.

Although tone is not an important factor in indicating syntactical junctions, it often characterizes such junction

Interrogative speech is indicated by the use of differ intervals between the tone-levels rather than by the use of special tone-patterns.

Whether considered lexically, morphologically or syntactically the tones are an integral part of the languag which can neither be adequately analysed nor accurately use unless they are taken into account.

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THE TONAL STRUCTURE OF BEMBA

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Thesis presented for the degree of PH.D.

by

Malcolm Guthrie

1945

TABLE OF PRINCIPAL SECTIONS

	Page
FIRST PART - INTRODUCTORY	
I SCOPE AND TECHNIQUE	3
II NOTATION	3
III TONE LEVELS AND TONAL NORM	4
IV TONAL SLIP	5
V TONAL ALTERNANCE	5
VI FIRM AND FREE TONES	7
SECOND PART - THE TONES OF NOMINALS	
I BASIC NOMINALS	10
Simple Nominals Capable of having a Double Prefix	10
Simple Nominals with Fixed Prefix which Cannot be Double	23
Simple Nominals with Variable Prefix which Cannot be Double	24
Compound Nominals	25
Nominals with Reduplicated Stem	28
II DERIVED NOMINALS	30
Nominals with Modified Prefix	30
Nominals with Extra Invariable Prefix	32
Nominals with Extra Variable Prefix	33
Nominals with Suffixed Particle	34
THIRD PART - THE TONES OF VERBALS	35
I LEXICAL TONES	36
II GRAMMATICAL TONES OF SIMPLE VERBALS	37
The Tone-Patterns of the Bases	38
The Tonal Behaviour of the Prefixes	40
The Tones of Verbals with a Substitute Object	51
Verbals in Relative Clauses	53
Verbals in Relative Clauses with a Substitute Object	55
Verbals with a Suffixed Particle	56
Verbals with Second Radical Consonant Zero	57
Verbals with First Radical Consonant Zero	58

(TABLE OF PRINCIPAL SECTIONS)

	Page
III GRAMMATICAL TONES OF VERBAL INTERJECTIONS	60
IV THE TONES OF NOMINO-VERBALS	
Nomino-Verbals with Invariable Prefix	62
Nomino-Verbals with Variable Prefix	64
FOURTH PART - SUMMARY AND CONCLUSION	64
I THE TONAL CHARACTERISTICS OF SYNTACTICAL JUNCTIONS	65
II INTERROGATIVE SPEECH	68
III THE INCIDENCE OF FREE TONES	68
IV THE INCIDENCE OF TONAL SLIP	69
V ESSENTIAL TONES AND SPEECH TONES	70
VI SUMMARY	73
VII CONCLUSION	76
APPENDIX I TABLE OF TONE-PATTERNS OF NOMINALS	77
APPENDIX II TABLE OF TONE-PATTERNS OF VERBALS	79
APPENDIX III FORM, SHAPE AND TONE	80

THE TONAL STRUCTURE OF BEMBA

FIRST PART - INTRODUCTORY

I SCOPE AND TECHNIQUE

The purposeof this thesis is to establish the part played by tone in the facts and operations of the Bemba language. The entire data for the study consists of tone-patterns observed in the speech of native informants. There is however the basic linguistic theory that the characteristics of speech are the expression of the underlying facts of language. Since then the tone-patterns belong to the characteristics of speech, one of the main concerns of this work is the analysis of the patterns in order to determine the underlying tonal facts. The work is divided into four parts.

In this first part the preliminary deductions are made. First of all certain features of the tone-patterns are noted, and from these are deduced the relationships between some of the different levels of syllabic tone heard in actual speech. Then from a preliminary investigation a tentative hypothesis is made as to the probable number of essential tones in the language. This hypothesis is subsequently tested in studying the tonal behaviour of the different types of words.

It will be shown that the tonal behaviour of the different categories of form conforms to the distinctions implied in the existence of such categories. Two main categories have to be recognized, nominals and verbals, which are studied in the second and third parts rsspectively. The distinction between these two categories is based entirely on criteria of grammatical form. Although such grammatical questions cannot properly be considered within the limits of this present thesis, they will have to be referred to in passing.

Finally in the fourth part the results of the analysis are summarized, and it is shown how integral a feature of the language are its tones.

II NOTATION

As a preliminary to the study of tonal structure some system of marking tones must be adopted. Whatever method is used, it must make possible the indication of a distinction between the actual intonation heard in speech and the essential tones of the language.

To facilitate reference three methods of indicating tone are used interchangeably.

(a) Usually a graphic system is preferable, as this shows at a glance the general outline of the tonal pattern. It consists of short lines indicating the relative level of tone, horizontal lines being used for level tones and oblique lines for glides. Actual intonation is shown by enclosing the tone marks in round brackets. e.g. **ciipuululu**(¯-__)"it is an owl" **naabaya**(\-_)"they have gone" Essential tones may then be enclosed in square brackets.

(b) It is frequently necessary to single out a tone and to refer to it separately. This necessitates the naming of the different levels of tone. When certain arbitrary names such as "high-tone" and "mid-tone" have been assigned, then the initials of these can be used as symbols. Actual intonation is shown by using the lower case,- h, m etc. The upper case is then reserved for the essential tones. In a sequence of tones the letters are separated by dots, e.g. h.m.m , but a glide is represented by the two symbols denoting its limits, but without a separating dot. e.g. hm.

(c) In giving lists of words it is useful to be able to mark the tones in the body of the words themselves. This can be done by means of accents, using certain conventions, e.g. an acute accent for a high-tone. Two systems of accents are unnecessary since a distinguishing mark can be used with the word itself. Usually a modified phonological spelling is used, and in this case the accents indicate essential tones. When the spelling is phonetic a dagger (†) is placed before the word or words, and the accents then represent actual intonation.

III TONE LEVELS AND TONAL NORM

In connected speech there are four levels of tone, e.g. **aaleelapa muno**(¯-_ __)"he used to swear much" The intervals between these levels are about one musical tone, except the lowest which is one and a half tones. This pattern could thus be represented in tonic-solfa as t l s m r m.

One of these four tone levels must be chosen as the datum to which the others may be referred. As an arbitrary choice the level which occurs most frequently will be used. This is the lowest of the four levels, which will therefore be called a "normal-tone." For this the symbol n is used, but when accents are employed the absence of an accent will denote a normal-tone.

Of the other tone levels, the highest is not common. It will be called a "peak-tone" (symbol p). The next highest

is very common, and much speech uses only this tone in addition to the normal-tone. It will be called the "high-tone"(symbol h The remaining tone level will then be called the "mid-tone" (symbol m). When using accents, p will be indicated by a doubled acute accent, h by a simple acute accent, and m by a vertical accent. This is how the words above would then appear. † ăăléélápa muno.

The absolute pitch of the tones varies considerably during the course of speech. In general the pitch is lower when the quantity of breath in the lungs is less. Since this study is concerned with relative pitch, this down-drift in the absolute pitch may be ignored.

IV TONAL SLIP

In addition to the down-drift there is another kind of modification of the level of some tones. A tone may be heard in some contexts as h and in others as m. e.g.

(a) icisima citali naacikama(¯_¯_ -__ ___)"the deep well has dried up"

(b) icisima naacikama (¯_-_ ___)"the well has dried up"

Here the third tone is h in (a) but m in (b). This difference is however not significant, and the native speaker professes to be unable to hear any difference between (b) and (c),-

(c) icisima naacikama (¯_¯_ ___)

Later it will be possible to determine the rules governing this use of m for h, but in a study of alternances such a difference between h and m can be ignored. Any m which is not distinguished from h is thus regarded as a"slipped"h. Although tonal slip can be disregarded from the point of view of alternances, it must be indicated in showing the actual intonation. A slipped h will be distinguished by a dot placed under the tone mark or symbol. The intonation of (b) may then be written,-

(¯_¯_ ___) or h.n.ḥ.n hn.n.n.n

V TONAL ALTERNANCE

By tonal alternance is meant the greatest number of distinctions of essential tone that characterize a syllable in a given position. The existence of such tonal distinctions is known as tonality. The nature of the tonal alternance can only be established by studying actual intonation. A preliminary investigation may be made by observing words which have only one lexical syllable.

1. Nominals with Monosyllabic Stem

The grammatical part of a nominal is its prefix. Since there are many nominals with only one other syllable, these may be used to investigate lexical tonality. It is found that every word of this kind falls into one of two groups. Here are the two groups in different contexts, illustrated by the words **ulupe** "basket" and **ulupu** "bark-bag" both of which have the double prefix **ulu-**.

1a **leeta ulupe** (-_ ---) "bring the basket"
1b **leeta ulupu** (-_ -__) "bring the bag"

2a **leeta ulupe lulia** (-_ _-- __) "bring that basket"
2b **leeta ulupu lulia** (-_ -_- __) "bring that bag"

3a **leeta ulupe luakue** (-_ _-_ __) "bring his basket"
3b **leeta ulupu luakue** (-_ -_- __) "bring his bag"

At this point it is not necessary to study the exact patterns of the intonation which occur in the various contexts. These will be analysed later on. For the moment all that matters is that there are only two possible patterns in a given context. Equally it is not important for the present purpose that the the tones of **ulupe** are different in 2a and 3a, whereas those of **ulupu** are identical in 2b and 3b.

2. Verbals with one Lexical Syllable

In verbals the suffix, as well as all the prefixes, is grammatical. If then verbals are chosen with only one other syllable, this is lexical and it is simple to determine its tonality. In this case however the quantity of the lexical part of the verbal must be controlled. When this is constant all verbals fall into one of two groups. Here are some examples in which the two groups are illustrated by verbals with the lexical elements **-lek-** "leave" and **-tap-** "draw water".

1a **tukaleka amainsi** (____ -__) "we shall leave the water"
1b **tukatapa amainsi** (__-- -__) "we shall draw the water"

2a **tatuakaleke mainsi** (____- __) "we shall not leave the water"
2b **tatuakatape mainsi** (___-- __) "we shall not draw the water"

3a **tualeka amainsi** (_-_ -__) "we have just left the water"
3b **tuatapa amainsi** (_-- -__) "we have just drawn the water"

The fact that in the tense used in 3a, 3b the lexical syllable has a high-tone in both verbals is not relevant here, since there is still a tonal distinction between the patterns.

From these facts it is a reasonable deduction that lexical syllables in both nominals and verbals are capable of bearing one of two essential tones. It by no means follows that the

same is true for other syllables. However, apart from tonal slip most tone-patterns contain only n and h, so it seems safe to assume as a working hypothesis that there are not more than two essential tones N and H. This assumption will have to be tested as the patterns are analysed.

VI FREE AND FIRM TONES

The peculiar behaviour of high-tones in certain cases is the next thing to be studied. In this respect there are two main facts that emerge.

1. In unemphatic affirmative speech the final tone in a sense-group is never h.

(a) Some verbals when not final have h as the last tone, but when final this is replaced by n. e.g.

1a ekuo tuacipita kucisima(-_ _--- -_-_)"that is where we passed by the well"
1b ekuo tuacipita (-_ _--_) "that is where we passed"

(b) In most words that have h as the last tone when they are not final, this h is replaced by n when they are final. e.g.

2a ekuo tuapitile kucisima(-_ --_- -_-_)"that is where we passed by the well"
2b ekuo tuapitile (-_ --__) "that is where we passed"

3a akasita amani yalia(--__ -_- __)"he will buy those eggs"
3b akasita amani (--__ -__) "he will buy some eggs"

The last tone of tuapitile is h in 2a, but n in 2b. In the same way the last tone of amani is h in 3a but n in 3b. From these and similar cases it may be deduced that the last tone of words like these is really H, and that when the word is not final this H may be heard as h, but when the word is final the H is heard as n. The replacement of h by n in final position will be known as "flattening" of the tones.

(c) Apart from the rare cases noted under (a), when there is a run of two or more high-tones at the end of a word, they are all flattened together in final position. e.g.

4a kuli umupokapoka kulia(--_-_---- __)"there is a valley over there"
4b kuli umupokapoka (-- -_____) "there is a valley"

5a tatuakabapulikisie uluceelo(___----- -_-_)"we shall not arrive on them unexpectedly in the morning"
5b tatuakabapulikisie (________)"we shall not arrive on them unexpectedly"

2. Some high-tones behave differently from others.

(a) In certain cases flattening occurs even where the word is not final. e.g.

6a akapita mayilo (-___ ___) "he will pass tomorrow"
6b akapita mayilo uluceelo (-_-- ___ -_-_) "he will pass tomorrow morning"

7a akasita amafuta mayilo (--__ -___ ___) "he will buy oil tomorrow"
7b akasita amafuta naamasaka (--__ -_--__-__) "he will buy oil and kaffir-corn"

By comparing 6a with 6b it is seen that the last two tones of akapita are flattened in the first case but not in the second. Investigation shows that this is because mayilo, the remaining word in 6a, has no high-tones, whereas uluceelo in 6b has. In 7a and 7b a similar thing happens to the last two tones of amafuta, showing that this kind of flattening may occur in the tones of both nominals and verbals.

A high-tone that is flattened whenever there are no more high-tones in the sense-group is called a FREE TONE. When it is necessary to indicate that a tone is free, the symbol will be underlined, H̲, but graphically the tone marks for h and n will be used together, (=).

Since a free tone may be flattened when it is not final in a sense-group, it need not even be the last tone in a word. e.g.

8a tatuasekele (_____) "we did not laugh"
8b tatuasekele kafula (_--__ _-_) "we did not laugh at the smith"

From 8b the second and third tones of tatuasekele are evidently high, but in 8a they are heard as n. This can only mean that these tones are free, and are flattened in 8a because they are the last high-tones in the sense-group. The addition of another word which has no high-tones therefore does not affect the flattening. e.g.

8c tatuasekele mayilo (_____ ___) "we did not laugh yesterday"

(b) There are other cases where a high-tone is heard as n only when final in a sense-group. e.g.

9a tabaleeloba (_-___) "they are not fishing"
9b tabaleeloba kumumana (_-_-- ____) "they are not fishing at the river"
9c akapita kumumana (-___ ____) "he will pass to the river"

From 9a and 9b it could not be known whether kumumana has any high-tones or not. But by comparing 9c with 6a it will be seen that its tones must all be normal. In the following examples also, the word mafuta in 10b is heard with high-tones in spite of the fact that they are last in the sense-group.

10a tatuakasite mafuta (____- ___) "we shall not buy oil"
10b tatuakasite mafuta mayilo (____- _-- ___) "we shall not buy oil tomorrow"

This can only mean that the high-tones in these words are behaving differently from those in akapita (6a, 6b) and amafuta (7a, 7b). A high-tone of this sort, which is only heard as n when final, or one of a final run, is called a FIRM TONE.

A further important difference between free and firm tones is shown by the fact that native speakers will accept m as correct in final position for a firm tone, a thing which they will never do for a free tone. In view of this, it is likely that the apparent flattening of firm tones at the end of a sense-group is an extreme case of tonal slip, and so is in fact a different process from the flattening of free tones. To represent this, firm tones in final position will be marked as slipped high-tones, it being understood that the result of the slip may be that either m or n will be heard. e.g.

11a baaliileeta imipeni mayilo (-\-- _-_- ___) "they brought knives yesterday"
11b baaliileeta imipeni (-\-- _-_-) "they brought knives"
i.e. (-\-- _-_-) or (-\-- _-__)

12a baaliileeta amani ayasuma (-\-- -_- _-_-) "they brought good eggs"
12b baaliileeta amani (-\-- -__) "they brought eggs"
but never (-\-- -_-)

(c) The behaviour of the tones of the verbals noted in section 1(a) above may be described by saying that tonal slip affects the last tone in the pattern only, also that n is never heard as the result of the slip. Otherwise their tones are firm, and nothing else need be said about them at this point, except that no nominals have this tonal behaviour.

(d) In certain tonal contexts there is a type of tonal slip which appears to have an effect similar to that of flattening. e.g.

13a amafuta yasuma yakapela (-_-- -_- -___) "the good oil will be used up"

In this case the tones of amafuta are usually heard as (-___) but (-_--) is accepted. Investigation shows that this happens only when the following tone is high. When the following tone is normal then a slipped high-tone is always heard as m. Here are three different examples for comparison. In the first (13b) the slipped tones of amafuta are heard as n or m owing to the following high-tone. In 13c these tones are always heard as m owing to the following normal-tone. In 13d there is true flattening since the following word has no high-tones at all.

13b **tukasita amafuta yasuma** (____ -_-- -_-)"we will buy good oil"

13c **tukasita amafuta na amasaka** (____ -_--_-_-)"we will buy oil and kaffir-corn"

13d **tukasita amafuta mayilo** (____ -___ ___)"we will buy oil tomorrow"

SECOND PART - THE TONES OF NOMINALS

The study of nominals is concerned first of all with their lexical tones. When these have been determined, nominals may be classified by means of them into tone-groups. Then the grammatical significance of the tone-patterns has to be examined. This is done by classifying nominals into various categories according to their morphological characteristics, and then observing the syntactical behaviour of the tone-patterns of each category in turn.

Nominals are formed of a stem with one or more prefixes. As the stem is composed entirely of lexical elements, the form of a nominal depends on its prefixes. There are several categories arising from the form of the prefixes, but these are conveniently considered in two main divisions. (I) Basic Nominals, in which the prefix is of the simplest type possible. (II) Derived Nominals, which are based on those in the first category, and whose prefixes are consequently less simple.

I BASIC NOMINALS

Although basic nominals may be divided broadly into simple and complex, there are in all five categories included in this term. They are (1) Simple Nominals capable of having a double prefix. (2) Simple Nominals with fixed prefix which cannot be double. (3) Simple Nominals with variable prefix which cannot be double. (4) Compound Nominals. (5) Nominals with reduplicated stem.

(1) Simple Nominals Capable of having a Double Prefix

The different types within this category are distinguished by the construction of their stems. For purposes of lexical analysis it is useful to divide the stem into RADICAL and SUFFIX, this latter always being a vowel. e.g. **umulilo** "fire" where **umu-** is the double prefix, and the stem **-lilo** is analysed into the radical **-lil-** and the suffix **-o**. The radical is usually composed of Consonant-Vowel-Consonant. Sometimes however, the radical appears as Consonant-Vowel, e.g. **-lu-** in **ubului** "fight", sometimes as Vowel-Consonant, e.g.

-it- in ubuite "call", and in extreme cases as a vowel only, e.g. -o- in ubuoa "mushroom". This could be described by saying that some radicals have only one consonant and others none at all, but a study of the phonology of the language makes it clear that these facts must be regarded positively. They will then be expressed by saying that a radical like -it- commences with "zero consonant", and that in -o- both radical consonants are zero.

Some stems are composed of Consonant-Vowel only, these will then be treated as consisting of a radical whose second consonant is zero, with zero suffix.

To analyse longer stems it is convenient still to recognize the radical and the suffix, and to treat the the remainder of the stem as one or more STEM EXTENSIONS, of the type Vowel-Consonant. Zero consonant occurs in stem extensions also. The significance of these stem extensions is not well defined in nominals, but here are examples of this kind of analysis,- infiso "secrecy" (radical: -fis-, suffix: -o); infisilo "hiding-place" (radical: -fis-, stem extension: -il-, suffix: -o); infisamino "hiding-place" (radical: -fis-, stem extensions: -am- and -in-, suffix: -o).

In some nominals there is a syllable reminiscent of another prefix embedded between the prefix and the stem, e.g. icimumana "big river", i.e. ici-mu-mana, cf. umumana "river".

From these facts there emerge the following principal types of nominal in this category,-

(a) With full radical, e.g. umulilo "fire"
(b) With second radical consonant zero, e.g. umutue "head"
(c) As (b) with zero suffix, e.g. umuto "soup"
(d) With first radical consonant zero, e.g. umuele "knife"
(e) As (a) with one stem extension, e.g. umukobelo "handle"
(f) As (d) with one stem extension, e.g. umuikasi "dweller"
(g) With more than one stem extension, e.g. umusokolobe "fruit tree"
(h) With embedded syllable, e.g. icimumana "big river"

The method followed in studying the tones of these nominals is to ascertain their lexical tones by observing them in a chosen context, and then to see the behaviour of the tone-pattern in various contexts.

(a) Nominals with Full Radical

The following context is arbitrarily chosen as the most suitable for the observation of the lexical tones of nominals,-

umulilo uakue tausimine(_-__ -- _____)"his fire has not gone out

Since this context is taken as the one for the observation of the tone-patterns it will be called the "normal context". It is found that all nominals of this type fall into one of four groups as shown by their tone-patterns in the normal context,-

(1) umulilo uakue tausimine(_-__ -- _____)"his fire has not gone out"
(2) umupeni uakue tautunine(_-_- -- _____)"his knife has not become blunt"
(3) umucele uakue taupelele(-_-- -- _____)"his salt has not given out"
(4) umuceka uakue tauponene(-_-_ -- _____)"his mat has not fallen down"

The existence of these four tone-groups is exactly what would be expected from the presence of a single tonal alternance on each of the two stem syllables. In this way there is confirmed the hypothesis of two essential tones N and H on lexical syllables.

Since words of this type are very common, it is desirable to devise for these four tone-groups some system of nomenclature based on their lexical tones. It will be convenient to designate the presence of a normal-tone on the radical syllable by the Roman numeral I, and a high-tone by II. Then where the tone of the suffix is the same as that of the radical this fact may be indicated by the letter A, and where different by B. This will then give the four tone-groups with their type words,-

IA umulilo IB umupeni IIA umucele IIB umuceka

In order to determine the grammatical tones of these nominals they must be observed in all contexts where they occur. It is found that there are six different kinds of context. If the normal context already noted is numbered 1, there are contexts 2 and 3 where the prefix is usually double. Corresponding to these are three others, numbered 1a, 2a, 3a, where the prefix is usually single. In every context there are only the four tone-groups already established. Here are the type words in the five remaining contexts.

In context 2,-

IA umulilo tausimine(_--- _____) "the fire has not gone out"
IB umupeni tautinine(_-_- _____) "the knife has not become blunt"
IIA umucele taupelele(-_-- _____) "the salt has not given out"
IIB umuceka tauponene(-_-_ _____) "the mat has not fallen down"

In context 3,-

IA umulilo takulii (____ _-_) "there is no fire"
IB umupeni takulii (_-_- _-_) "there is no knife"
IIA umucele takulii (-_-- _-_) "there is no salt"
IIB umuceka takulii (-_-_ _-_) "there is no mat"

In context 1a,-

IA tasimisie mulilo uakue(_-__ -__ __)"he has not put out his fire"
IB tatunisie mupeni uakue(_-__ -_- __)"he has not blunted his knife"
IIA tapesesie mucele uakue(_-__ _-- __)"he has not used up his salt"
IIB taponesie muceka uakue(_-__ _-_ __)"he has not dropped his mat"

In context 2a,-

IA tasimisie mulilo ulia(_-__ --- _-)"he has not put out that fire"
IB tatunisie mupeni ulia(_-__ -_- _-)"he has not blunted that knife"
IIA tapesesie mucele ulia(_-__ _-- _-)"he has not used up that salt"
IIB taponesie muceka ulia(_-__ _-_ _-)"he has not dropped that mat"

In context 3a,-

IA tapalii mulilo paisiko(_-_ ___ -__)"there is no fire on the hearth"
IB tapalii mupeni pacipuna(_-_ __- -___)"there is no knife on the stool"
IIA tamulii mucele mucipe (_-_ _-- ___)"there is no salt in the basket"
IIB tapalii muceka pacipuna(_-_ _-_ -___)"there is no mat on the stool"

Certain facts about the tones of the prefixes may now be noted. When a nominal has a double prefix, its tones are n.h if the radical tone is N, i.e. in tone-groups IA and IB; and h.n if the radical tone is H, i.e. in tone-groups IIA and IIB. The only exception is that in context 3 the prefix of nominals in tone-group IA has n.n.

When the prefix is single, its tone is h for tone-groups IA and IB in contexts 1a and 2a, but in all other cases it is n. In passing it may be noted that in contexts 1a - 3a nominals may have a double prefix, though this is less usual. In this case the prefix tones are as in contexts 1 - 3.

In nominals like insala "hunger", the second part of the double prefix is a non-syllabic nasal consonant. This means that the double prefix is monosyllabic, and the single prefix is non-syllabic. Other words also have a monosyllabic double prefix, e.g. ibala "garden", but in this case the single prefix is also monosyllabic, e.g. libala or ibala, and so presents no peculiarity. For these nominals which have one syllable less than those already observed, it is necessary to observe their tone-patterns in the six contexts.

In context 1,-

IA insonta siakue siitali(_-_ -- -__)"his rafters are long"
IB insengu siakue siitali(-_- -- -__)"his bamboos are long"
IIA intala siakue siitali (-vv -- -__)"his benches are long"
IIB insansu siakue siitali(-v_ -- -__)"his kindling is long"

In context 2,-

IA insonta teesisuma(_-- _-_v) "the rafters are not good"
IB insengu teesisuma(-_- _-_v) "the bamboos are not good"
IIA intala teesisuma(-vv _-_v) "the benches are not good"
IIB insansu teesisuma(-v_ _-_v) "the kindling is not good"

In context 3,-

IA insonta takulii(___ _-_) "there are no rafters"
IB insengu takulii(-_- _-_) "there are no bamboos"
IIA intala takulii(-vv _-_) "there are no benches"
IIB insangu takulii(-v_ _-_) "there is no kindling"

In context 1a,-

IA taleetele nsonta siakue(_--_ -_ __)"he has not brought his rafters"
IB taleetele nsengu siakue(_--_ _- __)"he has not brought his bamboos"
IIA tapangile ntala siakue(_--_ vv __)"he has not made his benches"
IIB taleetele nsansu siakue(_--_ -_ __)"he has not brought his kindling"

In context 2a,-

IA taleetele nsonta sitali(_--_ -- -__)"he has not brought long rafters"
IB taleetele nsengu sitali(_--_ _- -__)"he has not brought long bamboos"

IIA tapangile ntala sitali(_--_ -- -__)"he has not made long benches"

IIB taleetele nsansu sitali(_--_ -_ -__)"he has not brought long kindling"

In context 3a,-

IA tapalii nsonta palubansa(_-_ __ -___)"there are no rafters in the yard"

IB tapalii nsengu palubansa(_-_ _- -___)"there are no bamboos in the yard"

IIA tapalii ntala palubansa(_-_ -- -___)"there are no benches in the yard"

IIB tapalii nsangu palubansa(_-_ -_ -___)"there is no kindling in the yard"

From these patterns it will be seen that the monosyllabic double prefix has a normal-tone in tone-group IA, but a high-tone in all other groups.

It is now necessary to study the tone-patterns of each tone-group in turn, in order to determine how these are related to the lexical tones.

Tone-Group IA

Using the numbers already given to the contexts to refer to the tone-patterns as well, here are the six patterns for the nominals in this tone-group whose double prefix is dissyllabic, like umulilo,-

1.	(_-__)	1a.	(-__)
2.	(_---)	2a.	(---)
3.	(____)	3a.	(___)

These patterns may be described in this way. In patterns 1 and 2 there is h on the second syllable, but while in 1 the stem tones are n.n, in 2 they are h.h. The patterns of nominals with single prefix are like those of words with double prefix with the first one of the pattern missing.

It has been assumed that the essential tones of the stem in this tone-group are N.N from the pattern occuring in context 1. In context 2 therefore, there is a masking of the lexical tones due to the grammatical pattern. Two things may be noted about this particular pattern. The prefix tones are n.h which are characteristic of words with a normal-tone radical. There is no tonal slip between the high-tone of the prefix and those of the stem. Since these are both contrary to the tonal behaviour of nominals with a high-tone radical, it may be taken as confirmed that the essential tones

of the stem are N.N, and that the two high-tones in patterns 2 and 2a are in fact grammatical tones.

The details of the occurrence of these tone-patterns will be given later on when studying the tonal characteristics of syntactical junctions. One or two points may be noted here however. Patterns 1 and 2 (and 1a and 2a) only occur in non-final positions. In final positions pattern 3(or 3a) is always used. e.g.

(a) aleefuaya ukusimia umulilo ulia(--__ -_-- _--- _-)"he wants to put out that fire"

(b) aleefuaya ukusimia umulilo(--__ -___ ____)"he wants to put out the fire"

In (a) umulilo has pattern 2, but in (b) it has pattern 3. This is shown by the fact that in (b) the last two tones of ukusimia are flattened, a thing which could only happen if the rest of the sense-group has no high-tones.

In addition it can be shown that the high-tones of pattern 2 are firm, as in the following example where kulusiko has no high-tones,-

aaleesika umulilo kulusiko(--_- _--- ____)"he used to make fire with a firestick"

Here are the six tone-patterns for words whose double prefix is monosyllabic, like insonta,-

1.	(_-_)	1a.	(-_)
2.	(_--)	2a.	(--)
3.	(___)	3a.	(__)

These patterns are directly relatable to those already noted for nominals whose double prefix is dissyllabic. It must be noted however that in pattern 1 (and 1a) there is a grammatical high-tone on the radical, whose lexical tone is masked.

Tone-Group IB

Here are the tone-patterns for these words. First of all when the double prefix is dissyllabic, as in umupeni,-

1, 2, 3.	(_-_-)	1a, 2a.	(-_-)
		3a.	(__-)

Then when the double prefix is monosyllabic, as in insengu,

1, 2, 3.	(-_-)	1a, 2a, 3a.	(_-)

This means that in every case the stem tones are n.h thus confirming the deduction that the essential tones are N.H.

Tone-Group IIA

Here are the tone-patterns for nominals in this tone-group whose double prefix is dissyllabic, like umucele,-

1, 2, 3. (˗_˭˭) 1a, 2a, 3a. (_˗˗)

These are the patterns for words with monosyllabic double prefix, like intala,-

1, 2, 3. (˗˭˭) 1a, 2a, 3a. (˗˗)

The most notable fact here is that though the stem tones are both high in every case, they are free when the prefix is double and firm when it is single. This means that the nominal with single prefix must be regarded as grammatically distinct from that with a double prefix, and not simply a shortened variety of it. e.g.

baasitile umucele mayilo(˗˗__ ˗___ ___)"they bought salt yesterday"

tabaasitile mucele mayilo(_˗˗__˗_˗˗ ___)"they did not buy salt yesterday"

As has already been noted when studying tonal slip, the tones of words like these in contexts 1-3 will usually be heard as (˗___) if the next tone is high, although (˗_˗˗) is also used. e.g.

leeta umucele usuma(˗˗ ˗_˭˭ ˗_˭)"bring the good salt"

i.e. usually (˗˗ ˗___ ˗__)

The tones of nominals with monosyllabic prefix in final position may be heard as the same as those of tone-group IB. In IB the second stem tone may be heard as n through tonal slip, and in IIA the two stem tones being free will always be heard as n through flattening. e.g.

IB isaya "cheek" (˗_˭) i.e. (˗__) or (˗_˗)

IIA isina "name" (˗˭˭) i.e. (˗__)

Tone-Group IIB

Here are the tone-patterns for these words when the double prefix is dissyllabic, as in umuceka,-

1, 2, 3. (˗_˭_) 1a, 2a, 3. (_˭_)

In words like insansu whose double prefix is monosyllabic there are these tone-patterns,-

1, 2, 3. (--_) 1a, 2a, 3a. (-_)

The fact that the stem tones are always h.n confirms that the essential tones are H.N. With monosyllabic double prefix there is tonal slip in the tone of radical, which produces the characteristic pattern h.m.n. e.g.

insansu (--_) i.e. (-_-_)

In context 1a there is the same tone-pattern for these words as for those in tone-group IA. e.g.

IIB taleetele nsansu siakue(_--_ -_ __)"he has not brought his kindling"
IA taleetele nsonta siakue(_--_ -_ __)"he has not brought his rafters"

(b) Nominals with Second Radical Consonant Zero

There are two different kinds of these nominals, which must be distinguished. (i) Where the stem is pronounced as two syllables. (ii) Where the stem is pronounced as one syllable.

(i) Words of this kind behave exactly as those of type (a) They fall into the same four tone-groups. Here are examples showing their tone-patterns in context 1,-

IA ulupao(_-__)"food for journey" IIA umukoa(-_--)"clan"
IB icipea(_-_-)"shoulder-blade" IIB umupau(-_-_)"tireless person"

(ii) Words of this kind have a stem pronounced as one syllable, which therefore has only one tone in the pattern. They also fall into four tone-groups, illustrated by the words ilibue "stone", icipia "grassy land", imifui "arrows", icinia "rudeness". Here are their patterns in contexts 1-3,-

1. IA ilibue(_-_)
2. IA ilibue(_--) IB icipia(-_-) IIA imifui(-_-)IIBicinia(--_
3. IA ilibue(___)

In contexts 1a -3a there are these patterns,-

1a IA libue(-_)
2a IA libue(--) IB cipia(_-) IIA mifui(_-) IIB cinia(-_)
3a IA libue(__)

There are several things to be noted here. In contexts 1-3 the only difference between IB and IIA is that in the first case the tone of the stem is firm, while in the second it is free. This means that the patterns will be indistinguishable

in many cases, but not when the remaining words in sense-group have no high-tones. e.g.

kuli icipia kulia(-- -_- _-) "there is grassy land there"
kuli imifui kulia(-- -_- _-) "there are arrows there"

kuli icipia cinbi(-- -_- __) "there is more grassy land"
kuli imifui inbi(-- -__ __) "there are more arrows"

In contexts 1a-3a IB and IIA are always indistinguishable, since the stem tone is firm in both cases.

In contexts 1-3 words in tone-group IIB still retain their characteristic pattern, though in this case it is the second part of the prefix that bears the tone that slips.

In context 1a the patterns for IA and IIB are identical, as was the case for nominals of type (a) with non-syllabic prefix.

When there is a monosyllabic double prefix there are these patterns, illustrated by the words inkua "pieces of bark", injia "lechwe antelope", inpua "wild aubergines", no word belonging to tone-group IIB having been found,-

1. IA inkua(-_)	IB injia(_-)	IIA inpua(-_)
2. IA inkua(--)		
3. IA inkua(__)		
1a IA nkua(-)	~~njia~~	
2a IA nkua(-)	njia(-)	npua(-)
3a IA nkua(_)		

If the free tone of inpua is flattened in context 1, its pattern becomes indistinguishable from that of inkua. In contexts 1a, 2a the single tone of every word of this type is high.

The pattern of words like injia is remarkable as being the only case where a monosyllabic double prefix of a nominal in tone-group IB has a normal-tone.

(c) Nominals with Second Radical Consonant Zero and Zero Suffix

Nominals of this type were used to determine the probable tonality of radical syllables. As was noted then, in all contexts there are only two tone-groups, which are illustrated by the words ulupe "basket", and ulupu "bark-bag". It will be seen that the patterns are the same as for nominals of type (a) in tone-groups IA and IIA minus their final tone.

1. I ulupe(_-_)
2. I ulupe(_--) II ulupu(-_-)
3. I ulupe(___)

1a I lupe(-_)
2a I lupe(--) II lupu(_-)
3a I lupe(__)

Nominals of this type with monosyllabic double prefix are very rare. There are however two which can occur in some contexts, where they behave like those of type (b).

(d) Nominals with First Radical Consonant Zero

There are a few words of this type with four syllables, e.g. akaoma(_-__) "small drum", and these behave tonally just like those of type (a). Usually however the second part of the prefix coalesces with the vowel of the radical, so there is one syllable less than in nominals of type (a). In context there are the following tone-patterns only,-

(a) umuina(_-_) "heap" (b) ukuapa(-_-) "armpit"
(c) iciole(--_) "kitchen-garden"

These patterns correspond to those of nominals of type (a) in tone-groups IA, IB, IIB. There is no reason to suppose however, that in nominals of this type tone-group IIA is absent. On the contrary there is one group of words which provides an explanation. When a nominal has the double prefix ulu- in the singular, it has the prefix in- in the plural. But whereas such a singular nominal may have a radical with its first consonant zero, in the plural the first radical consonant will be -g- or -j-. Thus by observing the patterns of the singular of nominals whose plurals fall into each of the four tone-groups the following patterns are found,-

IA inguni(_-_) "birds" IB inganga(-_-) "fishing-baskets"
uluuni(_-_) "bird" uluanga(-_-) "fishing-basket"

IIA injengo(--=) "sharp tools" IIB ingala(--_) "finger-nails"
uluengo(-_-) "sharp tool" uluala(--_) "finger-nail"

This makes it clear that when the first radical consonant is zero, the tone-pattern of tone-group IIA falls together with that of IB. Unless there is some related word which makes it desirable or possible to distinguish between these two groups, they will be called tone-group X. Here is a complete summary of the patterns for nominals of this type,-

1. IA umuina(_-_)
2. IA umuina(_-=) X ukuapa(-_-) IIB iciole(--_)
3. IA umuina(___)

1a. IA muina(-_)
2a IA muina(--) X kuapa(_-) IIB iciole(-_)
3a IA muina(__)

From this it will be seen that these patterns are the same as those for nominals of type (b), except that tone-group X has the patterns appropriate for IB. It should be noted moreover that in patterns 1a-3a, there is no distinction between tone-groups IB and IIA even in nominals of type (b).

It is impossible for a nominalsof this type to have a monosyllabic prefix of either kind.

(c) Nominals with Full Radical and One Stem Extension

There are two different kinds of these nominals, according to whether the consonant of the stem extension is zero or not.

(i) Withtthe stem extensions -i- and -u-. In words containing these stem extensions there is no increase in the number of syllables in the pronunciation. Such words then behave exactly as those of type (a), displaying the four tone-groups only. It is thus impossible to know the essential tones of these stem extensions, which are therefore tonally neutral. Here are the patterns that occur in context 1,-

IA umutofue (_-__)"lead" IIA umubafia(-_=)"wale"
IB ulusangua(_-_-)"seed-head" IIB icifufia(-_-_)"copper sulphate

(ii) With stem extensions containing an articulated consonant. There are eight tone-patterns for nominals of this type, demonstrating that the stem extensions have a possibility of one of two essential tones. By again using A and B to indicate the absence or presence of an interval with the previous tone, here are examples of the eight tone-groups with their patterns in context 1,-

IAA umukobelo(_-___)"handle" IIAA umulekese(-_===)"long bundle"
IAB akapakasa(_-__-)"splint" IIAB umupakasi(-_--)"carrier"
IBA ubumpilingi(_-_--)"muddle" IIBA icintefuila(-_-__)"tearful tone"
IBB icilubila(_-_-_)"failure to recognize" IIBB icisebele(-_-_-)"large hob"

It will be seen that the only group with free tones is IIAA, which behaves tonally like IIA with an extra free tone, and has firm tones when the prefix is single.

The only tone-group whose pattern varies according to context is IAA, which behaves tonally like IA with an extra tone.

It may be pointed out that the rule for the prefix tones which was formulated for nominals of type (a) still holds good here.

(f) Nominals with First Radical Consonant Zero and One Stem Extension

The tonal behaviour of these words is similar to that of nominals of type (d), except that the addition of the stem extension doubles the possible number of tone-groups. No words have been found with patterns similar to those of IIB. Here are examples of those that have been noted,-

IAA **ubuelengue**(_-__)"trickery" XA **umualule**(-_--)"grave"
IAB **umueleela**(_-_-)"kind of tree" XB **iliipusio**(-_-_)"questioning"

(g) Nominals with More that One Stem Extension

Since words of this kind are not common, the number of tone-groups is certainly incomplete. It is found however that the only case where free tones occur, is where all the stem tones are high, and the only case where the patterns vary according to context is where all the stem tones are normal. Here are a few examples of these words, which illustrate the existence of a single tonal alternance on each lexical syllable. The patterns are as they occur in context 1.

umutakalala(_-____)"mottled pumpkin" **umusepekela**(-_____)"driven rain"
umucetekania(_-_-_-)"persistence"
icisununkila(-_--_-)"steep place"
amankumanino(-_--__)"meeting-place"

umuangalala(_-___)"mane" **umuangasima**(-_---)"V cut in teeth"
umuelengania(-_-_-)"imaginings"
iciulukusu(-_--_)"suffering"

(h) Nominals with Embedded Syllable

Words of this kind are usually related to others in which there is a double prefix, whose second part is similar to the syllable embedded between prefix and stem. In **icimumana** "big river", the embedded **-mu-** is reminiscent of the double prefix of **umumana** "river". Since the embedded syllable has no grammatical function, whereas the double prefix has, the similarity is lexical. It will however be useful not only to note the tones of words of this type, but also to compare them with those of similar words without an embedded syllable.

It is found that the embedded syllable always has a normal-tone, and behaves tonally as part of the stem. Here are some examples with stems in various tone-groups and of different types,-

icimumana(_-___)"big river"	cf. umumana(_-__)"river"	(IA)
akalupe(_-__)"small basket"	cf. ulupe(_-_)"basket"	(I)
akaciiso(_-__)"small gourd"	cf. iciiso(_-_)"gourd"	(IA)
akamucila(_-_--)"small tail"	cf. umucila(-_--)"tail"	(IIA)
akaamuti(_-_-)"small tree"	cf. umuti(-_-)"tree"	(II)
akamutue(_-_-)"small head"	cf. umutue(-_-)"head"	(X)

It is important to note that the result of the embedded syllable in words like akamucila and akaamuti is that the high-tones of the stem are firm, owing to the normal-tone of the syllable -mu-. This is because it is only where all the essential tones are high, as in words like umucila and umuti, that free tones occur.

(2) Simple Nominals with Fixed Prefix which Cannot Be Double

The commonest kind of word in this category is one in which the prefix is zero in the singular and baa- in the plural. e.g. kolue "monkey", baakolue "monkeys", There are however nominals in this category with other prefixes, but always with a long vowel, e.g. ciikolue "big monkey", fiikolue "big monkeys". In many cases there is prefixed to the radical a lexical particle, which has no grammatical function, and no clearly defined significance.

The tone-patterns of words in this category are very straightforward. They are the same in all contexts, and all high-tones are firm. The lexical syllables have a single tonal alternance, although the tone of the prefixed particle is usually normal.

The tone of the prefix is dependent on that of the radical, and the presence of a prefixed particle. It is usually normal, except when it is the next syllable but one to a high-tone radical. Here are examples of these words.

(a) With a bare stem in the singular.

noko(__)"your mother"	pl: baanoko(___)
mama(_-)"my grandmother"	pl: baamama(__-)
sanfue(--)"edible fungus"	pl: baasanfue(_--)
yama(-_)"my maternal uncle"	pl: baayama(_-_)
peleti(___)"drill"	pl: baapeleti(____)
sabola(_-_)"pepper"	pl: baasabola(__-_)

(b) With one prefixed particle

kateka(___)"white-bellied rat"	pl:	baakateka(___)
kalulu(__-)"hare"	pl:	baakalulu(___-)
kapolo(_--)"lion"	pl:	baakapolo(=_--)
kafula(_-_)"smith"	pl:	baakafula(-_-_)
kansakata(____)"tuber (sort)"	pl:	baakansakata(_____)
kalengula(___-)"spy"	pl:	baakalengula(____-)
kapalangua(__--)"ornamental hoe"	pl:	baakapalangua(___--)
kasakala(__-_)"measles"		
kalaalila(_---)"fibrous shrub"	pl:	baakalaalila(-_---)
kabalala(_--_)"plant (sort)"	pl:	baakabalala(-_--_)
katunbisia(_-__)"nausea"		
kaputula(_-_-)"judge"	pl:	baakaputula(-_-_-)

(c) With two prefixed particles.

nakapuma(____)"smaller locust"	pl:	baanakapuma(_____)
namunyama(___-)"caterpillar(sort)"		~~baanamunyama~~
namisanse(__--)"caterpillar(sort)"		
namuteketa(_____)"thornbush"	pl:	baanamuteketa(______)
nakapelele(__---)"smaller termite"	pl:	baanakapelele(___---)
namusuluka(__-__)"caterpillar (sort)"		

In final position, when tonal slip results in the last high tone or tones being heard as n, it may be impossible to distinguish between the different patterns. This is because, unlike nominals of category 1, these words have no prefix tones which depend on that of the radical. e.g.

kapanga(___)"kind of tree" for (___)
kapanga(___)"kind of rat" for (_--)

(3) Simple Nominals with Variable Prefix which Cannot Be Double

There are two types of nominals in this category, and it is convenient to consider them separately.

(a) Nominals with a radical. These behave exactly as those of category 1(a) with a single prefix. Some of them cannot occur in context 1, so here are examples in context 2,-

IA abantu babili bakaisa(_-- --- --_)"two people will come"

IB abantu baine bakaisa(_-- _- --_)"the people themselves will come"

IIB abantu basaano bakaisa(_-- --_#--_)"five people will come"

There are not many words in this category, but these show that there is nothing exceptional in their tonal behaviour.

(b) Nominals without a radical. There are only two words of this type, and their form is unusual. The first of them is almost identical in shape* with the double variable prefix. It is however different in form, since the first syllable can never be omitted. The second of these words is similar to the first with the suffix -o. Since the form of these words is peculiar, it is not surprising that their tonal behaviour is also. Here is a summary of their tone-patterns.

(i) When used together with another nominal, they always have the pattern n.h. e.g.

ulukasu ulu luutali(¯_˘˘ _˘ ¯__) "this hoe is a long one"

uileeta lukasu ulu(_¯_ _¯¯ _˘) "do not bring this hoe"

(ii) When used without another nominal they have tone-patterns reminiscent of those of tone-group IA for category 1,-

2. uluo luafunika(¯¯ ¯___)"that one has broken"

3. leeta ifio mayilo(¯_ __ ___) "bring those tomorrow"

(iii) There is another pair of nominals, which are identical in shape but different in form. They should have been placed in a category of their own, but it is convenient to consider them here. From the point of view of form they differ in that the first syllable can be replaced by another element, such as e-, whereas this is impossible for the words just noted. Moreover they are functionally distinct, in that they can never have another nominal following as an adjunct, but the others can. They serve to introduce relative clauses, and their tones are always h.n. e.g.

leeta ulukasu uluo tuasitile(¯_ ¯_˘˘ ¯_ ¯¯_˘)"bring the hoe which we bought"

(4) Compound Nominals

There are many different kinds of compound nominals, but

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* Note on the terms SHAPE and FORM. The shape of a word or element depends on the sound units of which it is composed, i.e. the consonants and vowel. Words of identical shape are therefore homophones. The form of a word depends on the grammatical function of the various elements which it contains. Form is therefore not concerned with the radical or stem extensions, which are lexical elements. In Appendix III are to be found examples of the relationship between form, shape, and tone.~~patterns~~.

they fall into two main types. (a) Where the second component is recognizable as a full word. (b) Where the second component is a stem only.

(a) The Second Component a Full Word

A further division has to made according to the category of the first component.

(i) First component a nominal of category 1.

When the second component is also in category 1, it has a single prefix, and behaves tonally as simple nominals with single prefix. This is important when it is in tone-group IIA, since then its tones are firm.

First Component in Tone-group IA:

imisekela-masenbe(_-_____)"young men" cf. amasenbe(_-__)"axes"

in context 2: imisekala-masenbe(_-------)
in context 3 imisekela-masenbe(_-------)

akapinfia-balenge(_-___--)"kind of creeper" cf. abalenge(-_--) "hunters"

inbosia-miseeba(_-__-_)"last heavy rain" cf. imiseeba(-_-_) "maize-cobs"

In the first example the second component is also in tone-group IA, and the compound nominal behaves as a tonal unit in tone-group IA. In the other two examples the second component is in tone-group IIA and IIB respectively. In these cases, as well as when it is in tone-group IB, the first component always has the pattern appropriate to context 1.

First Component in Tone-group IB:

intonto-ngole(-_---)"kind of plant"

In this case the second component is in tone-group IIA, and since it has a non-syllabic prefix, there is tonal slip in its high-tones, and consequently an interval at the junction. The tones of the first component cause no difficulty since they are constant.

First Component in Tone-group IIA:

icibungu-lubue(-_----)"piece of rubble" cf. ulubue(_-_)"ore"
akatanla-nnika(-_----)"riverless plain" cf. innika(_-_)"plain"

In these cases the second component is in tone-group IIA, and the compound nominal behaves tonally as a unit, but with the patterns appropriate to tone-group IIA. This means that the run of high-tones are free when the prefix is double, and firm when it is single.

akapinla-busefue(˘_˘˘˘_˘)"edible fungus" usually (˘___˘_˘)
umunkala-nkania(˘_˘˘_˘)"kind of bush" usually (˘_--_˘)

In both of these examples the second component is in tone-group IB. In the first case there is a high-tone at the beginning of the pattern of the second component, in the second there is not, This is because of the non-syllabic prefix in the second case, but it means that there the tonal slip in the high-tones of the first component will result in m being heard, whereas in the first case it will usually result in n being heard. A similar thing may happen if the second component is in either of the other two tone-groups.

umukola-nfula(˘_˘˘˘˘)"rainbow" cf.infula(˘˘˘)"rain"

In this case the second component is in tone-group IIA and has a non-syllabic prefix. The high-tones of the stem of both components will therefore be subject to tonal slip, but there is always an interval at the junction, so the pattern will be heard as (˘_--__) when there is no high-tone immediately following, and as (˘_˘˘--) when there is a normal-to

First Component in Tone-group IIB:

icituula-nfua(˘_˘_˘)"kind of beetle" cf. infua(˘˘)"death"

In this as in all other similar cases, the tones of both components are invariable.

(ii) First component a nominal of category 2.

In words of this kind all the tones are firm. The first component, being in category 2, must have firm tones, as also must the second component since it has a single prefix. This means that the patterns will be invariable. e.g.

sengele-lubute(___˘_˘)"kind of tree" i.e. IA-IB
soko-ntue(˘˘_)"blackjack" i.e. IIA-IA finally (˘˘_) or (--_)

Apart from the rare case of vowel coalescence at the junction between the components, if both tones at the junction are high, the second one slips. e.g.

ntunka-mafi(_˘˘˘)"dung-beetle" cf. amafi(˘_˘)"excrement"

In this case there are two consecutive tonal slips, both of which always operate. To achieve this the first of the high-tones is pronounced at the highest level p, and the pattern is heard as p.h.m, or finally as p.h.n. The tones of this word are n.h.h.h, and it is only tonal slip which results in the multiplication of the tone-levels.

(iii) First Component a nominal of category 3.

When the first component belongs to tone-group IA, it has

tone-pattern 2. The only exception to this is when the second component also belongs to tone-group IA. In this case the compound nominal has only normal-tones in context 3.

uno-mucele(--_--)"this salt" uno-mupeni(--__-)"this knife"
uno-mulilo(-----)"this fire" in context 3: (_____)

When the first component belongs to another tone-group the tone-pattern is invariable, except that a second component in tone-group IA has only normal tones in context 3. e.g.

ulia-mupeni(_-__-)"that knife"
ulia-mulilo(_----)"that fire" in context 3: (_-___)

(b) The Second Component a Stem Only

(i) First component a nominal of category 1.

When the first component is in tone-group IIA, a second component in IA is tonally indistinguishable from one in IIA. In both cases they simply behave as a unit in which all the stem tones are H with double prefix, and H with single prefix. e.g.

akafuba-luulu(-_====)"small anthill" cf. iciluulu(_-__) "anthill"
inbulu-sanba(-====)"monitor lizard" cf. insanba(_-_) "monitor"

icipungu-fula(-_====)"sudden downpour" cf. infula(-==)"rain"
umuteeka-tima(-_====)"patience" cf. umutima(-_==)"heart"

In all other cases the tones of these nominals are invariable.

(ii) First component a nominal of category 2.

The only thing to note here is that when there is a high-tone at each side of the junction, there is no tonal slip. e.g.

cibanga-lume(_---)"medicinal plant" cf. umulume(-_==)"husband"
citue-koko(_---)"large grasshopper" cf. inkoko(-==)"fowl"

This contrasts with what was noted under (a.ii) above where the second component is a full word.

(5) Nominals with Reduplicated Stem

It appears that words of this kind have to be divided into two types. (a) Where the nominal is really a compound in which the second component is a bare stem identical with the stem of the first component. (b) Where the reduplicated stem

is an indivisible unit.

(a) There are a few examples of this type in which the first component also exists as a word. e.g.

uluceelo-ceelo(-_-_-_)"early in the morning"
cf. uluceelo(-_-_)"morning"
ulunsingua-nsingua(-_-_-_)"giddiness"
cf. ulunsingua(-_-_)"bedazzlement"

Frequently however the tone-pattern makes it probable that the word is of this type, even though the first component is not found by itself. e.g.

icifukue-fukue(_-_-_-)"nesting-place"
nsengua-nsengua(_-_-)"diabolo" i.e. both components category 2
solue-solue(-_-_)"1st man of caravan to appear"

(b) Where the tone-pattern of the stem is that of tone-group IA or IIA, there is only one kind of pattern possible. In other cases however, there exist different patterns which are most easily explained by regarding the reduplicated stem as an indivisible unit. e.g.

icilimelime(_-__--)"hoeing badly" i.e. IB
akabulubulu(-_--_-)"honey-fly" i.e. IIB
ibalabala(---_-)"tree snake" i.e. IIB
sengesenge(--_-)"self-insinuation" i.e. category 2, IIB

A further illustration of this kind of nominal is provided by those cases where the second radical consonant is zero, so there is coalescence between the radical vowel and the suffix There are only four tone-groups of nominals of this type, which have to be regarded as having an indivisible stem. e.g.

icinfuenfue(_-__)"nesting-place" i.e. IA
insiosio(-_-)"shuffling" i.e. IB
icifuafua(-_-_)"dying in quick succession" i.e. IIB
umunfuenfue(-_--)"kind of grass" i.e. IIA

Here then are the tone-groups of reduplicated nominals,-

	Compounds	Indivisible Stem
IA	icililolilo(_-____)"beginning"	
IB	icifilua-filua(=-_-_-) "impossibility"	icilimelime(_-__--) "hoeing badly"
IIA	icicitecite(-_----)"acting badly"	
IIB	icinsingua-nsingua(-_-_-_) "fainting"	akabulubulu(-_--_-) "honey-fly"

II DERIVED NOMINALS

There are several other categories of nominals, all related to the basic nominals. They are (1) Nominals with modified prefix or prefixed particle. (2) Nominals with extra invariable prefix. (3) Nominals with extra variable prefix. (4) Nominals with suffixed particle.

(1) Nominals with Modified Prefix or Prefixed Particle

These words have to be studied in two groups.

(a) With Modified Prefix

Since these nominals are related to the basic nominals, they must be classified according to the category of the word on which they are based.

(i) Based on Nominals of Category 1

Nominals of this kind are related to their base in that while they have an identical stem, their prefix is single but with a long vowel. They may occur in three types of context closely related to those noted for their bases. Here are examples of the contexts using words based on **umulilo**,-

1. **muulilo uakue**(¯__ __) "it is his fire"
2. **muulilo usuma**(¯¯¯ ¯_¯) "it is a good fire"
3. **muulilo**(___) "it is a fire"

The following is a summary of the tone-patterns of nominals with modified prefix based on words in each of the tone-groups,-

1. IA **muulilo**(¯__)
2. IA **muulilo**(¯¯¯) IB **muupeni**(¯_¯)
3. IA **muulilo**(___)

1, 2, 3. IIA **muucele**(¯=¯) IIB **muuceka**(¯¯_)

It will be seen that these patterns are similar to those for basic nominals with single prefix, except that in IB and IIB the prefix tone is always high, and in IIA the stem tones are free.

For nominals based on those of type 1b, there are these patterns,-

1. IA **liibue**(¯_)
2. IA **liibue**(¯¯) IB **ciipia**(¯¯) IIA **miifui**(¯=) IIB **ciinia**(¯_)
3. IA **liibue**(__)

The interesting thing here is that when the tones of the pattern for IIA are flattened, they are indistinguishable from those of IIB, and in all other cases are identical with those

of IB. Moreover in final position when the last tone of the pattern of IB slips to n, all three are indistinguishable.

For words based on nominals of type 1c there are these patterns,-

1. I luupe(˘_)
2. I luupe(˘˘) II luupu(˘=)
3. I luupe(__)

Words based on nominals of type 1d have the same tone-patterns as those based on type 1b, except that tone-group X behaves like IB.

In general it may be said that nominals of this kind have tone-patterns related to those of the basic nominals in the following way. The stem tones are the same as those for nominals with double prefix. Wherever there is a high-tone in the double prefix, the modified prefix has h; it only has n when the double prefix has n.n in similar context.

(ii) Based on Nominals of Category 2

Since nominals in this category have either zero prefix or one with a long vowel, they are unable to have the same kind of prefix modification are those of category 1. Instead they prefix ni-. Since however this form corresponds to that with modified prefix, it is considered here and not under section (b). The tone of ni- is n, except when it is the next syllable but one to a high-tone radical, of immediately before a high-tone prefix. e.g.

nikalulu(___˘)"it is a hare" pl: nibaakalulu(____˘)
nikafula(˘_˘_)"it is a smith" pl: nibaakafula(˘˘_˘=)

(iii) Based on Nominals of Category 3

Often words of this kind are identical in shape with the basic nominal, although some of the have ni- prefixed. When the shape is identical, so is the tone-pattern. When ni- is prefixed it follows the same rule as noted in (ii). e.g.

banbi(__)"they are others" cf. banbi(__)"others"
niuno(___)"it is this one" niulia(˘_˘)"it is that one"

(b) With Prefixed Particle

With the two particles e- and tee- the basic nominal is without the first part of its prefix. It is therefore possible to regard the word as being formed of a separable particle and a nominal with a single prefix, or as a unit in which the particle has taken the place of the first part of the double

prefix. If the former is the case then it would be possible to write the particle separately, but if the latter then no such partition is valid.

The tone-patterns for these words are invariable. Here they are based on nominals in each of the tone-groups of category 1,-

IA	emulilo(_¯__)	"that is a fire"
IB	emupeni(_¯_ˇ)	"that is a knife"
IIA	emucele(¯_ˇˇ)	"that is salt"
IIB	emuceka(¯_ˇ_)	"that is a mat"
IA	teemulilo(_¯__)	"it is not a fire"
IB	teemupeni(_¯_ˇ)	"it is not a knife"
IIA	teemucele(¯_ˇˇ)	"it is not salt"
IIB	teemuceka(¯_ˇ_)	"it is not a mat"

With e- there is no doubt that the word is to be regarded and written as a unit, since the tone-pattern is that of the base in context 1. This means that in IA the tone of the single prefix is h, which never happens to a nominal with single prefix in this tone-group in final position. Moreover the stem tones in group IIA are free, thus showing conclusively that mucele is not to be treated as a nominal with single prefix, since in that case its tones would be firm.

With tee- the same patterns are used, except that in IIB the stem tones are firm. This is presumably because the word is in fact a negative statement, and the nominal with single prefix is characteristic of negative sentences.

In any case the tones of both particles depend on that of the radical, and so they cannot be treated as self-standing.

When based on nominals in other categories, the tone of these particles follows the rules already noted for ni-.

(2) Nominals with Extra Invariable Prefix

There are three such prefixes which can be used to form this kind of derived nominal. Like the particles already studied, these prefixes take the place of the first part of the double prefix in nominals of category 1. They can occur in almost all of the contexts that have been noted for basic nominals, and the extra prefix always has the same tone as the first part of the double prefix would have. It is therefore to be treated as an integral part of the word. The three prefixes are pa-, ku-, mu-.

Here are one or two examples of their tone-patterns,-

1. IA pamulilo(_-__) "the place on the fire"
2. IA pamulilo(_---) "the place on the fire"
3. IA pamulilo(____) "the place on the fire"

1, 2, 3. mumucele(-_--) "the place in the salt"

It is possible to base these nominals on those in categories 2 and 3, but then the syllable -li- is interposed and the extra prefix always has a high-tone. e.g.

muli-benba(-___)"the place in the lake" (category 2)
pali-filia(-__-)"the place on these" (category 3)

To any of these derived nominals may be prefixed the particles e- and tee-. In this case the particle always has n. e.g.

epamulilo(__-__) "it is the place on the fire"
ekumupeni(__-_-) "it is by means of a knife"
emumucele(_-_--) "it is the place in the salt"

(3) Nominals with Extra Variable Prefix

The variable prefix is always used with the affix -a-, with which it is pronounced as one syllable. The tone of this syllable, which replaces the first part of the double prefix in nominals of category 1, also has the tone appropriate to the double prefix in a given context. Moreover as was noted in the other cases, the tones of the stem in nominals of tone-group IIA are free, and so the whole word must be treated as an indivisible unit. e.g.

ulubingu luamulilo luutali(_-__ _--- -__)"the flame of the fire is long"
icitubo ciamupeni ciitali (-_-- _-_- -__)"the handle of the knife is long"
umufuko uamucele uutali (-_-- -_-- -__)"the bag of salt is long"
icipe ciamusungu ciitali (_-_ -_-_ -__)"the load of the European is long"

When based on nominals of category 2 or 3, this extra syllable has a tone which follows the rules already noted for ni-. e.g.

umucila uamukolue uutali(-_-- ____ -__)"the cockrel's tail is long"
umucila uakapolo uutali(-_-- -_-- -__)"the lion's tail is long"
umucila uailia innama uutali(-_-- -_- _-- -__)"the tail of that animal is long"

When based on nominals of category 2 which have zero prefix and refer to persons, the syllable -kua- is interposed. It behaves tonally like a prefix. e.g.

imipeni iakuakafula iitali(_-_- --_-_ -__)"the knives of the smith are long"
imipeni iabaakafula iitali(_-_- --_-_ -__)"the knives of the smiths are long"

If used without another nominal, these words with an extra variable prefix, have the prefix double. In this case the first part of the prefix has a high-tone with tonal slip between it and the next syllable. When this next syllable has a high-tone the first will have a peak-tone. e.g.

iciamupeni ciitali(-_-_- -__) "that of the knife is long"
iciálukasu ciitali(-_-- -__) "that of the hoe is long"

Where basic nominals have a modified prefix, there is no difference in shape or tone-patterns for these words. e.g.

ciamusungu(-_-_) "it is the European's"
fiamulenge(____) "they are the hunter's"

When an extra variable prefix with -a- is based on a nominal that already has an extra invariable prefix, it has a normal-tone. e.g.

ifintu fiamumufuko fiitali(_-_ _-_-- -__)"the things in the sack are leng"
icintu ciamumainsi ciibi(_-_ _-_- -_)"the thing in the water is bad"
umucele uamucipe uusuma(-_-- __-- -_-)"the salt in the basket is good"

To summarize the tonal behaviour of all extra elements used in the formation of these derived nominals, it may be said that when used with nominals of category 1 they have the same tone as the first part of the double prefix would have in the same context. When attached to a base of categories 2 and 3, they only have a high-tone when next syllable but one to a high-tone radical, or when next to a high-tone prefix. When based on a derived nominal# the extra syllable has n.

(4) Nominals with a Suffixed Particle

There are two kinds of elements that can be suffixed to a nominal. The interrogative particle -nsi or one of the particles -pao, -kuo, muo. Although the function of these two types is different, it happens that their tonal behaviour is identical, so they can be considered together.

The nominal to which the particle is suffixed has tone-pattern 2. The particle has h, and there is tonal slip at the junction. e.g.

amafuta-nsi yaasuma(¯_¯¯ ¯_) "which oil is good?"
icintu-nsi ciisuma(_¯¯¯ ¯_) "which thing is good?"
umuceka-nsi uutali(¯_¯_ ¯__) "which mat is long?"
leeta insupa naamafuta-muo(¯_ ¯__¯_¯¯) "bring a gourd with oil in it"

When the tone preceding the particle is also a slipped h, it is usual to hear the tone of the particle as n. Sometimes however, the two consecutive tonal slips may result in the previous high-tone being heard as p. e.g.

inkasu-nsi tasifumiike(¯¯¯_ _____)Wwhich hoes are not broken"
or (¯¯¯- =====)

A nominal may have both of these types of particle suffixed, in that case the following things happen. If the last stem tone in n, then the tones of the particles are heard as h.h. If the last stem tone is h, then the tones of the particles are heard as n.h. This last is reminiscent of what happens in certain cases of compound nominals. e.g.

akaleeta icipe naifitualo-muo-nsi(¯_¯¯ _¯¯_¯_¯_¯¯)"he will bring a basket with which fruit in it?"
akaleeta insupa naamafuta-muo-nsi(¯_¯¯ ¯¯_¯_¯¯_¯)"he will bring a gourd with which oil in it?"

THIRD PART - THE TONES OF VERBALS

When studying the tones of nominals it was noted that the only grammatical elements in those words were the prefixes. The whole of the stem, including the suffix was seen to be of lexical importance only. This meant that each word belonged to a comparatively short series, which could be studied together. In verbals however the suffix is a morphological element, and so a different technique has to be followed. It is this distinction between the lexical suffix in nominals and the morphological suffix in verbals which establishes these two principal categories of form.

In view of this the tonal behaviour of verbals has to be considered under two separate headings. (1) Lexical tones, i.e. those of the radical and the stem extensions. (2) Grammatical tones, i.e. those of every other part of the verbal besides the radical and stem extensions.

It will be convenient to study separately the different categories of verbals. They are (1) Simple Verbals. (2) Verbal Interjections. (3) Nomino-Verbals.

I LEXICAL TONES

As already noted this section is concerned simply with the tones of the radical and the stem extensions, since the suffix in verbals is grammatical and not lexical as it is in nominals.

(1) The Tonality of the Radical

It has already been assumed that the radical has a single tonal alternance, and this hypothesis has been confirmed by the number of the tone-groups in nominals. Moreover it was seen that the monosyllabic radical of verbals displayssa potentiality of one of two tones only. At the time however, the condition was laid down that the quantity of the radical must be controlled. Leaving for the moment those radicals with one consonant zero, since that gives rise to coalescences, here are some examples of six different types of tonal behaviour in verbals. The radical is underlined in each case.

A. 1. tuka<u>lim</u>a(____) "we shall hoe"
   2. tatuaka<u>lim</u>e(____˘) "we shall not hoe"
   3. naatu<u>lim</u>e(_¯_=) "let us hoe"

B. 1. tuka<u>pit</u>a(__==) "we shall pass by"
   2. tatuaka<u>pit</u>e(___˘˘) "we shall not pass by"
   3. naatu<u>pit</u>e(_¯_=) "let us pass by"

C. 1. tuka<u>peepa</u>(____) "we shall smoke"
   2. tatuaka<u>peepe</u>(____˘) "we shall not smoke"
   3. naatu<u>peepe</u>(_¯¯_) "let us smoke"

D. 1. tuka<u>laala</u>(__=_) "we shall lie down"
   2. tatuaka<u>laale</u>(___˘˘) "we shall not lie down"
   3. naatu<u>laale</u>(_¯¯_) "let us lie down"

E. 1. tuka<u>konka</u>(____) "we shall follow"
   2. tatuaka<u>konke</u>(____˘) "we shall not follow"
   3. naatu<u>konke</u>(_¯¯_) "let us follow"

F 1. tuka<u>lunga</u>(__==) "we shall go hunting"
   2. tatuaka<u>lunge</u>(____˘˘) "we shall not go hunting"
   3. naatu<u>lunge</u>(_¯¯_) "let us go hunting"

In spite of the fact that there are apparently six different kinds of tonal behaviour, it will be seen that there is in fact only a single tonal alternance on the radical, when the shape of the radical is taken into account,-

(i) Simple Radical: A and B
(ii) Radical with long vowel: C and D
(iii) Radical with nasal compound as second consonant: E and F

In each case the first member of the pair has only normal-tones in the tense numbered 1. Taking this to mean that the radical in these cases has N, such verbals will be numbered I, and the others II, to bring the indication of the essential tone of the radical into line with adopted for nominals. /that

(2) The Tonality of the Stem Extensions

The shape of the stem extensions in verbals is similar to that found in nominals. In nominals it was found that the presence of a stem extension doubled the possible number of tone-patterns. In verbals this is not so. No matter how many stem extensions a verbal may have, there are never more than two tone-patterns in any given tense, provided that the shape of the radical is similar. Here are some examples of the tense numbered 2 above,-

I tatuakatalale(____˘˘) "we shall not remain quiet"
II tatuakabutuke(___˘˘˘) "we shall not run"

I tatuakatubulule(____˘˘˘) "we shall not explain"
II tatuakapitilile(___˘˘˘˘) "we shall not go right on"

I tatuakasokolokele(____˘˘˘˘) "we shall not jump out on to"
II tatuakafutabalike(___˘˘˘˘˘) "we shall not make to bend over"

Or with a long vowel in the radical there are still only two patterns. e.g.

I tatuakateetekele(____˘˘˘) "we shall not hope"
II tatuakaleelilile(___˘˘˘˘) " we shall not lie in wait for"

From this it is concluded that there is no tonal alternance on the stem extensions in verbals.

II GRAMMATICAL TONES OF SIMPLE VERBALS

In this section will be considered the tonal behaviour of those verbals which have a variable prefix which cannot be double. Since the stem extensions are tonally neutral, it is possible to take the radical, with stem extensions if any, and the grammatical suffix as a unit. This will be called the BASE of the verbal, to distinguish it from the stem of nominals, which is made up of radical, with or without stem extensions, and lexical suffix.

The method of presentation of the observed facts will be first of all to set out all the different patterns that are used with the bases. Then the pre-radical affixes have to

studied in their relation to the bases. For convenience these affixes will be grouped together as "prefixes" A further complication will have to be taken into account, caused by the possibility of inserting a substitute object between the prefixes and the base.

(a) The Tone-Patterns of the Bases

There are three different bases formed from the suffixes -a, -e and -ile (or some similar element). There is no need to consider their tonal behaviour separately, since some of the tone-patterns occur with each of the bases. It will be simplest to list all the patterns that have been observed with the bases, and then to indicate their occurrence when studying the prefixes.

One important fact concerning the patterns of the bases is that with a two-syllable base it may not be possible to distinguish between the patterns. (In all the examples given the base is underlined.) e.g.

a I tuka<u>lima</u>(_____)"we shall hoe"
b I tatuaka<u>lime</u>(_____)"we shall not hoe"

aII tuka<u>pita</u>(__==)"we shall pass"
bII tatuaka<u>pite</u>(___--)"we shall not pass"

Apart from the fact that in aII the base tones are free whereas in bII they are not, in both cases the base has two high-tones. In tone-group I however there is a difference in the patterns, making it probable that those in tone-group are actually different. In a longer base there is in fact such a difference in the patterns in group II. e.g.

aII tuka<u>butuka</u>(__===) "we shall run"
bII tatuaka<u>butuke</u>(__---) "we shall not run"

In order then to give a complete description of the tone-patterns of a base, they must be shown not only for both tone-groups, but also for bases with different numbers of syllables. Here is a table of the commonest patterns,-

	Tone-Group I				Tone-Group II			
1.	(__)	(___)	(____)	(_____)	(==)	(==_)	(==__)	(==___)
2.	(_=)	(__=)	(___=)	(____=)	(-=)	(-_=)	(-=_=)	(--=_=)
3.	(__)	(__-)	(___-)	(____-)	(--)	(--_)	(--_-)	(--__-)
4.	(_-)	(_--)	(_---)	(_----)	(--)	(---)	(----)	(-----)

The characteristics of these patterns may be summarized in this way:

Tone-pattern 1: Only n in tone-group I, and two free high-tones as the first tones of the pattern in tone-group II.

Tone-pattern 2: The final tones of the pattern are n.h, where the high-tone is free. In tone-group I all the remaining tones are n, and in tone-group II they are h. In a two-syllable base the high-tone of the radical syllable means that the penultimate n is "masked".

Tone-pattern 3: The last tone of the pattern is h, otherwise it is similar to pattern 1. This means that the high-tones on the first two syllables in tone-group II cannot be free, since they are never the last high-tones in the word. In a two or three syllable base however, the final h is not heard, but in spite of this the high-tones are firm. It is this fact which distinguishes the patterns in such bases from pattern 1.

Tone-pattern 4: There is h on every syllable following the the first, which has the lexical tone of the tone-group.

In addition to these patterns there is a subsidiary set in which the first tone is always h. This then will only make any difference in tone-group I, since in tone-group II the first tone is already high. In pattern 4, the result will be a disappearence of the lexical alternance. Here are the patterns for tone-group I,-

1a. (=_) (=__) (=___) (=____)
2a. (-_) (-_=) (-__=) (-___=)
3a. (-_) (-_-) (-__-) (-___-)
4a. (--) (---) (----) (-----)

Some of the patterns will be the same as for tone-group II. This happens in 2a, in three syllable bases, and in two syllable bases in final position. In other cases it means that the lexical distinction between the two tone-groups will be represented by a tonal difference on the syllable following the radical instead of on the radical itself. There does not seem to be any discernable reason why certain tenses use these subsidiary patterns. In pattern 4a it is only the last tone which slips in final position.

In the two tenses used above it will be seen that tense(a) uses pattern 1, while (b) uses pattern 4.

When the vowel of the radical is long, the pattern is the same as it would be if the long vowel were treated as two separate syllables which had coalesced. This means that in patterns 1-3 of tone-group II, only the first tone will be high. Moreover in those cases where patterns 1a-3a are used there will be no difference between the two tone-groups. e.g.

1. II tukalaala(_--=_) "we shall lie down"

1a. I baapeepa(-=_) "they have just smoked"
1a. II baalaala(-=_) "they have just lain down"

(b) The Tonal Behaviour of the Prefixes

Under this heading will be observed the tones of the prefixes, and the pattern for the base used with them, in verbals in simple statements. There are three elements which occur as prefixes. (i) The Concord Prefix, which established the relationship between the verbal and its subject. (ii) Tense and Aspect Affixes. (iii) The Negative Affix. The only one of these which is never missing in a verbal of this type is the concord prefix.

A table summarizing the tonal characteristics of the tenses is given in Appendix II, but each tense will now be studied in detail, A three-syllable base will be used in order clearly to illustrate the tone-pattern.

In the case of some tenses there is found an alternative form, which has the same meaning, but is only used at or near the end of a simple statement. It will be referred to as the Z-form.

(1) -a- with -ile base (referring to events before yesterday)

In this tense, as in most of these verbals, the tone of the prefix shows a certain variation. Where the prefix is a true concord, i.e. has a shape related to that of the nominal prefix of the subject, it has a high-tone. For the first and second persons however, there are special prefixes, which have a normal-tone. Tenses in which this happens will be said to have a variable prefix tone.

The tense infix coalesces with the concord prefix, but the tone of the resulting syllable makes it clear that the tone of -a- is N. The base has pattern 4. e.g.

I tuatutuime(__--)"we trembled" II tuabutuike(_---)"we ran"
I baatutuime(_--)"they trembled" II baabutuike(\---)"they ran"

The Z-form: -ali- with -ile base

The tones of -ali- are N.H, and the base has pattern 4a, so the lexical alternance disappears, and tone-groups I and II become indistinguishable. The high-tones are all firm; and in final position, only the last tone slips. e.g.

I tualitutuime(_----)"we trembled" II tualibutuike(_----)"we ran"
I baalitutuime(\----)"they trembled" II baalibutuike(\----)"they ran"

The Negative: prefixes ta-

The tone of ta- in this as in all other tenses is N. The syllable composed of the concord prefix and -a- has H; from the tonal behaviour of the concord prefix in other tenses this probably means that the tone of concord prefix is H, but that of -a- cannot be known. There is tonal slip at the junction of the prefix and the base. This means that the high-tones of the base, though firm, are usually heard as n finally, and as m in non-final positions. e.g.

I tatuatutuime(_‾‾‾‾) "we did not tremble"
II tatuabutuike(_‾‾‾‾) "we did not run "

(2) -a- with -ile base (referring to events of yesterday)

This tense is identical in shape with (1), and is only distinguished from it by its tones. The concord prefix has the variable tone, but as the syllable resulting from this prefix and -a- always has the same tone as the concord prefix the tone of -a- cannot be known. The base has pattern la. There is no tonal slip at the junction between prefixes and base, so that when the tones of the base are flattened those of the prefix are also. This means that in final position, or when there are no more high-tones in the sense-group, all of these verbals are tonally indistinguishable. e.g.

I tuatutuime(_=‾_)"we trembled" II tuabutuike(_=‾_)"we ran"
I baatutuime(=‾‾_)"they trembled" II baabutuike(=‾‾_)"they ran"

The Z-form: -alii- with -a base

The concord prefixes have the variable tone, and -a- is tonally neutral since its tone cannot be known. The tonal behaviour of -lii- must be noted, as it is one that frequently occurs with tense and other affixes with a long vowel. When in junction with a base in tone-group I, the tone of -lii- is heard as h, but with a base in tone-group II it is heard as hn. From this it is likely that the tone of this affix is H. Moreover when the tones of the base are flattened in final position, the tone of the affix is always heard as h. It is interesting to note that though the base has pattern la in this tense, and so the pattern in tone-group I commences with h, this does in fact represent a normal-tone on the radical, hence the difference in the tonal behaviour of the affix in this case from what it is in tone-group II where the pattern also commences with a high-tone. In this latter case the h at the beginning of the base pattern represents H.

There is tonal slip at the junction between prefixes and base, and in final position the lexical alternance disappears.

I tualiitutuma(_¯¯_¯_)"we trembled" II tualiibutuka(_\¯¯_)"we ran"
I baaliitutuma(¯¯¯_¯_)"they trembled" II baaliibutuka(¯\¯¯_)"they ran"

In final position: tualiitutuma, tauliibutuka(_¯___)
baaliitutuma, baaliibutuka(¯¯___)

The Negative: prefixes ta-

The concord prefix has H, and the tone of -a- is neutral. The base has pattern la, but there is no tonal slip at the junction, so the prefix tone is flattened together with that of the base. In that case the lexical alternance disappears.

I tatuatutuime(_¯¯_¯_) "we did not tremble"
II tatuabutuike(_¯¯¯_) "we did not run"

(3) -aci- with -a base (referring to events earlier in the day)

The concord prefix has the variable tone, and the tone of -a- is neutral. The tone of -ci- is H, but this is apparently firm, and since there is no slip at the junction the base tones cannot be flattened. The base has pattern la. In a two-syllable base of tone-group II the final tone only is subject to slip. e.g.

I tuacitutuma(_¯¯¯_)"we trembled" II tuacibutuka(_¯¯¯_)"we ran"
I baacitutuma(¯¯¯¯_)"they trembled" II baacibutuka(¯¯¯¯_)"they ran"

With a two-syllable base,-

I baacilima(¯¯¯_)"they hoed" II baacipita(¯¯¯¯)"they passed"

The Negative: prefixes ta-

The concord prefix has H, but otherwise the tones are the same as in the affirmative. e.g.

I tatuacitutuma(_¯¯¯_¯_) "we did not tremble"
II tatuacibutuka(_¯¯¯¯_) "we did not run"

(4) -a- with -a base (referring to events in the last hour or two)

This tense which only occurs in the affirmative, has a concord prefix with the variable tone, while the tone of -a- is neutral. The base has pattern la with no slip at the junction. When the base tones flatten, the prefix tone is always h, which means that all the patterns are identical. e.g.

I tuatutuma(_¯¯_¯_)"we trembled" II tuabutuka(_¯¯¯_)"we ran"
finally: (¯___) finally: (¯___)
I baatutuma(¯¯¯_¯_)"they trembled" II baabutuka(¯¯¯¯_)"they ran"
finally: (¯___) finally: (¯___)

(5) -alaa- with -a base (referring to events in the near future)

The tones of this tense are identical with those of the Z-form of tense (2). e.g.

I tualaatutuma(_¯¯__)"we shall tremble"
II tualaabutuka(_\¯¯_)"we shall run" } finally: (_¯___)

I baalaatutuma(¯¯¯__)"they will tremble"
II baalaabutuka(¯\¯¯_)"they will run" } finally: (¯¯___)

The Negative: ta- and -a- with -e base

The concord prefix has N, and the tone of -a- is neutral. The base has pattern 4. e.g.

I tatuatutume(___¯¯)"we shall not tremble"
II tatuabutuke(__¯¯¯)"we shall not run"

(6) -ka- with -a base (referring to events after today)

The concord prefix has the variable tone, and -ka- has N. The base has pattern 1. In a verbal where the tone of the concord prefix is H and the base is in tone-group I, the tone of -ka- is heard as h, and the high-tones of the prefixes are firm. e.g.

I tukatutuma(_____) "we shall tremble"
I bakatutuma(¯¯___) "they will tremble"

II tukabutuka(__¯¯_) "we shall run"
II bakabutuka(¯_¯¯_) "they will run"

The Negative: ta- with -aka- and -e base

The tones of this tense are similar to those of the negative of (5) with the addition of the normal-tone of -ka-.

I tatuakatutume(____¯¯) "we shall not tremble"
II tatuakabutuke(___¯¯¯) "we shall not run"

(7) -alee- with -a base (referring to events in the past)

This is one of a series of tenses which contain an aspect affix, -lee- in this case, which indicates an action in progress. The tone of this affix behaves like that of -lii- in the Z-form of tense (2), and there is tonal slip between it and the pattern of the base. The syllable composed of the concord prefix and -a- has the variable tone, but there is tonal slip between this tone and that of -lee-. When the concord prefix has a high-tone then, there will be two consecutive slips, and a

in other cases where this happens, it results in the sequence p.h.m. When the base tones are flattened this does not affect the prefix tones which are still heard as p.h. e.g.

I tualeetutuma(_¯˘__)"we were trembling") finally: (_¯___)
II tualeebutuka(_¯˘˘_)"we were running"

I baaleetutuma(¯¯˘__)"they were trembling" finally: (¯¯___)
II baaleebutuka(¯\˘˘_)"they were running"

The Negative: prefixes ta-

The tones of the negative are similar to those of the affirmative, but as the syllable containing the concord prefix always has H in the negative, it will be heard as p owing to the two tonal slips. e.g.

I tatualeetutuma(_¯¯˘__)"we were not trembling")finally:(_¯¯___)
II tatualeebutuka(_¯\˘˘_)"we were not running"

(8) -acilaa- with -a base (referring to events earlier in the day)

The first two syllables behave tonally as in tense (3), while the aspect particle and base have similar tones to those in tense (7). e.g.

I tuacilaatutuma(_¯¯˘__)"we were trembling")finally: (_¯¯___)
II tuacilaabutuka(_¯\˘˘_)"we were running"

I baacilaatutuma(¯¯¯˘__)"they were trembling")finally:(¯¯¯___)
II baacilaabutuka(¯¯\˘˘_)"they were running"

The Negative: prefixes ta-

Apart from the fact that the syllable with the concord prefix always has H, the tones are similar to those of the affirmative. e.g.

I tatuacilaatutuma(_¯¯¯˘__)"we were not trembling",
II tatuacilaabutuka(_¯¯\˘˘_)"we were not running"
finally: (_¯¯¯___)

(9) -lee- with -a base (referring to the time of speaking)

The concord prefix has the variable tone, and the aspect affix behaves tonally as those already noted. The base has pattern la, but as there is no tonal slip with bases in tone-group I, the tone of -lee- may be flattened if the prefix has a normal-tone. e.g.

I tuleetutuma(_=_=__)"we are trembling" finally: (_____)
II tuleebutuka(_\==_)"we are running" finally: (_-___)

I baleetutuma(-=-=__)"they are trembling" finally: (---__)
II baleebutuka(-\==_)"they are running" finally: (--___)

The Negative: prefixes ta-

The concord prefix always has H in the negative, but the aspect affix has N. This is exceptional, since it is the only case where a tense or aspect affix does not have the same tone in the negative as in the affirmative. The base has pattern la. e.g.

I tatuleetutuma(_-_=__)"we are not trembling"
II tatuleebutuka(_-_==_)"we are not running"

(10) -akulaa- with -a base (referring to events in the immediate future)

The syllable containing the concord prefix always has H, while the tone of -ku- is N. -laa- and the base behave tonally as in tense (8). e.g.

I tuakulaatutuma(-_-=__)"we shall be trembling",
II tuakulaabutuka(-_\==_)"we shall be running") finally: (-_-___)

The Negative: ta- with -alee- and -a base

The syllable with the concord prefix syllable always has N, while the aspect affix and the base behave tonally like those of the affirmative. The tones of this tense are thus quite distinct from those of the negative of (7), with which it is identical in shape. e.g.

I tatualeetutuma(__-=__)"we shall not be trembling",
II tatualeebutuka(__\==_)"we shall not be running") finally: (__-___)

(11) -kalaa- with -a base (referring to events after today)

The tones of this tense are similar to those of (6) with the addition of the aspect affix, which behaves tonally as in other tenses. e.g.

I tukalaatutuma(__-=__)"we shall be trembling")finally:(__-___)
II tukalaabutuka(__\==_)"we shall be running"

I bakalaatutuma(-_-=__)"they will be trembling")finally:(-_-___)
II bakalaabutuka(-_\==_)"they will be running"

The Negative: ta- with -akalee- and -a base

In spite of the fact that the aspect affix is different as well as the suffix, the tones of this tense are the same as those of the negative of (10) with the addition of the H of -ka-. e.g.

I tatuakaleetutuma(___˘˘__)"we shall not be trembling"
II tatuakaleebutuka(___\˘˘_)"we shall not be running"

(12) -a- with -a base (referring to events in the past)

This tense is thus identical in shape with (4), but is tonally distinct from it. The concord prefix has the variable tone, and -a- has H. The base has pattern 4. e.g.

I tuapapala(__˘˘)"we have become emaciated"
II tuakatama(_˘˘˘)"we have become wealthy"

I baapapala(_˘˘)"they have become emaciated"
II baakatama(\˘˘˘)"they have become wealthy"

The Z-form: -ali- with-a base

The tones of this tense are similar to those of the Z-form of (1), except that this tense uses the -a base. e.g.

I tualipapala(_˘˘˘˘)"we have become emaciated"
II tualikatama(_˘˘˘˘)"we have become wealthy"

I baalipapala(\˘˘˘˘)"they have become emaciated"
II baalikatama(\˘˘˘˘)"thay have become wealthy"

The Negative: prefixes ta-

The tones of this negative are the same as those of the negative of tense (1). e.g.

I tatuapapala(_˘˘˘˘)"we have not become emaciated"
II tatuakatama(_˘˘˘˘)"we have not become wealthy"

(13) -ile base alone (referring to the time of speaking)

The prefix has the variable tone, and the base pattern 4.

I tutukuite(__˘˘)"we have sweated"
II tupusuike(_˘˘˘)"we have escaped"

I batukuite(˘_˘˘)"they have sweated"
II bapusuike (˘˘˘˘)"they have escaped" finally:(_____)or(˘˘˘˘)

Z-form: naa- with -a base

This is the only simple tense where the tense affix is placed before the concord prefix. The tone of the tense affix

is HN, but that of the concord prefix is heard as h when in junction with abbase in tone-group I, but as n with a base in tone-group II. This means that there is always an interval between the tone of the concord prefix and that of the radical. The base has pattern 4. e.g.

I naatutukuta(_'_--)"we have sweated"
II naatupusuka(_'---)"we have escaped"

The Negative: prefixes ta-

The tone of the concord prefix is always H, and the base has pattern 1a without tonal slip at the junction. This means that the concord prefix may be flattened together with the base tones. e.g.

I tatutukuite(_'=='=)"we have not sweated"
II tatupusuike(_'='='=)"we have not escaped"

(14) -a base alone (referring to the time of speaking)

This tense describes actions which take place repeatedly. The concord prefix has the variable tone, and the base has pattern 1, without tonal slip at the junction. In tone-group I a high-tone concord prefix is followed by h and both tones are firm. (cf. tense 6) e.g.

I tututuma(_'_'_)"we tremble" II tubutuka(_'=='=)"we run"
I batutuma(--'_'_)"they tremble" II babutuka(-'=='=)"they run"

The Z-form: -la- with -a base

The tones of this tense are identical with those of tense (6). e.g.

I tulatutuma(_'_'_'_)"we tremble" II tulabutuka(_'='='=)"we run"
I balatutuma(--'_'_'_)"they tremble" II balabutuka(-'='='=)"they run"

The Negative: prefixes ta-

The tone of the concord prefix is always H, and the base has pattern 4 with no tonal slip at the junction. e.g.

I tatututuma(_'_'--)"we do not tremble"
II tatubutuka(_'----)"we do not run"

(15) ta- with -laa- and-a base

There is no affirmative corresponding to this tense. It refers to an event that has not taken place but which will do so. The tones are the same as those of the negative of tense (9). e.g.

I tatulaatukuta(_'=='=)"we have not yet sweated"
II tatulaapusuka(_'='='=)"we have not yet escaped"

(16) -a- with -a base (dependent tense)

This is identical in shape with tense (4), and like it only occurs in the affirmative. Its tones are however slightly different. The concord prefix has the variable tone, but the base tones are different from any noted so far. In tone-group I the final tone is n, but all the others in the base tone-pattern are h. In tone-group II the base has pattern 1. All the high-tones of the base patterns are free.

I nga tuatubulula(_ _˗˗˗_) "if we explain"
II nga tuapitilila(_ _˗˗_˗_) "if we pass right on"

(17) -laa- with -a base (dependent tense)

This corresponds to (16) with the aspect affix -laa-, and sometimes it occurs with -alaa- with no difference of tone, in which case it is the same shape as tense (5). The tones of this tense are the same as those of (9). e.g.

I kuti tulaakobola(˗_ _˗˗_˗_) "we must keep on harvesting"
II kuti tulaabutuka(˗_ _\˗˗_) "we must keep on running"

I kuti balaakobola(˗_ ˗˗˗_˗_) "they must keep on harvesting"
II kuti balaabutuka(˗_ ˗\˗˗_) "they must keep on running"

(18) -si- with -a base (dependent tense)

The concord prefix has the variable tone, and -si- has H. The base has pattern 1a without tonal slip at the junction. Since this tense rarely ever occurs in final position, the behaviour of the high-tones of the base cannot be observed. e.g.

I tusitalala fie(_˗˗_˗_ ˗) "we simply remained silent"
II tusibutuka fie(_˗˗˗_ ˗) "we simply ran"

(19) a- with -a base (hypothetical tense)

The tone of the prefixed a- is N, and the concord prefix always has H. The base has pattern 1a without tonal slip at the junction. This tense also rarely occurs in final position. Like the three dependent tenses just noted, it too has no negative. e.g.

I atututuma(_˗˗_˗_) "if we were to tremble"
II atubutuka(_˗˗˗_) "if we were to run"

(20) a- with -laa- and -a base

This is like the preceding tense with the aspect affix added. Its tones are as might be expected from what has already been observed. e.g.

I atulaatutuma(_---__) "if we were to keep on trembling"
II atulaabutuka(_-'--_) "if we were to kepp on running"

(21) -e base alone (dependent tense)

The tones of this tense are peculiar in several ways, and cannot be easily related to those of other tenses. There is a complete disappearance of the lexical alternance, and the presence of a long vowel in the radical or of a nasal compound as its second consonant corresponds to a difference in the pattern. Here the patterns used by bases of varying numbers of syllables,-

Short Vowel				Long Vowel			
(_=)	(-_=)	(-__=)	(-___=)	(-=)	(-_=)	(-__=)	(-___=)

The tone of the concord prefix is always H. Here are some examples of this tense,-

II teekuti tupite(_-_ -_=) "we must not pass by"
II teekuti tupitilile(_-_ --__=) "we must not pass right on"

I teekuti tukonke(_-_ --=) "we must not follow"
II teekuti tubuulilile(_-_ --__=) "we must not take lavishly"

The Negative: -i- with -a base

The concord prefix coalesces with -i-, and the tone of the resulting syllable is always n. The base has pattern 1a.

I aleefuaya tuitutuma(--__ _=__) "he desires that we should not tremble"
II aleefuaya tuibutuka(--__ _=-_) "he desires that we should not run"

(22) naa- or ka- with -e base

These two tenses, which do not occur in the negative, have tones similar to those of (21) with the addition of N, the tone of the extra affix. e.g.

II naatupitilile(_--__=) "let us pass right on"
II kamupalame(_--_=) "all right then, you may come near"

(23) -ka- with -e base (dependent tense)

Although this tense may appear like (21) with the addition of -ka-, its tones are more like those of other tenses. The concord prefix always has H, and -ka- has N. The base has pattern 4. e.g.

I tukatubulule(-__---) "and then we may explain"
II tukapitilile(-_----) "and then we may pass right on"

The Negative: -ika- with -a base

The syllable containing the concord prefix has H, and -ka- has N. The base has pattern 4. Thus, as was noted in the case of the affirmative, although this tense might seem to be like the negative of (21) with the addition of -ka-, its tones are in fact quite different. e.g.

I tuikatubululaH N H H H H "and then we may not explain"
II tuikapitililaH N H H H H "and then we may not pass right on"

(24) -lee- with -a base (dependent tense)

This is tense (21) with the aspect affix, and though identical in shape with (9) has different tones. The concord prefix has H, and the aspect affix has N. The base has pattern 1. e.g.

I teekuti tuleetutumaH H N H H H "we must not be trembling"
II teekuti tuleebutukaH H N H H H "we must not be running"

The Negative: -ilaa- with -a base

The tone of the syllable composed of the concord prefix and -i- is always N, while -laa- behaves tonally as in other tenses, and the base has pattern 1a. e.g.

I aleefuaya tuilaatutumaH H H N H H H "he desires that we should not be trembling"
II aleefuaya tuilaabutukaH H H N H H H "he desires that we should not be running"

(25) -kalee- with -a base (dependent tense)

This is tense (23) with the addition of the aspect affix, and its tones are what would be expected. e.g.

I tukaleetubululaH N H H H H H "and then we may be explaining"
II tukaleepitililaH N H H H H H "and then we may be passing right on"

The Negative: -ikalaa- with -a base

The tones of this tense are the same as those of the negative of (23) with the addition of the tone of the aspect affix. e.g.

I tuikalaatutumaH N H H H H H "that we should not be trembling"
II tuikalaabutukaH N H H H H H "that we should not be running"

(26) -a base without prefixes (in compound verbals)

In a few cases the -a base is joined to another verbal to form a compound. There are only about four verbals which can act as the first component of such a compound. The

second component always has pattern 1a with tonal slip at the junction. e.g.

I naabaisa-tutuma(_¯¯_¯_)"they have come and trembled"
II bakaisa-butuka(¯¯_¯¯_)"they will come and run"

Similarly the verbal formed by means of -inga-, which has no independent existence, has a base which uses pattern 1a with tonal slip. e.g.

I tuingatalala(_¯¯_¯_)"we could become quiet"
II tuingabutuka(_¯¯¯_)"we could run"

(c) The Tones of Verbals with a Substitute Object

Any verbal capable of having a simple object may also have inserted between the prefixes and the base a syllable which serves as a substitute object (abbreviated S.O.). e.g. tukamona umulunsi "we shall see the hunter", tukamumona "we shall see him". The tonal behaviour of a verbal with a S.O. is important, since these syllables display an alternance of tone.

The S.O. is similar in shape to the concord prefix appropriate to the nominal to which it refers. When referring to the first or second persons however, there are special S.O. The tone of these is N, except for the 1st person singular, where the S.O. being a non-syllabic nasal has no tone. In all other cases the tone of the S.O. is H.

Tonally the S.O. behaves as part of the base, and so there is never any tonal slip between them. In general the tone of the S.O. is added to the pattern of the base, and any slip or flattening which affects the base tones also affects the tone of the S.O. An exception occurs when both the S.O. and the radical have N. In this case pattern 1a is represented by h on the S.O. instead of on the first syllable of the base.

The tonal behaviour of verbals with a S.O. is most easily classified according to the pattern of the base used with the simple verbal without S.O.

(1) With Base using Pattern 1

The only thing to note here is that with a high-tone S.O. and a radical of tone-group I, the pattern of the base is 1a and both the high-tones are firm. e.g. in tense (6)

I tukamulimina(_____)"we shall hoe for you"
I tukamulimina(__˗˗__)"we shall hoe for him"

II tukamucitila(_____)"we shall act for you"
II tukamucitila(_____)"we shall act for him"

(2) With Base using Pattern 1a

As already noted, in this case the initial high-tone in tone-group I is not found on the first syllable of the base when the S.O. has N, but is heard on the S.O. instead. In the following examples taken from tense (5) it will be seen that the tones of -laa- are heard as hn only when in junction with a S.O. that has H. This behaviour accords with what has been observed when the aspect affix is in junction with the radical. e.g.

I tualaamulimina(_˗˗___)"we shall hoe for you"
I tualaamulimina(_\˗˗___)"we shall hoe for him"

II tualaamucitila(_˗_˗˗_)"we shall act for you"
II tualaamucitila(_\˗˗˗_)"we shall act for him"

(3) With Base using Pattern 4

Here is an example with the negative of tense (6),-

I tatuakamulimine(_____˗˗)"we shall not hoe for you"
I tatuakamulimine(˗˗˗_˗_˗˗)"we shall not hoe for him"

II tatuakamucitile(___˗˗˗)"we shall not act for you"
II tatuakamucitile(___˗˗˗˗)"we shall not act for him"

(4) With Base using Pattern 4a

With pattern 4a there is no lexical alternance of tone, and a similar thing happens when the tone of the S.O. is the same as that of the radical. When the S.O. has H, and the base belongsto tone-group I, the base has pattern 1a, but there is no tonal slip, and the high-tones are firm. When the S.O. has N, and the base belongs to tone-group II, the tone of the S.O. is simply added to the pattern 4a. e.g. with tense (1)-Z,-

I tualimulimiine(_˗˗˗˗˗)"we hoed for you"
I tualimulimiine(_˗˗˗__)"we hoed for him"

II tualimucitiile(_˗_˗˗˗)"we acted for you"
II tualimucitiile(_˗˗˗˗˗)"we acted for him"

(5) With Tense (21)

As noted when studying this tense, its patterns are peculiar. With a S.O. they are also different, but unlike verbals in this tense with a S.O., there is a lexical alternance of tone in the base patterns. Here are examples of the patterns, which are also used with the prefixed syllables naa- and ka-. It will be seen that though the tonal alternance of the radical is represented in the patterns, in tone-group I the alternance of the S.O. disappears. e.g.

I tumulimine(--__=) "we should hoe for you"
I tumulimine(--__=) "we should hoe for him"

II tumucitile(-___=) "we should act for you"
II tumucitile(-___=) "we should act for him"

(d) Verbals in Relative Clauses

So far the tones of verbals have been given as they occur in principal clauses, but when in a relative clause the patterns are frequently different. Moreover the negative affix in such cases is -si- not ta-. Here then is a summary of the facts of the tonal behaviour of verbals in relative clauses.

Tense (1)

Apart from the fact that the concord prefix always has H, the tones of the relative verbals are the same. e.g.

I ekuo tuatipuile(-_ _--)"that is where we dug over"
II ekuo tuasapiike(-_ \---)"that is where we searched"

The Negative

The tones of the negative are similar to those of the affirmative. The syllable containing -si- is heard as hn, so the tone of the negative affix is presumably H, and that of -a- N as verbals in principal clauses, and in the affirmative just noted. e.g.

I ekuo tusiatipuile(-_ -_--)"that is where we did not dig over
II ekuo tusiasapiike(-_ -\---)"that is where we did not search"

Tense (2)

In both affirmative and negative this tense uses pattern 3a for its base. This is the first time that this pattern has been observed. e.g.

I ekuo tuatipuile(-_ --_-)"that is where we dug over"
II ekuo tuasapiike(-_ ---_)"that is where we searched"

I ekuo tusiatipuile(˗_ ˗˗˗_˗)"that is where we did not dig over"
II ekuo tusiasapiike(˗_ ˗˗˗˗_)"that is where we did not search"

Tense (3)

The tones of this tense are the same in a relative clause as in a principal clause, both affirmative and negative.

Tense (4)

In a relative clause this tense uses pattern 2a, which has not previously been noted. e.g.

I ekuo tuatipula(˗_ ˗˗_=)"that is where we have just dug over"
II ekuo tuasapika(˗_ ˗˗_=)"that is where we have just searched"

Tense (5)

The pattern of the base is the same as in a principal clause, both affirmative and negative.

Tense (6)

In the negative this tense has the same pattern as in a principal clause, but the affirmative has pattern 3. The tone of -ka- is heard as h only with tone-group I. e.g.

I ekuo tukatipula(˗_ ˗˗_˗)"that is where we shall dig over"
II ekuo tukasapika(˗_ ˗_˗˗_)"that is where we shall search"

Tense (7)

The patterns of this tense are the same as in a principal clause.

Tense (8)

In the negative the tones are the same as in a principal clause, but in the affirmative the base has pattern 2a. e.g.

I ekuo tuacilaatipula(˗_ ˗˗˄˗_=)"that is where we were digging"
II ekuo tuacilaasapika(˗_ ˗˗˅˗_=)"that is where we were searching"

Tense (9)

In the negative the base has the same pattern as in a principal clause, but in the affirmative it has pattern 2a. e.g.

I ekuo tuleetipula(˗_ ˗˗˄˗_=)"that is where we are digging over"
II ekuo tuleesapika(˗_ ˗˅˗_˗)"that is where we are searching"

Tenses (10) and (11)

The pattern of the base is the same for these tenses as for tense (8).

Tense (12)

This tense behaves tonally exactly as tense (1).

Tense (13)

In the affirmative the patterns are the same as in a principal clause, but in the negative the base has pattern 2a.

I ekuo tusitipuike(˗_ ˗˗˗_˗)"that is where we have not dug over"
II ekuo tusisapiike(˗_ ˗˗˗_˗)"that is where we have not searched"

Tense (14)

In the negative the patterns of the base are the same as in a principal clause, but in the affirmative they are 2a. e.g.

I ekuo tutipula(˗_ ˗˗_˗)"that is where we dig over"
II ekuo tusapika(˗_ ˗˗_˗)"that is where we search"

Tense (15)

This tense now has pattern 3a for its base. e.g.

I ekuo tatulaatipula(˗_ ˗˗˗˗_˗)"that is where we have not yet dug over"
II ekuo tatulaasapika(˗_ ˗˗\˗˗_)"that is where we have not yet searched"

(e) Verbals in Relative Clauses with Substitute Object

The patterns of the bases of verbals with a S.O. in a relative clause are not so easily related to those of verbals without S.O. as was the case in principal clauses. The following is a summary of the observed facts.

Tenses (1) and (2)

In these two tenses the tone of the S.O. is simply added to the pattern appropriate to a verbal without a S.O. e.g.

(1) ekuo tuamulimiine(˗_ ˗_˗˗)"that is where we hoed for you"
(1) ekuo tuamulimiine(˗_ \˗_˗˗)"that is where we heed for him"

(2) ekuo tuamulimiine(˗_ ˗_˗_˗)"that is where we hoed for you"
(2) ekuo tuamulimiine(˗_ ˗˗˗˗_)"that is where we hoed for him"

Tenses (3) to (11)

In all these tenses the pattern of the base in the affirmative is 2a, whatever it is without a S.O. e.g. in tense (3),-

I ekuo tuacimulimina(˗_ ˗˗˗_˗˗)"that is where we hoed for you"
I ekuo tuacimulimina(˗_ ˗˗˗˗_˗˗)"that is where we hoed for him"

II ekuo tuacimucitila(˗_ ˗˗_˗_˗˗)"that is where we acted for you"
II ekuo tuacimucitila(˗_ ˗˗˗˗_˗˗)"that is where we acted for him"

The Negative

In the negative these tenses, with the exception of (3) and (9), have the same pattern as for the base in a relative verbal without a S.O.

In tense (3) the base has pattern 2a. e.g.

I ekuo tusiacimulimina(˗_ ˗˗˗˗_˗˗)"that is where we did not hoe for you"
I ekuo tusiacimulimina(˗_ ˗˗˗˗˗_˗˗)"that is where we did not hoe for him"

In tense (9) the base has pattern 3a. e.g.

I ekuo tusileemulimina(˗_ ˗˗˗˗_˗˗)"that is where we are not hoeing for you"
II ekuo tusileemucitila(˗_ ˗˗˗˗˗_)"that is where we are not acting for him"

Tense (12)

This behaves tonally like tense (1).

Tenses (13) to (15)

These tenses have the same base pattern with a S.O. as without.

(f) Verbals with a Suffixed Particle

The same particles may be suffixed to verbals as to nominals. They are the interrogative particle -nsi, and the particles -pao, -kuo, -muo, all of which have a high-tone.

(1) In Principal Clauses

The particle is suffixed to the verbal which retains its tone-patterns unchanged. There is tonal slip at the junction. e.g. in tense (1),-

I baakakuile-nsi(_---) "what did they untie"

(2) In Relative Clauses

The particle -nsi is not used with relative verbals, but the others are. There is always tonal slip at the junction, and there are some differences in the tone-patterns of the verbal bases.

(i) In affirmative, a verbal which uses pattern 4 in a relative clause also has this pattern with a suffixed particle. e.g. in tense (1),-

I elio tuakonkele-kuo(-_ -_---) "that was when we followed on"
II elio tuabutuike-kuo(-_ -----) "that was when we ran there"

(ii) All other tenses use pattern 2a in the affirmative, except tense (6) which uses pattern 2. e.g. in tense (2),-

I elio tuakonkele-kuo(-_ --_--) "that was when we followed on"
II elio tuabutuike-kuo(-_ --_--) "that was when we ran there"

(iii) In the negative also pattern 4 is unchanged. Of the other tenses, (2), (3) and (15) use pattern 2a, and the rest 1a. e.g.

(2) I eluo tusialimiine-kuo(-_ ---_--) "that is the one we did (not hoe with"
(2) II eyio tusiapaliile-kuo(-_ ---_--) "that is the one we did not scrape with"

(7) I esio tusialeelimina-kuo(-_-_--__-) "those are the ones we used not to hoe with"
(7) II eyio tusialeepalila-kuo(-_-\--_-) "those are the ones we used not to scrape with

(g) Verbals with Second Radical Consonant Zero

When the second consonant of the radical is zero, the radical and the vowel of the suffix are pronounced as one syllable. In this way the base of the verbal has one syllable less, and with the -a and -e bases may be monosyllabic. The following is a summary of the tonal behaviour of such bases, classified according to the pattern they have been observed to use in radicals in which both consonants are heard.

Since the syllable resulting from the coalescence has the tone which would be borne by the radical, it is in the tenses that use the subsidiary patterns 1a-4a that there will be difficulty. In tenses using pattern 4a there is never any lexical alternance, so they need not be noted here.

Pattern 1a

In many cases the patterns are identical, and the monosyllabic base has a high-tone. Where the base is in junction with an affix like -laa- or -lee-, the tone of affix may be heard as h in tone-group I, but hn in II. In this way the lexical alternance is preserved, not by a distinction of tone in the base, but by one in an affix. e.g.

(4) I tualua(_˗) "we have just fought"
(4) II tuatua(_˗) "we have just pounded"

(9) I tuleelua(_˗˭) "we are fighting"
(9) II tuleetua(_˖˭) "we are pounding"

Pattern 2a

Although the first tone of pattern 2a is the same in both tone-groups, there is a difference when the base is monosyllabic. In tone-group I the base has n, in II it has a free high-tone. e.g. in tense (14),-

I ekuo tulua(˗_ ˗_) "that is where we fight"
II ekuo tutua(˗_ ˗˭) "that is where we pound"

Pattern 3a

This does not occur with a monosyllabic base.

The Radicals -ti and -li

These two radicals are exceptional in that they have no suffix in tenses requiring the suffix -a. Tonally they behave exactly as other verbals with monosyllabic base. They belong to tone-group I, but in some tenses the radical will have a high-tone, as observed above. e.g.

(14) tuli(__) "we are"

(16) tuati(_˗)
(9) tuleeti(_˗_)) untranslatable in isolation.

(h) Verbals with First Radical Consonant Zero

If the first consonant of the radical is zero, there will be coalescence between the final prefix and the vowel of

the radical when the prefix vowel is short. If the prefix in junction with the radical is a vowel, as -a-, then it does not coalesce with the radical vowel. In this way it is only in tenses (1)-Z (-ali-), (3)(-aci-), (6) (-ka-), (14)-Z (-la-), (23)(-ka-) that there will be coalescence between a tense affix and the radical vowel. In tenses (13), (13)-Z, (14) and (21) the concord prefix is in junction with the radical and coalesces with its vowel.

In general the tone of the radical is lost, and the syllable resulting from the coalescence bears the tone /the appropriate to/ prefix in verbals with full radical. e.g. in tense (6),- (where ai is heard as ee)

I tukainba(___)"we shall dig" II tukainba(__=)"we shall sing"
I bakainba(--_)"they will dig" II bakainba(-_=)"they will sing"

In tense (13)-Z of verbals in tone-group I, the high-tone of the base becomes adjacent to the high-tone of the concord prefix, and there is tonal slip between them. e.g.

I naatuinba(\--)"we have dug" II naatuinba(_-)"we have sung"

When pattern 4 is used, the lexical alternance is represented in verbals with full radical by a distinction of tone in the first syllable of the base. As the result of coalescence it is this very tone which disappears, so the two tone-groups are now indistinguishable. e.g.

I tatuakainbe(___-) "we shall not dig"
II tatuakainbe(___-) "we shall not sing"

With Substitute Object

When the first radical consonant is zero, a S.O. will coalesce with the vowel of the radical. In this case also the tone of the radical is masked, and the syllable resulting from the coalescence has the tone which, in verbals with full radical, is borne by the S.O. In the resulting pattern it is sometimes the tonal alternance of the S.O. which disappears, and sometimes that of the radical.

In tense (6) the alternances are fully preserved. e.g.

I tukamuinbila(_____)"we shall dig for you"
I tukamuinbila(__-__)"we shall dig for him"

II tukamuinbila(___=_)"we shall sing for you"
II tukamuinbila(__==_)"we shall sing for him"

In tenses with an affix with a long vowel, like (7), the alternance of tone of the S.O. in a verbal of tone-group I is represented only by a difference in the tonal behaviour of the affix. e.g.

I tualeemuinbila(_¯˘__)"we used to dig for you"
I tualeemuinbila(_\˘__)"we used to dig for him"

II tualeemuinbila(_¯_¯¯)"we used to sing for you"
II tualeemuinbila(_\¯¯_)"we used to sing for him"

In tense (3) the lexical alternance of the radical is preserved, but the alternence of tone on the S.O., which is represented in verbals with full radical by a tonal distinction on the radical syllable in tone-group I, is masked in that tone-group. e.g.

I tuacimuinbila(_¯¯__)"we dug for you"
I tuacimuinbila(_¯¯__)"we dug for him"

II tuacimuinbila(_¯_¯¯)"we sang for you"
II tuacimuinbila(_¯¯¯_)"we sang for him"

In the tenses which use pattern 4 for the base, there is a masking of the lexical alternance of tone with a S.O. which has N. e.g. in the negative of tense (6),-

I tatuakamuinbile(____¯¯)"we shall not dig for you"
I tatuakamuinbile(___¯˘˘)"we shall not dig for him"

II tatuakamuinbile(____¯¯)"we shall not sing for you"
II tatuakamuinbile(___¯¯¯)"we shall not sing for him"

The second of these examples illustrates an important principle in connection with tonal slip. In this pattern there are three high-tones in a row, but they do not behave as a run and all slip together. This is because they have only become adjacent through coalescence, and so the last two slip but the first does not. Here is this same form with a verbal whose radical has two consonantswhich are both heard,-

I tatuakamulimine(___¯_˘˘)"we shall not hoe for him"

III GRAMMATICAL TONES OF VERBAL INTERJECTIONS

All the verbals observed so far have a concord prefix which enables them to enter into syntactical relationship with a nominal as subject. There are however other verbals which have no concord prefix. They are therefore unable to enter into syntactical relationship with any preceding word, but are similar to interjections. They do have verbals bases however, and for this reason are called Verbal Interjections.

There are three distinct types of these words, so they will be studied.

(1) -a base alone

(1) -a base alone

In common with certain other interjections, there is a difference of form when more than one person is being addressed. In this case the particle -ini is suffixed, and this coalesces with the suffix -a, the two together being heard as -eeni. As might have been expected the tones of these interjections are peculiar. Here are some examples of them.

Tone-Group I

kula(_-)"pull!"	with -ini:	kuleeni(__-)
kubuka(_-_)"wade!"	with -ini:	kubuleeni(_-_-)
tubulula(_--_)"explain!"	with -ini:	tubululeeni(_--_-)

Tone-Group II

pita(-_)"pass!"	with -ini:	piteeni(-_-)
butuka(--_)"run!"	with -ini:	butukeeni(-_--)
pitilila(---_)"pass on!"	with -ini:	pitililleeni(-__--)

(2) ka- with -e base

The patterns of these verbals interjections are also peculiar. e.g.

Tone-Group I

kakula(_-_)"go and pull!"	with -ini	kakuleeni(__--)
kakubule(_-__)"go and wade!"	with -ini	kakubuleeni(__-_-)
katubulule(_-___)"go and explain!"	with -ini	katubululeeni(__--_-)

Tone-Group II

kapite(_--)"go and pass!"	with -ini:	kapiteeni(_---)
kabutuke(_---)"go and run!"	with -ini:	kabutukeeni(_----)
kapitilile(_----)"go right on!"	with -ini:	kapitililleeni(_-----)

(3) aku- with -a base

The tones of aku- are always h.n, and the base has pattern la. With -ini the base tones are similar to those used with type (2). e.g.

I akunayulula(-_---) "begin and keep on reheating (mush)"
II akuluminisia(-_---)"begin and keep on encouraging"

with -ini:

I akunayululeeni(-__--_-)"
II akuluminisieeni(-_-----)

With a Substitute Object

Types (1) and (2) when used with a S.O. have pattern 4.

In both cases the -e base is used. e.g.

I tulimine(_ _ ¯ ¯)"hoe for us" with -ini: tulimineeni(_ _ ¯ ¯ ¯)
I mulimine(¯ _ ¯ ¯)"hoe for him" with -ini: mulimineeni(¯ _ ¯ ¯ ¯)

II tucitile(_ ¯ ¯ ¯)"act for us" with -ini: tucitileeni(_ ¯ ¯ ¯ ¯)
II mucitile(¯ ¯ ¯ ¯)"act for him" with -ini: mucitileeni(¯ ¯ ¯ ¯ ¯)

With First Radical Consonant Zero

In type (2) this will mean coalescence between ka- and the radical vowel. Since it is the tone of the prefix which will be heard on the resulting syllable, there will be a loss of the first base tone. In tone-group I there is a slight difference in the tone-pattern, e.g.

I kainbe(_¯)"go and dig" cf. II kainbe(_=)"go and sing"

IV THE TONES OF NOMINO-VERBALS

In addition to the true verbals, which only ever have a single concord prefix, there are two other groups of words which may have a double prefix. Since this is a nominal prefix, but the words have a verbal base, they are called Nomino-Verbals.

(1) Nomino-Verbals with Invariable Prefix

This group of words which corresponds in some respects to the English infinitive and the verbal noun in -ing, has the nominal prefix uku- and the verbal base in-a. The base has pattern 1, and the nominal prefix has tones depending on those of the radical, just as in true nominals with double prefix. The tonal behaviour of the base is however similar to what has been observed in other verbals. This means that in tone-group II the high-tones are free, a thing which only happens in true nominals when all the stem tones are high. e.g.

I ukutipula(_¯ _ _ _)"to dig over" II ukuseketa(¯ _ = = _)"to crunch"
ct. icinseketa(¯ _ ¯ ¯ _)"hyena".

When the vowel of the radical is long, only the first tone of the base is high in tone-group II. This also contrasts with patterns that occur in nominals. e.g.

II ukubeepesia(¯ _ = = _)"to intrigue" ct. akabeepesio(¯ _ ¯ ¯ _)"deception"

The aspect affix -laa- may also be inserted in these words. As this affix has a high-tone the nominal prefix always has h.n. The tonal behaviour of the base and the affix are

exactly as in simple verbals. e.g.

I ukulaatipula(˘_˘˘__)"to keep on digging over"
II ukulaasapika(˘_\˘˘_)"to keep on searching"

With Substitute Object

When used with a substitute object the base has pattern 1 except that a high-tone S.O. is always followed by a high-tone. The tone of the nominal prefix depends on that of the S.O. e.g.

I ukumulimina(_˘____)"to hoe for you"
I ukumulimina(˘_˘˘__)"to hoe for him"

II ukumucitila(_˘_˘˘_)"to act for you"
II ukumucitila(˘_˘˘˘_)"to act for him"

With First Radical Consonant Zero

In this case there is coalescence between the nominal# prefix and the vowel of the radical. This results in a modification of the tone-pattern similar to that observed in true nominals. The high-tones of the base in tone-group II are now firm instead of free. e.g.

I ukuinbisia(_˘__)"to dig hard"
II ukuinbisia(˘_˘_)"to lead singing"

With Suffixed Particle

The particles -pao, -kuo, or -muo may be attached to these nomino-verbals. In this case the base has pattern 1a, and there is tonal slip at the junction. e.g.

I ukutipula-muo(_˘___˘)"to dig over there"
II ukusapika-muo(˘_˘˘_˘)"to search there"
II ukupita-kuo(˘_˘˘˘)"to pass there"

As Base for Derived Nominals

Since these words have nominal# prefixes, they may behave in many ways like true nominals. In every case their tonal behaviour is what might be expected, The prefix tones are similar to those of nominals, and the base tones to those of verbals. e.g.

I kuutipula(˘___)"it is a digging over"
II kuusapika(˘˘˘_)"it is a searching"

I teekutipula(_˘___)"it is not a digging over"
II teekusapika(˘_˘˘_)"it is not a searching"

I iciakutipuila-kuo(˘_˘___˘)"a thing for digging over with"
II iciakuputuila-kuo(˘_˘˘_˘)"a thing for cutting with"

(2) Nomino-Verbals with Variable Prefix

This type of nomino-verbals is equivalent to what in many languages is a relative clause. They have a double nominal prefix, but in every other respect are like verbals. That means that they have tense and aspect affixes, with or without the negative affix, and the full range of verbal bases. The patterns of the bases differ in some cases from those noted for relative verbals. The tones of the nominal prefix are always h.n.

Those tenses whose base has pattern 4, also use that pattern when forming part of these words. Tenses (7) and (9) now use pattern 3a, but all the rest 1a (or 1). e.g.

Based on tense (9),-

I ifileelalika(-_--_-)"those which are becoming split"
II ifileeputuka(-_\--_)"those which are becoming cut"

Based on tense (4),-

I ifialalika(-_=__)"those which have just become split"
II ifiaputuka(-_===_)"those which have just become cut"

In the negative these nomino-verbals have the same base patterns as relative verbals. With a S.O. these words, whether affirmative or negative, have the same pattern for the base as they do without a S.O.

Since they have nominal prefixes, these words may be used to form derived nominals. When this happens there is nothing exceptional in their tonal behaviour. e.g. tense (13)

I efilaliike(-__--)"those are the ones which have split"
II efiputuike(-_---)"those are the ones which have become cut"

I ifintu fiabalimine(_-_ -__--)"the things of these who have hoed"
II ifintu fiabasosele(_-_ -_---)"the things of those who have spoken"

Based on tense (2),-

I mufialaliike(-_-_-)"among the things which split"
II mufiafuniike(-_--_)"among the things which broke"

FOURTH [redacted] PART - SUMMARY AND CONCLUSION

Before summarizing some of the results of the analysis that has been made, there are two other things that have to be noted. They relate to syntactical junctions and to interrogative speech. After studying them it will be possible give a summary of different features of the tonal structure of

the language.

I THE TONAL CHARACTERISTICS OF SYNTACTICAL JUNCTIONS

Under this heading has to be observed the ways in which tonal behaviour establishes or characterizes the syntactical relationships of the words. This is not an important factor in the language, but there are several things to be noted.

(1) Junctions between Nominals

When two or more nominals are in juxtaposition, the occurrence of tonal slip depends on their syntactical relationship. e.g.

(a) **aaleeta umupini ualukasu**(--_ -_-- -___)"he has brought the handle of the hoe"

(b) **aaleeta umupini na ulukasu**(--_ -___ _ -___)"he has brought the handle and the hoe"

In (a) the two nominals **umupini** and **ualukasu** have a close syntactical relationship, since **ualukasu** qualifies **umupini**. In this way the two high-tones of the stem of **umupini** only slip to m, in spite of the following high-tone. In (b) on the other hand both nominals have the same relationship to the verbal, but none to each other. This fact is reflected in the slip in the high-tone of **umupini** to n. As has been noted earlier however, such behaviour is not invariable, since the distinctions involved in tonal slip of this kind are not essential.

The different tone-patterns, which were noted for some of the nominals in category 1, do indicate certain kinds of syntactical relationship.

Tone-Pattern 1

In nominals of tone-group IA the use of this pattern is confined to those cases where the nominal is qualified by another with an extra variable prefix and the affix **-a-**. The use of this pattern is independent of the tones of the second nominal. Here are examples in which the second nominal is based on one in tone-group IA, and has a different pattern in each case.

ulubingu luamulilo(_-__ ____)"the flame of the fire"

ulubingu luamulilo uamulenge(_-__ _-__ ____)"the flame of the hunter's fire"

ulubingu luamulilo luutali(_-__ _--- -##)"the flame of the fire is long"

Tone-Pattern 2

This pattern is used when a nominal is followed by another in category 1 with a variable prefix. The only exception is noted in the next paragraph. e.g.

kuli umulilo usuma(-- _--- -_-)"there is a good fire"

Tone-Pattern 3

As was noted when studying the tone-patterns, this one is always used at the end of a sense-group. In general it is a sign of an absence of syntactical relationship, and so occurs in hiatus and in final position. Here is an example of its use in hiatus,-

umulilo, ulubingu luauko luutali(____ _-__ --- -__)"the fire, its flame is long"

When a nominal with variable prefix in tone-group IA follows another, and is in final position, then both of them have this tone-pattern. This is the exception referred to above. e.g.

tukasita iciponti cikota(____ ____ ___)"we will buy a female calf"

(2) Junctions between Nominals and Verbals

There is not much in the tonal behaviour of the words to characterize these junctions.

(a) Nominal-Verbal

In a junction of this type there is usually tonal slip in the last high-tone in the nominal. The first high-tone of the verbal then returns to the usual level for a high-tone. Nominals in tone-group IA use pattern 2 in this context. e.g.

umupeni ukatuna(_-_- -___)"the knife will become blunt"

fue-balenge tukaisa(---- ___)"we the hunters will come"

(b) Verbal-Nominal

The only important fact concerning a junction of this type is that there are certain tenses which are followed by a nominal with pattern 2, even when the remaining words have no high-tones. The tenses are, Affirmative (3) and (7), Negative (1), (2), (5), (6) and (7). e.g. in tense (7) and the negative of (6),-

tualeesika umulilo kulusiko(_-_ _--- ____)"we used to make fire with a firestick"

tatuakasange mulenge mumusi(____- --- ___)"we shall not find a hunter in the village"

(5) Junctions where Coalescence occurs

Very frequently the final vowel of one word coalesces with the initial vowel of the following one. The tonal implications of this coalescence must now be noted. In general the tone of the syllable resulting from this coalescence is that which would be borne by the second of the two vowels. This is in direct contrast to what happens at a similar coalescence within a word, and provides a characteristic of syntactical junctions in contrast to morphological. e.g.

aya amasaka(_- _-_-)"this kaffir corn" †ayaamasaka(__-_-)

ino insalu(__#-__)"this cloth" †inweensalu(_-__)

An interesting exception to this occurs in the case of nominals which have a double prefix following a verbal in the negative. It is more usual for such nominals to have a single prefix, but a double prefix may be used. In this case the syllable resulting from the coalescence has the same tone as the final syllable of the verbal in the uncoalesced form. e.g.

uileeta amasaka(_-- _-_-)"don't bring kaffir-corn"
i.e. †wiileetaamasaka(_---_-)

The Particles na and nga

When studying derived nominals it was shown that certain particles must be regarded as being part of the nominal, owing to their tonal behaviour. There are two other particles of common occurrence which display a different behaviour. These are na which is only used with nominals, and nga which is used with both nominals and verbals.

In direct contrast to the particles ni- and e-, the tone of these others is always N, and is independent of the tones of the nominal with which they are used. When used with a nominal with a double prefix, coalescence always occurs, and the tonal implication of this is that of a syntactical and not that of a morphological junction. e.g.

na ulukasu(_ -___)"with a hoe" †naolukasu(-___)

nga insalu(_ -__)"like a cloth" †ngeensalu(-__)

When used with a nominal of category 2, the tone of the particle is always n. e.g.

na kafula(_ _-_)"and a smith" cf. nikafula(-_-_)"it is a smith"

Similarly the particle nga may coalesce with the prefix of a verbal, but the tonal implication of the coalescence is that of a syntactical and not that of a morphological junction.

nga aafika(_ ˉˉ_)"if he arrives" i.e. ŧngaafika(ˉˉ_)

In this way the tonal behaviour of the particles makes it possible to decide whether they are self-standing or not.

II INTERROGATIVE SPEECH

All the observations made up to this point relate to speech which is not interrogative. A simple question is usually introduced by the particle busie(_\) but there is no other difference in the pattern of the sentence. The only tonal modification is a widening on the intervals between the tone-levels, retaining the tone-patterns intact. The levels in interrogative speech correspond approximately to m l d' m' instead of the m s l t of non-interrogative statements. In this way the same system of marking the tones can be used except that the intervals are to be interpreted differently.

In final position a firm high-tone is always heard as m in interrogation, but a free tone as n. e.g.

busie baasita umupeni(_\ ˉˉ_ _ˉ_-)"have they just bought a knife"
busie baasita umucele(_\ ˉˉ_ ˉ___)"have they just bought salt?"

Emphatic questions are indicated by the use of the particle mua(\) placed at the end. This has to be regarded as syntactically unrelated to the rest of the clause, since a free high-tone is never heard as m in spite of the fact that the tone of mua is not n. e.g.

baasitile umucele,mua(ˉˉ__ ˉ___ \)"they bought salt, didn't they?"
ct. tabaasitile mucele, mua(_ˉˉ__ _--- \)"they didn't buy salt, did they?"

III THE INCIDENCE OF FREE TONES

It is now possible to summarize the cases where free high-tones occur. They are confined to the following cases.

(1) In nominals in which all the stem tones are high, and which have a double prefix. The tones are not free when the prefix is single, or when the first radical consonant is zero.

(2) In verbals whose bases use pattern (1) ar (2) (or 1a or 2a). Also in some dependent tenses and verbal interjections In this connection it should be noted that the flattening of the tones may frequently result in a kind of "tone reversal". In this way a verbal which belongs to tone-group II may have only normal-tones when it tones are flattened, in contradistinction to a similar verbal in tone-group I which has one or more high-tones in this position. Immediately

the words are observed in a position where flattening is impossible, the true tones may be determined. This is illustrated by the following patterns which are to be heard in final position.

I bakainba(--_) "they will dig"
II bakainba(-__) "they will sing" in non-final position: (-_-)

I tukabapangila(__--__)"we shall plan against them"
II tukabapangila(______)"we shall construct for them" in non-final position: (__---_)

IV THE INCIDENCE OF TONAL SLIP

Although this type of modification of the tone-levels is not significant, it is of frequent occurrence and its incidence may usefully be summarized. It should be noted that the slip is only noticeable where both tones at a junction are high. Here are principal junctions where there is tonal slip.

(1) Between nominal prefix and the stem.

(2) Between the components of compound nominals, when the first component has a fixed prefix which cannot be double.

(3) Between the extra variable prefix and the invariable nominal prefix, in those nominals with a prefix which can be double.

(4) Between the verbal infixes -lii-, -lee-, -laa- and the base or the substitute object.

(5) Between the syllable composed of the concord prefix and -a-, and the infix -lee- in the tense referring to events in the past.

(6) Tonal slip also occurs in firm high-tones occurring in final position.

(7) Tonal slip may occur in high-tones which are final in one word and immediately followed by another high-tone.

The result of this slip is to involve the use of other tone-levels to represent an essential high-tone. e.g.

n may be heard in (6) and (7)

m is heard in (1) and (4), and in (6) and (7) as an alternative for n.

p is heard as the first tone of the junction, and h as the second in (2), (3) and (5).

In (2), (3), (5) and (6) the slip always occurs. In the

the other cases it may be inoperative.

V ESSENTIAL TONES AND SPEECH TONES

It was stated to be one of the main intentions of this analysis to determine the essential tones of the language from observations of the speech tones. At this point then it is desirable to set out some of the results achieved by the analysis. In many cases it has been shown that there is a direct correspondence between the speech tones and the essential tones, and in others a discrepancy. Here is a summary of the main facts as they have been noted.

(1) Correspondences

There can only be a correspondence in those cases where it has been possible to establish the exact nature of the essential tone, and so those syllables which have been found to have a neutral tone will not be included under this heading.

(a) In Nominals

It is only the stem tones in nominals that display an alternance, and the following are the principal cases where there is a direct correspondence between the tones of speech and the essential tones.

In nominals of categories 1 and 3 in context 3.
In nominals of category 2 in non-final position.
In nominals of category 1 with dissyllabic prefix in context 1.

(b) In Verbals

The stem extensions in verbals were shown to have no tonality, and so will naturally not be considered here. Here are the main occurrences of a correspondence between the tones of speech and the essential tones in verbals.

In the radical tones in bases using patterns 1-4.
In the suffix tones in all three-syllable bases, except patterns 3 and 3a of tone-group II.
In the prefix and substitute object tones, apart from a few cases of coalescence.

(2) Discrepancies

There are two principal reasons for a discrepancy between the speech tones and the essential tones. These are a grammatical reason and a tonological reason. So the various

occurrences of discrepancies may be studied under these headings.

A. Grammatical Reasons

A discrepancy arising from grammatical reasons relates to those cases where the grammatical tones in a word mask some of its essential tones, or occur on syllables which display no tonal alternance.

(a) In syllables displaying an alternance of tone

The following are illustrations of these discrepancies. The use of a small circle denotes a neutral tone, and the tone-marks in square brackets indicate essential tones.

(i) In Nominals:

In categories 1 and 3 in context 2. e.g.

umulilo uusuma[oo__ o_˗] ⟶ (_˗˗˗ ˗_˅)"the fire is a good one"

In category 1, with monosyllabic double prefix in context 1 e.g.

ibala liakue liisuma[o__ __ o_˗] ⟶ (_˗_ ˗˗ ˗_˅)"his garden is a good one"

(ii) In Verbals:

In radical syllables in tone-group I, in those cases which use patterns 1a-4a. e.g.

tukalaalima fie[__˗__ ˗] ⟶ (__˗˗_ ˗)"we shall simply be hoeing"

In the suffix in many dissyllabic bases. e.g.

tukafisa imipeni[__˗_ oo_˗] ⟶ (__˗˗ _˗_˅)"we will hide the knives"

(b) In syllables displaying no alternance of tone

In these cases there is a grammatical tone in the syllable, which appears to have no essential tone of its own. This only happens in the stem extensions of verbals. e.g.

tukapikulula icipe[___oo_ oo_] ⟶ (_____ ___)"we shall unplait the basket"

naatupikulula icipe[\o_oo_ oo_] ⟶ (\˗_˗˗˗ ___)"we have unplaited the basket"

In these examples it will be seen that the same stem extensions -ulul- have two high-tones in the second case, but two normal-tones in the first. Moreover, as was shown earlier in this study these syllables have no essential tone.

B. Tonological Reasons

Under this heading are grouped together those cases where a tone is heard with some modification owing to its tonal context.

(a) In syllables displaying an alternance of tone

The following are the principal cases where discrepancy occurs.

(i) In Nominals:

The prefixed particles **ni-** and **e-** appear to have an essential normal-tone, but when used with certain nominals their tone is heard as **h**. e.g.

nikafula[__¯_] → (¯_¯_)"it is a smith"

(ii) In Verbals:

The affixes **-lii-, -lee-,** and **-laa-** which appear to have an essential high-tone are heard with the glide **hn** when in junction with another essential high-tone in a word in non-final position. e.g.

baleepita kucisima[¯¯¯_ oo¯_] → (¯\˝˝ ¯_˝_)"they are passing to the well"

(iii) In all words:

A final high-tone, or run of high-tones, is heard as **n** when the next word begins with a high-tone. This has been noted under tonal-slip, which is a tonological process. e.g.

umupeni ukaloba[oo_¯ ¯___] → (_¯__ ¯¯__)"the knife will become lost"

This example also illustrates one of the rarer cases where there is a discrepancy in the tones of a verbal affix through tonological causes. The essential tone of **-ka-** can be shown to be **N**, but it is heard as **h**, when in a sequence in which the preceding tone is **H** and the following tone is **N**.

(b) In syllables displaying no alternance of tone

The most important case of this is in the double prefix of nominals in category 1. The prefix tones appear to have no alternance, since they appear in the speech tones in a way that depends on the tones of the radical. e.g.

umupeni uusuma[oo_¯ o_¯] → (_¯_˘ ¯_˘)"the knife is a good one"

umuceka uusuma[oo¯_ o_¯] → (¯_˘_ ¯_˘)"the mat is a good one"

The fact that the prefix tones are heard as **n.h** in the first case and as **h.n** in the second is clearly due to the different tonal sequence in the two cases. The same thing is true of the extra invariable prefixes such as **pa-, ku-, mu.**

VI SUMMARY

It now remains to summarize the uses of the alternance of the two essential tones which have been found to underly the tone-patterns of speech.

1. Lexically

In the study of both nominals and verbals the lexical significance of the tonal alternance has been demonstrated. This would still be valid even if there were no cases of homophones distinguished by tone. However such words do occur, and so their meaning is established by their tones. Here are a few examples.

(a) Nominals

ulupango	IA	"bride-price"	ulupángo	IIB	"fence"
ulupingú	IB	"knuckle"	ulupíngu	IIB	"triangular bead"
infuí	IB	"reedbuck"	infúí	IIA	"white hairs"
umuta	I	"burrow"	umutá	II	"barbel"
icipónpó	IIA	"unripe fruit"	icipónpo	IIB	"hip"
ibala	IA	"garden"	ibálá	IIA	"speckle"
ulukomo	IA	"blazed trail"	ulukomó	IB	"kind of fish"
umuiko	IA	"ladle"	umuikó	X	"ill omen"

It would have been possible for there to be four distinct words with two-syllable stems distinguished only by tone. In fact only two cases have been noted where even three of the four possible tone-groups are represented. Here is one of them,-

amasanba IA "leaves (of tea)" IB "stretchers" IIA "west"

(b) Verbals

ukupanga	I	"to intend to do"	ukupánga	II	"to construct"
ukupula	I	"to beg for"	ukupúla	II	"to go beyond"
ukupela	I	"to grind to powder"	ukupéla	II	"to become used up"
ukubonba	I	"to become damp"	ukubónba	II	"to work"
ukusika	I	"to become deep"	ukusíka	II	"to become stuck"
ukusiika	I	"to bury"	ukusíika	II	"to paddle"
ukufuka	I	"to dig up"	ukufúka	II	"to hem"
ukufuuka	I	"to gush"	ukufúúka	II	"to become tainted"

(c) Nominals and Verbals with Common Radical

By means of the lexical tones of words it is possible to establish relationships between them. In this way it may be shown that in certain cases words which have radicals of the same shape are in fact unrelated, since they belong to different tone-groups. The following is one example which will illustrate this. Only by means of their tones could it have

been demonstrated that the following grouping of the words into two unrelated groups is justified.

(i) With radical of tone-group I,-

icifungo(_¯__)"prison" ulufungulo(_¯_¯_)"key"
ukufunga(_¯__)"to lock up (box etc.)"
ukufungika(_¯___)"to become locked up"
ukufungula(_¯___)"to unlock; to authorize"

(ii) With radical of tone-group II,-

umufungilo(¯_¯¯_)"roll (of things)"
kafunga(_¯_)"tier (of nets)"
icinfungua(¯_¯_)"double fold in (cloth)"
ukufunga(¯_¯¯)"to roll up (nets)"
ukufungulula(¯_¯¯__)"to unroll; to enlarge by spreading"
ukufungaania(¯_¯¯__)"to crease, to fold several times"
ukufungaanika(¯_¯¯__)"to roll up in nets"

2. Morphologically

In verbals there are several cases where afformatives are identical in shape but distinct in tone. Here also the existence of the alternance is in no way dependent on the existence of ambiguity if the tone-patterns were to be ignored. In fact however such ambiguity would exist. Here are examples of it.

I tukabonba(____)"we shall get damp"
I tukabonba(¯¯__)"they will get damp" e.g. utuaice"children"

cf. II tukabonba(__¯¯)"we shall work"
II tukabonba(¯_¯¯)"they will work"

I tatuabonbele(_¯_¯¯)"we did not get damp (long ago)"
I tatuabonbele(_¯¯__)"we did not get damp (yesterday)"

cf. II tatuabonbele(_¯¯¯¯)"we did not work (long ago)"
II tatuabonbele(_¯¯¯_)"we did not work (yesterday)"

I tatualeebonba(_¯¯_)"we used not to get damp"
I tatualeebonba(__¯_)"we are not going to keep on getting damp"

cf. II tatualeebonba(_¯\¯¯)"we used not to work"
II tatualeebonba(__\¯¯)"we are not going to keep on working"

When a substitute object is used the number of words of identical shape is much greater, owing to the fact that -mu- means "you" with N, but "him" with H. e.g.

I tatuamuinbiile(_-_--)"we did not dig for you (long ago)"
I tatuamuinbiile(_--__)"we did not dig for you (yesterday)"

I tatuamuinbiile(_----)"we did not dig for him (long ago)"
I tatuamuinbiile(_--__)"we did not dig for him (yesterday)"

cf. II tatuamuinbiile(_-_--)"we did not sing for you"
II tatuamuinbiile(_-==_)"we did not sing for you"

II tatuamuinbiile(_----)"we did not sing for him"
II tatuamuinbiile(_====)"we did not sing for him"

3. Syntactically

Although there is little in the tone-patterns to indicate or even characterize syntactical relationships, nevertheless by means of the tones the breaking down of the speech stream becomes simple. As there is no signal, such as a prominent syllable, to mark each separate word, only the tone patterns are a guide as to the limits of the words. It has been shown for example that certain small elements such as ku-, e-, and -a- with a variable prefix, are not to be treated as independent pieces, but as integral parts of the nominal. On the other hand by means of the tonal behaviour of na and nga, their independent existence has been demonstrated.

Moreover many of the afformatives are identical in shape, so the fact that the tone-patterns of each type of word are well defined is syntactically important. In the rare event of a word occurring in a given context, whose shape does not immediately mark it out as a nominal or a verbal, its tone-pattern almost certainly will do so. e.g.

mukalima mukapama(____ -___)"you will cultivate in the infertile soil"

In this case the second word might have been a verbal, but then its tone-patterns would have been (____)"you will be bold" or (__==)"you will knock something over". Similarly in the following case,-

amainsi yaacipooma(-_- ---_)"the water roared"

As an isolated phrase this could mean "the water of the waterfall" if the tone-pattern of the second word were (_-_-). So even if the two words have the same radical, the tone-pattern usually makes its possible to know immediately the category to which the word belongs.

Another fact which makes the existence of the tone-patterns important is the large amount of coalescence which takes place between words. In some cases the sense-group is one unbroken stream of speech, and without the tone-patterns the dissection of this stream would be difficult. Here is an example of this.

†tatulyeekaangeelyaacikululwooluceelo(_‾_-_‾_---‾_-_)"we are not eating the guinea-fowl which was trapped this morning"

The dissection of an unbroken stream like this would indeed be formidable without the aid of any signals, but the tone-pattern makes it relatively simple,-

tatuleelia ikanga iliacikululua uluceelo(_‾_˙ -˙˙ -_---_ -_˙_)

VII CONCLUSION

The result of this study has been to establish that the tone-patterns are an integral part of Bemba speech. The form of a word, nominal or verbal, is determined by its tones as well as by its shape. In addition it has been established that there are only two essential tones underlying the patterns which occur in speech, and that the recognition of this tonal alternance is significant not only for the practical purpose of using the language as a medium of intercourse, but also for the analysis of its grammatical processes.

APPENDIX I

TABLE SHOWING TONE PATTERNS OF NOMINALS WITHOUT STEM EXTENSIONS

1. Nominals with Full Radical, like umulilo

Tone-Group	Prefix Tones			Stem Tones
	Double Prefix		Single Prefix	
	2-Syll.	1-Syll.		
IA	n.h	n[1]	h	N.N
IB		h		N.H
IIA	h.n	h![2]	h!	H.H (H.H)[3]
IIB				H.N

2. Nominals with Second Radical Consonant Zero, like umutue

Tone-Group	Patterns with Double Prefix		Patterns with Single Prefix
	2-Syll.	1-Syll.	
IA	n.h.n	h.n	h.n
IB	h.n.h	n.h	n.h
IIA	h.n.H	h!H	
IIB	h.h.n	-	h.n

Notes: (1) The first stem tone in this case is heard as h.

(2) h! means that the high-tone is followed by tonal slip.

(3) The tones in parenthesis are those used when the prefix is single.

The Patterns shown refer only to the normal context, the others patterns for tone-group IA cannot be indicated here.

3. Nominals with Second Radical Consonant Zero, and Zero Suffix, like umuto

Tone-Group	Prefix Tones			Stem Tone
	Double Prefix		Single Prefix	
	2-Syll.	1-Syll.		
I	n.h	h	.h	N
II	h.n	h!	h!	H (H)

4. Nominals with First Radical Consonant Zero, like umuele

Tone-Group	Patterns with Double Prefix	Patterns with Single Prefix
IA	n.h.n	h.n
X	h.n.h	n.h
IIB	h.ḥ.n	h.n

(Notes as on previous page)

TABLE SHOWING TONES OF PREFIXES AND BASE PATTERNS OF VERBALS

AFFIRMATIVE

TENSE N°	1	1-Z	2	2-Z	3	4	5	6	7	8	9	10	11	12	12-Z	13	13-Z	14	14-Z
PREFIXES	-a-	-ali-	-a-	-alii-	-aci-	-a-	-alaa-	-ka-	-alee-	-acilaa-	-lee-	-akulaa-	-kalaa-	-a-	-ali-	—	naa-	—	-la-
TONES OF PREFIXES	N	N.H	0	0.H!	0.H	0	0.H!	N	0!H!	0.H.H!	H	0.N.H!	N.H!	N	N.H		HN		N
BASE	-ile	-ile	-ile	-a	-a	-a	-a	-a	-a	-a	-a	-a	-a	-a	-a	-ile	-a	-a	-a
SIMPLE PATTERN	4	4a	1a	1a	1a	1a	1a	1	1a	1a	1a	1a	1a	4	4a	4	4	1	1
RELATIVE PATTERN	4		3a		1a	2a	1a	3	1a	2a	2a	2a	2a	4		4		2a	
RELATIVE PATTERN WITH S.O.	4		3a		2a	2a	2a	2a	2a	2a	2a	2a	2a	4		4		2a	
RELATIVE PATTERN WITH SUFFIXED PARTICLE	4		2a		2a	2a	2a	2	2a	2a	2a	2a	2a	4		4		2a	
PATTERN FOR NOMINO-VERBAL	4		3a		1a	1a	1a	3	3a	1a	3a	1a	1a	4		4		1	

NEGATIVE

TENSE N°	1	2	3	5	6	7	8	9	10	11	12	13	14	15
CONCORD PREFIX TONE	H	H	H	N	N	H	H	H	N	N	H	H	H	H
PREFIXES	-a-	-a-	-aci-	-a	-aka-	-alee-	-acilaa-	-lee-	-alee-	-akalee-	-a-	—	—	-laa-
TONES OF PREFIXES	0	0	0.H	0	0.N	0!H!	0.H.H!	N	0.H!	0.N.H!	0			N
BASE	-ile	-ile	-a	-e	-e	-a	-a	-a	-a	-a	-a	-ile	-a	-a
SIMPLE PATTERN	4a	1a	1a	4	4	1a	1a	1a	1a	1a	4a	1a	4	1a
RELATIVE PATTERN	4	3a	1a	4	4	1a	1a	1	1a	1a	4	2a	4	3a
RELATIVE PATTERN WITH S.O.	4	3a	2a	4	4	1a	1a	3a	1a	1a	4	2a	4	3a
RELATIVE PATTERN WITH SUFFIXED PARTICLE	4	2a	2a	4	4	1a	1a	1a	1a	1a	4	1a	4	2a
PATTERN FOR NOMINO-VERBAL	4	3a	1a	4	4	1a	1a	1a	1a	1a	4	2a	4	3a

APPENDIX II

TABLE SHOWING TONES OF PREFIXES AND BASE PATTERNS OF VERBALS

APPENDIX III

FORM SHAPE AND TONE

Words are identical in form when they contain the same grammatical elements, but not necessarily the same lexical elements. Words which are similar in form have the same number of grammatical elements, which need not be even similar in shape, but the corresponding elements have identical functions.

Words or elements which are identical in shape are homophones. Words which are similar in shape have the same number of syllables, and the quantities of the corresponding consonants and vowels are identical. The shape of a word# has nothing to do with the functions of the elements it contains.

Here are examples of various relationships of form classified according to shape and tone.

(1) Identical Form

(a) Identical Shape

Two words which are homophones have the same tones if they are identical in form. e.g.

a. **bakasanba mumumana mulia**(˘˘_ _˘˘˘ _˘)"they will wash in the river over there"

b. **mumumana mulia mualiwama**(_˘˘˘ _˘ \˘˘˘)"in the river over there it is good"

The word **mumumana** is a derived nominal with the extra invariable prefix **mu-** based on **umumana**(IA)"river" In example **a** it is defining the place of the verbal action, and in **b** it is the subject of the verbal. Since however it has the same shape and the same tones in both cases, it is treated as the same word. This particular form has more than one function, i.e. it is capable of entering into more than one kind of relationship with other words.

(b) Similar Shape with Identical Tones

c. **tuleeseka**(_˘˘_)"we are laughing"
d. **tuleelima**(_˘˘_)"we are hoeing"

The lexical elements are underlined, (in this case the radicals), in order to make the identity of form clear. When words with identical form have identical tones it usually means that the lexical elements have the same essential tone.

(c) Similar Shape with Different Tones

This can usually be taken to mean that the lexical elements

have different essential tones. e.g.

e. tualaafika(_¯˘_)"we are about to arrive"
f. tualaapita(_\˘˘)"we are about to pass by"

(d) Different Shape with Identical Tones

g. tukaika(___)"we shall go down"
h. tukapeepa(____)"we shall smoke"

In spite of the fact that the pattern in example g has only three tones whereas that in h has four, the tones of these words are identical. The discrepancy being caused entirely by the coalescence.

(e) Different Shape with Different Tones

k. tualeepita (_\˘˘) "we were passing by"
l. tualeepeepa(_¯˘_) "we were smoking"
m. tualeeniina(_\˘_) "we were ascending"

The first two of these are examples of words with different tones, but the third has the same tones as the first. The discrepancy that gives rise to the different pattern in k and m has been noted as occurring when the shape of the radical is different, but the essential tones are identical.

(2) Similar Forms

(a) Identical Shape with Identical Tones

Examples of this have not been observed.

(b) Identical Shape with Different Tones

a. tatualeelima(_¯˘_)"we are not going to be hoeing"
b. tatualeeliima(_¯¯˘_)"we used not to hoe"

In these examples it is the difference in the tones that determines that the two words are not identical in form.

(c) Similar Shape with Identical Tones

c. tatulaabiika(_¯¯_) "we have not yet put"
d. tatuleeleeta(_¯¯_) "we are not bringing"

(d) Similar Shape with Different Tones

This is usually a variety of (c) in which the lexical elements have different essential tones. e.g.

e. tualiilima(_¯˘_) "we hoed (yesterday)"
f. tualeepata(_\˘˘) "we used to hate"

(e) Different Shape

g. bakamumona(˘˘_˘˘) "they will see him"
h. tuafileeta(_˘˘_) "we have just brought them (the things)"

In this case the two words are similar in form, since each has a concord prefix, ba- and tu-, each has a tense infix and suffix, -ka- -a and -a- -a, and each has a S.O. -mu- and -fi-

(3) Distinct Forms

Any similarity or identity in shape between words whose form is distinct is purely accidental, but it is useful to give some examples.

(a) Identical Shape with Identical Tones

a. tuacileeta ifintu(_˘˘_ ˘˘˘)"we brought the things" (tense 3)
b. tuacileeta icintu(_˘˘_ ˘˘˘)"we have just brought it, the thing" (tense 4)

In spite of the identity of both shape and tones, the form of the word tuacileeta is distinct in the two cases. In a it has -aci- -a as its tenses affixes, and is able to have a nominal with any prefix as its object. In b it has -a- -a as tense affixes, and -ci- as a substitute object, so it can only have as its object a nominal with the appropriate prefix.

(b) Identical Shape with Different Tones

Very few accidental resemblances of the type just given have been observed. There are however more of this kind where the tones are different. e.g.

c. bakafisa umupeni(˘_˘˘ _˘_˘)"they will hide the knife"
d. bakafisa akapuna kaakue(˘˘˘˘ ˘_˘˘ ˘˘)"they always hide his small stool" (tense 14)

(c) Similar Shape with Identical Tones

e. pakapita umulunsi(˘_˘˘ ˘_˘˘)"there will pass a hunter"
f. pakapuna paasuma(˘_˘˘ ˘_˘)"on the stool is a good place"

This is a purely capricious resemblance. pakapita is a verbal with the affixes -ka- -a and the concord prefix pa-. pakapuna on the other hand is a derived nominal with the extra prefix pa-, based on akapuna "small stool"

(d) Similar Shape with Different Tones

g. ifiacipona fiafunika(˘_˘˘˘ ˘_˘˘)"those which fell are broken"
h. ifiacibusa fiafunika(˘_˘_˘ ˘_˘˘)"those of the friend are broken"

In this case there is greater apparent similarity, since both words are standing as subject of a verbal. ifiacipona is however a nomino-verbal with variable prefix based on the tense that has the affixes -aci- -a. ifiacibusa on the other hand is a derived nominal with extra variable double prefix based on the nominal icibusa"friend".