

**AN AUTOSEGMENTAL ANALYSIS OF TONE IN  
VERBAL FORMS OF LAMBA**

**BY**

**FENSON A. MWAPE**

A Dissertation submitted to the University of Zambia in partial  
fulfilment of the requirements for the degree of Master of Arts  
in Linguistic Science.

**246888**

**Department of Literature and Languages  
University of Zambia  
LUSAKA**

**1994**

All rights reserved. No part of this dissertation may be reproduced or stored in any form or by any means without prior permission in writing from the author or the University of Zambia.

C Fenson A. Mwape, 1993.

### DECLARATION

I, Fenson A. Mwape, declare that this dissertation represents my own work and that it has not been previously submitted for a degree at this or any other University.

*Fenson A. Mwape.*

APPROVAL

This dissertation of FENSON A. MWAPE is approved as fulfilling part of the requirements for the award of the degree of Master of Arts in Linguistic Science of the University of Zambia.

Signed

Date

Emst Thundland .

14/2/1994 . .

K. Mwakagala . . .

18<sup>th</sup> August, 1994

F. Mwa . . .

23/8/94 . .

## **ABSTRACT**

This study investigated tone in some verbal forms of Lamba from an autosegmental viewpoint. The aim was to establish the relationship between underlying and surface tone representations in these forms.

The dissertation comprises three chapters.

Chapter One, the Introduction, presents the background to the study and discusses, among other things, Zambia's language-education policy and the position of Lamba therein. This chapter also reviews the relevant literature and gives a brief outline of the major tenets of the theoretical model the study employs - Autosegmental Phonology.

Chapter Two discusses the tonology of the Lamba verb. Rules are applied to account for the relationship between underlying and superficial tone patterns. Firstly it is established that, tonally, there are two types of verbs in Lamba, *viz.*, those with a high-toned first syllable of the radical and those with a low-toned one. Following Mtenje's analysis (see Miti, 1988; ) the former are regarded as H verbs while the latter are L ones. This chapter also establishes that there are five types of tonal rules in the Lamba verb: rules of tone shift (regressive and progressive), rules of tone lowering, rules of tone raising, rules of tone imposition (or insertion) and rules of tone spreading. All the rules discussed fall in these types. It was further noted that some tonal rules are category-sensitive in

that they apply only to specific categories while others apply to several.

Chapter Three is the conclusion. This chapter presents a summary of the findings and evaluates the major features of Autosegmental Phonology, viz, tone spreading, tone stability, contour tone and floating tones. Except perhaps for floating tones whose occurrence may only be associated with imposed tones, there is strong evidence for the occurrence of all the other features.

On the whole, the study has accounted for the underlying and surface tone patterns in the Lamba verb. The study has also established the existence of an inextricable link between morphological and phonological segmental processes on one hand and phonological tonal processes on the other. The study also confirms the strength of the Autosegmental approach in the analysis of tonal phenomena.

### ACKNOWLEDGEMENTS

I am indebted to numerous scholars, colleagues and friends who helped me in one way or the other during the research and production of this dissertation.

I wish to especially thank Dr. V.M. Chanda, Senior Lecturer in the Department of Literature and Languages, who supervised the writing of this dissertation. His comments and observations were immensely helpful.

I also thank my fellow graduate students who gave me the much-needed encouragement: John Simwinga, Walima T. Kalusa, Mildred Nkolola, Collins Kamanga, Cyprian Kaoma, Euston Chiputa, Lloyd Phiri, Adolph Musonda and Sunday Bwalya Ng'andu.

Special thanks also go to my three informants: Messrs Golden Kamina and Sunday Lundanya and Ms. Anne Sumaili for allowing me to interview them. Without their assistance I would not have been able to get the necessary data.

I would be greatly unfair if I did not thank my wife, Margaret, who gave me the will to go on. I believe that cup of tea you gave me late in the night so as to enable me write a sentence or two more was not wasted. Thank you very much.

I should also thank Miss Harriet Mandona and Mrs Christine Kangwa for meticulously typing the draft and final copies of this dissertation respectively.

Finally, I claim full responsibility for any shortcomings or deficiencies in this dissertation.

# TABLE OF CONTENTS

Title.....	i
Copyright.....	ii
Declaration.....	iii
Approval.....	iv
Abstract.....	v
Acknowledgements.....	vii
Table of Contents.....	viii
List of Figures and Maps.....	XI
Symbols and Abbreviations.....	xii
Dedication.....	xiv
Maps.....	xv
CHAPTER ONE: INTRODUCTION.....	1
1.0 General.....	1
1.1 Background to the Study.....	2
1.2 Objectives and Hypotheses.....	3
1.2.1 General Objective.....	3
1.2.2 Specific Objectives.....	4
1.2.3 Hypotheses.....	5
1.3 Methodology.....	5
1.3.1 Data Collection.....	5
1.3.2 Data Analysis and Theoretical Framework.....	7
1.4 Related Literature.....	10
1.5 Historical and Sociolinguistic Background.....	16
1.6 Some Notes on Lamba Phonology.....	20
Notes.....	26



<b>CHAPTER TWO: A TONOLOGICAL ANALYSIS OF THE LAMBA VERB</b>	28
2.0 General.....	28
2.1 Grammatical Categories.....	28
2.1.0 General.....	28
2.1.1 Mood.....	28
2.1.2 Tense.....	30
2.1.3 Aspect.....	31
2.1.4 Relativity.....	34
2.1.5 Polarity.....	36
2.2 Morphological Structure of Verb.....	37
2.3 Tone Patterns and Rules.....	40
2.3.0 General.....	40
2.3.1 Surface Tonal Patterns.....	41
2.3.2 Underlying Tone Patterns.....	47
2.3.3 Tonal Rules.....	49
2.3.0 General.....	49
2.3.3.1 Rules of Regressive Tone Shift (RTS).....	50
2.3.3.2 Rules of Progressive Tone Shift.....	57
2.3.3.3 Rules of Tone Lowering.....	59
2.3.3.4 Rules of Tone Raising.....	61
2.3.3.5 Rules of Tone Imposition.....	63
2.3.3.6 Rule of Tone Spreading.....	75
2.3.3.7 Summary.....	76
Notes.....	77
<b>CHAPTER THREE: SUMMARY OF FINDINGS, THEIR IMPLICATIONS AND CONCLUSION.....</b>	78
3.0 General.....	78
3.1. Comments on ASP Features.....	82
3.1.0 Association Conventions.....	82
3.1.1 Contour Tones.....	83

3.1.2      Tone Stability..... 84

3.1.3      Floating Tones..... 84

3.1.4      Tone Spreading..... 84

3.2        Tonal Rules and Morphonological Processes.... 84

3.3        Limitations of the Study and Recommendations 86

            CONCLUSION..... 87

            APPENDICES..... 90

            BIBLIOGRAPHY..... 110

### LIST OF FIGURES

Fig 1 Features Description of Lamba Phonemes.....	21
Fig 2 Minimal Feature Description of Lamba Phonemes.....	22
Fig 3 Co-occurrence of Tenses, Aspects and Moods.....	30
Fig 4 Co-occurrence of Tenses and Aspects.....	32
Fig 5 Markers of Mood and Tense.....	34
Fig 6 Lamba Verbal Constituents.....	38

### LIST OF MAPS

Map 1 Regional Official Languages of Zambia.....	xv
Map 2 The Languages of Zambia.....	xvi

## SYMBOLS AND ABBREVIATIONS

A	<u>Bwino</u> - type word
ASP	Autosegmental Phonology
B	In transcription, represents bilabial fricative/β/; in rules it represents words of the <u>Kolwe</u> - type.
C	Consonant
FV	Final Vowel
H	High tone [ / ]
Hab	Habitual
Hod	Hodiernal
IV	Initial Vowel
L	Low tone [ \ ]
Neg.	Negative
n	Any <u>number</u> of a given tone.
Pas.	Past
Pres.	Present
Prog.	Progressive
PTS	Progressive Tone shift.
Rad.	Radical
RTI	Rules of Tone Imposition
RTS	Rules of Tone Shift
S	Syllable; may be V on its own or V preceded or followed by consonants.
SM	Subject Marker
SR	Surface Representation
TBU	Tone Bearing Unit
TL	Tone Lowering
TM	Tense Marker
TR	Tone Raising
TS	Tone Spreading

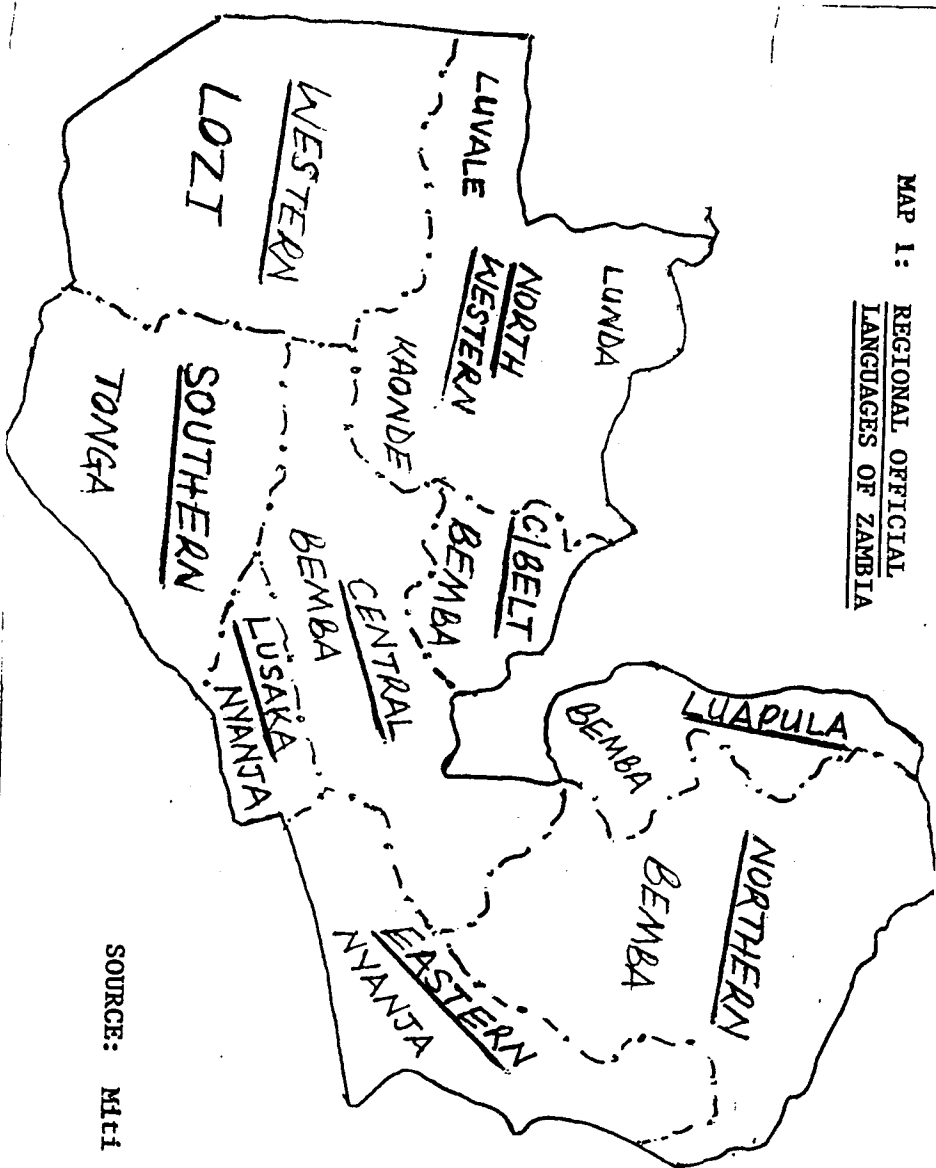
UR	Underlying Representation
V.	Vowel
WFC	Well-Formedness Condition
#	Word - Boundary
# #	Sentence - boundary
*	indicates an example that is not correct
( )	Used to show an optional element. In the formulation of rules, the numbers (for example), above tones indicate the permissible number of tones in a given position.

## DEDICATION

To Mother and Father: thank you for being so good; Tabutolwa, grandfather and friend, the 'Grain of Wheat': you showed me the way. Please rest in peace.

Brothers and Sisters: the ocean remains - keep searching for the pearl...

MAP 1: REGIONAL OFFICIAL  
LANGUAGES OF ZAMBIA



SOURCE: Miti (1988)





## CHAPTER ONE

### INTRODUCTION

#### 1.0 General

This chapter discusses, *inter alia*, the background to the study, the language situation in Zambia and the position of Lamba therein as well as the methodology and Lamba phonemic system.

It should be highlighted here at the outset that Lamba is often considered to be a member of the Bemba group of languages which, according to Kashoki (1968:1), is perhaps the largest linguistic unit in Zambia and has several dialects and dialect clusters whose spatial boundaries it is not easy to tell in purely linguistic terms. This relationship between Lamba and Bemba raises the question of whether the former may be considered a language in its own right or a dialect (or dialect cluster) of the latter. This issue is explored in some detail later in this chapter.

It should be noted, though, that while Lamba is considered to be related to Bemba, it is somewhat geographically isolated from 'mainstream Bemba' and shares borders with other languages like Kaonde and Lenje (which do not belong to the Bemba group) -- a situation which may entail some differences between Lamba and other languages or dialects in the so-called Bemba group.

### 1.1 Background to the Study

The Bantu languages have been studied for a relatively long time now. Their systematic study could be dated back (though without much precision) to 1862 when, according to Guthrie (1948: 5), Wilhelm Bleek drew the similarity among South African languages, gave evidence of the historical relationship among these languages and proposed the name 'Bantu' for them.<sup>1</sup>

In the infancy of 'Bantu linguistics' more attention was given to the 'major' languages than to the 'minor' ones<sup>2</sup>. For instance' as Fortune (1959 : 2) observes, while languages like Nyanja and Bemba received attention right from the start, the majority of other languages were never studied so that even today, over three decades since Fortune made this observation, it may be true to assert that for the majority of the languages 'nothing more than their name is known' (Fortune, 1959 :2) Perhaps this situation could be attributed to the fact that the earliest scholars to study Bantu languages were missionaries and colonial officers who studied the languages of the areas they settled in for practical reasons--to spread 'the Word of God' more easily and for politico-administrative purposes respectively.

These observations are pertinent in the light of what has so far been done on the languages of Zambia-- the bulk of the available literature is on the 'major' languages: Bemba, Tonga, Nyanja and Lozi and within each such major language one dialect adopted as the standard language; for instance, 'Central Bemba' (Kashoki, 1968:1) was taken to be the standard variety of Bemba. It is

only fairly recently that interest has arisen in the study of smaller languages but even when this is done, they (smaller languages) are studied alongside the major ones as if they cannot be studied in isolation. Consider, for instance, works like Lisimba (1982), Miti (1988) and Hachipola (1991) which, while investigating the smaller languages only do so with reference to the major languages Lozi, Nyanja and Plateau Tonga, respectively.<sup>3</sup>

The situation being so, it is imperative that we, in the words of Kashoki (1968:viii), 'venture one step more into the unexplored jungle ahead' by studying some of the languages that have received little or no scholarly attention. This study is, therefore, an attempt to explore this 'jungle' by investigating the realization of tone in some verbal forms of Lamba, using the theory of Autosegmental Phonology. It should be pointed out, however, that Lamba is not an unexplored jungle per se as it has been studied by a few scholars, notable among whom is the late Reverend Clement Doke whose work of 1938 (see Bibliography) is of great relevance to this study. Even then, it may be observed that while Doke attempted to study the traditions of the Lamba people and the grammar of their language--and undoubtedly with much success--no attempt has so far been made at studying the language's tonal system although it is well known that tone is distinctive in Lamba.

This study has, therefore, broken fairly fresh ground and it is hoped that this will stimulate more interest in the study of other smaller languages and/or dialects of Zambia, and that their

position in the education system may be reconsidered.<sup>4</sup> It is important that these languages be studied as the availability of literature in them may open up possibilities for their being taught in schools. Surely the unofficial languages have a significant role to play in national life. <sup>5</sup>

## 1.2. Objectives and Hypotheses

### 1.2.1 General Objective

This study has the following general objective:

To analyze how tone operates in the verbal forms of Lamba in terms of how surface tones are related to underlying tones.

### 1.2.2. Specific Objectives:

- 1) To establish underlying and surface tone patterns in the verbal forms
- 2) To formulate autosegmental rules to account for the relationship between these patterns.

It is evident from the objectives that there are two basic assumptions underlying this study. The first assumption is that the 'language' under investigation is tonal, that is, it is a language in which syllable pitch contrasts play an important role in the meaning of words (Hartmann and Stork, 1972:238). The second assumption is that the language manifests differences in underlying and surface tone representations. This study, therefore has the following hypotheses:

1.2.3.     **Hypotheses**

1.    Like Proto - Bantu (see Gurhrie, 1967-70), Lamba has two lexical tones, high and low.
2.    The lexical tones of individual verbal morphemes constitute one of the parameters determining the ultimate surface tone.
3.    The tonal pattern of a verb form in Lamba is category-sensitive in that tense, aspect, polarity, relativity, and mood may contribute to the surface tone pattern of a verbal form.
4.    The tonal pattern of the verb form in Lamba is sensitive to the syllabic structure of the radical.
5.    The syntactic environment contributes to tonal variation.

1.3.       **Methodology**

1.3.1      **Data Collection**

This study involved collecting data from native speakers of Lamba over a four-month period from April to July, 1992. To do this, Chief Chiwala's area in Ndola Rural was visited and two informants were engaged from there (Messrs Golden Kamina and Sunday Lundanya); later a third informant, Ms. Anne Sumaili, who resides in Lusaka, was also engaged.

Initially twenty English verbs with their Lamba translations were picked from Doke's Lamba - English Dictionary (1937) and Lamba Vocabulary (1936). The Lamba entries were all affirmative infinitives and constituted our citation forms. To confirm Doke's translations, the informants were asked to translate the English words into Lamba and their responses were tape-recorded and later transcribed phonetically. After discovering that verb radicals were of two types, namely, those with a high tone on their first syllable and those with a low tone on their first syllable, the recorded verbs were sorted out into L and H types. Following this analysis four radicals were selected for further use, viz -Bón- 'see', - lí- 'eat', -lim- 'cultivate' and i 'go'. These radicals differ in terms of syllabic structure: -Bón- and -lim- have the -CVC- structure while -lí- and -i- have -CV- and -V- structure respectively. It was hypothesized (see 1.2.3, above) that the syllabic structure of the radical could have a significant impact on the realization of tone.

Using these verbs, a questionnaire was drawn up. In this questionnaire the verbs were used in sentences in all the morphologically marked moods and tenses/aspects and other grammatical categories (see chapter 2 for a discussion of these categories). In the indicative mood, which, in Lamba, ~~is~~ the only mood which is subject to relativity (that is, the distinction between absolute (non-relative) clauses and relative clauses) the questionnaire was divided into two categories: absolute (non-relative) and relative. In each case the verbs were used in both the positive and negative with

or without an object infix. In addition, each verb form was used in isolation and followed by words in the same sentence. This was so because the preliminary investigation had revealed these distinctions as pertinent. For the other moods all the parameters mentioned above were also used except the dichotomy absolute/relative which does not exist for them. All the sentences were in English and the informants were asked to translate them into Lamba. The interviews were tape-recorded and later transcribed phonetically. In the absence of equipment for determining tone, the researcher relied on his ears. Most of the data obtained from the interviews are given in Appendix IV and it is from these that all examples in this work are obtained.

### 1.3.2 Data Analysis and Theoretical Model

The data was analyzed within the framework of Autosegmental Phonology, henceforth ASP. Initially, the verb forms were analyzed in isolation (that is, sequentially). Comparisons were then made and on the basis of the observations rules formulated to account for the tonal phenomena. Having said this, let us briefly discuss the major tenets of the ASP approach.

The ASP approach, though used earlier by scholars like Leben and Williams (see Kentowicz and Kisseberth, 1979), was popularised by Goldsmith (1976) and developed further in Clements and Goldsmith (1984) as a 'radical' approach towards the analysis of tonal phenomena (see for instance, Batibo, 1986 Basboll, 1988 Miti, 1988, Katamba, 1989, Kaye, 1989). ASP was developed as a reaction to the inadequacies of Standard Generative Phonology

or without an object infix. In addition, each verb form was used in isolation and followed by words in the same sentence. This was so because the preliminary investigation had revealed these distinctions as pertinent. For the other moods all the parameters mentioned above were also used except the dichotomy absolutive/relative which does not exist for them. All the sentences were in English and the informants were asked to translate them into Lamba. The interviews were tape-recorded and later transcribed phonetically. In the absence of equipment for determining tone, the researcher relied on his ears. Most of the data obtained from the interviews are given in Appendix IV and it is from these that all examples in this work are obtained.

#### 1.3.2 Data Analysis and Theoretical Model

The data was analyzed within the framework of Autosegmental Phonology, henceforth ASP. Initially, the verb forms were analyzed in isolation (that is, sequentially). Comparisons were then made and on the basis of the observations rules formulated to account for the tonal phenomena. Having said this, let us briefly discuss the major tenets of the ASP approach.

The ASP approach, though used earlier by scholars like Leben and Williams (see Kentowicz and Kisseberth, 1979), was popularised by Goldsmith (1976) and developed further in Clements and Goldsmith (1984) as a 'radical' approach towards the analysis of tonal phenomena (see for instance, Batibo, 1986 Basboll, 1986 Miti, 1988, Katamba, 1989, Kaye, 1989). ASP was developed as a reaction to the inadequacies of Standard Generative Phonology.



The latter is said to be a linear theory, by which it is meant that in this theory suprasegments, including tone, are part and parcel of segments both underlyingly and superficially. ASP, therefore, arose as a result of the observation that the Standard theory, as expounded by Chomsky and Halle (1968), was 'not adequate for certain types of morphophonemic processes, notably those involving tone, segmental length, vowel harmony' and others (Harlow, S. and N. Vincent, 1988:3). Although it was originally intended for the analysis of tone, ASP was later extended to cover other phenomena such as vowel harmony.<sup>6</sup> Tiersma observes that the major feature of ASP is that:-

It allows for a multilinear analysis and provides for placing segmental information on one tier and other information on a separate tier (Tiersma, 1981:231).

Atkinson and others (1989:256) also observe that ASP is unlike traditional linear phonology because it 'does not bundle phonological elements together into segments which follow each other strictly like beads on a string.' Rather, it recognizes the existence of a tonal tier and a segmental tier. The two tiers are connected by association lines in conformity with the Well-Formedness Condition (WFC) which was initially formulated as follows:

1. All vowels are associated with at least one tone
2. All tones are associated with at least one vowel.
3. Association lines do not cross. (Clements and Goldsmith, 1984; as quoted by Miti, 1988:56).

Further, Miti (1988:56) observes that Goldsmith and Clements

stipulate that if a derivation deviates from this convention, it is 'marked as ill-formed since the WFC is interpreted as a principle defining a neutral state from which any deviation is corrected automatically by convention' (Miti, 1988:57). Later on, the WFC has had to be reformulated as follows:

1. Associate free tones to free tone-bearing units from left to right.
2. Associate free (unassociated) segments in preference to bound (associated) segments, (a) giving precedence to segments linked to unaccented elements, otherwise, (b) giving precedence to segments on the left.
3. Add minimal number of association lines necessary to eliminate violation. (Clements and Goldsmith, (1984) as quoted by Miti, 1988:57).

By suggesting two levels of analysis, ASP is not only able to handle tonal variation more adequately but it is also able to account for phenomena such as contour tones, tone spreading and floating tones which are in essence the backbone of the approach but which could not be accounted for in the Standard theory (see, for example, Basboll, 1988:204; Miti, 1988:2). These phenomena have been investigated in several languages as is explained in the review of literature. Below are some illustrations of how tones are associated to Tone-bearing Units (TBU's) in the ASP approach.



This is a case where there are two tones against four tone-

bearing units. There are also cases where there are more tones than TBU's in which the association would look like this:



To illustrate the autonomy of tone vis-a-vis segments, let us take the noun umuntu 'person' and inkoko 'chicken' in Lamba and see what happens when they are used with the negative particle tee - 'it is not'.

1. (a) /'ínkoko/--> [í: nkòkò'] chicken'
- (b) /umuntu/ --> [ùmù: ntù'] 'person'
- (c) /tee ínkoko/--> [té: nkòkò'] 'It is not a chicken'
- (d) /tee umuntu/--> [tè: mù: ntù'] 'It is not a person'

The examples above show that while /i/ in 1(c) and /u/ in 1 (d) are deleted after /ee/ their tones (ie, H and L respectively) are not; they are taken on by the /ee/ of /tee/. This shows the autonomy of tone, hence the term 'autosegment' as used in ASP to refer to traditional suprasegments. In fact these examples illustrate the occurrence of tone stability after the application of the phonological rule of vowel elision.

#### 1.4. Related Literature

It has already been highlighted that there is very little linguistic literature on Lamba. The only notable attempts at

studying the language were made by Doke (1927, (1931, 1937 and 1938). Amongst these it is perhaps the last that has direct relevance to this study. This work, 'a textbook of Lamba grammar' discusses the word classes in terms of their form, derivation and syntactic function. Further, foreign words and terms that have been adopted from other languages are discussed.

In his analysis of the Lamba verb, Doke begins by offering what one might call the 'traditional' definition of the verb: that it is a word which signifies an action and which is in agreement with the subject (Doke, 1938: 169). Doke observes that this definition excludes imperatives and infinitives as these are 'interjections' and nouns respectively although both have qualities of the verb. He also suggests three criteria for classifying verbs, viz, (a) by looking at the syllabic structure of the stem, (b) in terms of mood and (c) according to the syntactic function of the verb. In terms of syllabic structure, Doke observes that Lamba verbs may be (a) mono-syllabic (in which case they are usually consonant-initial), (b) bi-syllabic and (c) vowel verb stems which begin with a vowel and may have two or more syllables.<sup>7</sup> Regarding mood, Doke identifies three finite ones, viz, indicative, subjunctive and conditional (with each of the moods having several tenses) and a number of non-finite moods such as the infinitive and the imperative. In terms of syntactic function, Doke observes that the Lamba verb may be transitive if for its meaning to be fully realized it requires an object, intransitive if it does not require an object or locative if it requires a locative construction.

It should be mentioned that while Doke (1938) is an impressively concise record of Lamba 'grammar', it is important to bear in mind that more than four decades have passed since its publication and, consequently, some of the forms it discusses may have changed-languages are not static. For instance, today it is more common to hear a Lamba person say ndeelyee' nshima 'I am eating nshima' than ndukulyee' nshima 'I am eating nshima'.<sup>8</sup>

There are other works which, though not dealing with Lamba directly, have relevance to this study. Some of these are Guthrie (1948), Fortune (1959), Ohannessian and Kashoki (1978), Kashoki (1968), Sharman (1955), Sharman and Meeussen (1956), Kashoki, Mann and Wright (1977), Lisimba (1982) and Miti (1988). Some of these have already been mentioned in 1.1. above.

In his work of 1948, Guthrie offers a topological classification of all Bantu languages organized in geographical zones and groups. He classifies Lamba as M54. Fortune (1959) follows Guthrie's classification and states that Lamba has Lima, Swaka and Seba as its dialects in addition to Lamba proper.

Ohannessian and Kashoki (1978) is perhaps the most extensive publication on the languages of Zambia. In this work an attempt is made to record the history of the languages of Zambia as well as to group them according to their relatedness in terms of origin, phonology and vocabulary. This work also has articles on patterns of language use and on language in education.

Sharman (1956), Kashoki (1968) and Mann (1977), though focusing on other aspects of what Kashoki (1968: 1) calls 'central Bemba', also discuss the tonology of the language in rather general terms. It is important to mention that none of these studies uses the ASP approach; rather they all use the linear approach. In fact, amongst them, it is only in Sharman (1956) that tone is looked at in detail and rules formulated to account for the surface tones. Sharman (1955) and (1956) are significant only in that they investigate the nature of the verbal system of Bemba--a system which undoubtedly has similarities with that of Lamba.

Miti (1988) investigates tonal variation in the varieties of Zambian Nyanja (Cewa, Nsenga and Ngoni) using the ASP approach. Miti discusses the major tenets of the ASP theory (that is, the occurrence of contour tones, tone stability and automatic spreading) and accounts for their occurrence in the Nyanja varieties. He notes, for instance, that in these varieties tone stability occurs where there is de-syllabicization and vowel elision as in the following examples:-

2. (a) de-syllabicization

$$\begin{array}{c} \text{H} \qquad \qquad \text{H} \\ | \qquad \qquad | \\ \text{mu-ana} \rightarrow \text{mw-ana} \rightarrow [\text{mwâ: nâ}] \text{ 'child'} \end{array}$$

(b) vowel elision

$$\begin{array}{c} \text{H} \qquad \qquad \text{H} \\ | \qquad \qquad | \\ \text{Mu-kwasu} \rightarrow \text{mwa-kwasu} \rightarrow [\text{m'kwàsù}] \text{ 'brother' (Miti, 1988:} \end{array}$$

59).

Miti explains that in these examples where there is glide formation (as in (a) where /u/ becomes a glide) the H tone associated to the original /u/ is now linked to /a/ and in (b) where there is vowel elision, the remaining /m/ in /mu/ gains syllabicity and the tone that was associated with the now non-existent /u/ is linked to it. Two final, but important, points should be raised about Miti's work. First, it should be noted that this work investigates not only tonology but also the morphology of both the verb and the noun and uses the theory of lexico-statistics to establish the extent of vocabulary correspondences between varieties. The second point relates to the major difference between Miti's work and the present one, that is, while the former looks at a number of language varieties within the framework of comparative dialectology the latter focuses on only one.

A significant contribution to the understanding of Bantu tonology especially within the context of ASP has been made by Goldsmith's (1984) work on Tonga (note that Goldsmith is one of the prominent names in ASP circles). In his analysis of Tonga tonology, Goldsmith establishes that Tonga is an accented language.

There are several other works which evaluate the Autosegmental view and in which examples of how tonology can be approached are found. Some of these works are Kenstowicz and Kisserberth

(1979), Kaye (1989), Katamba (1989), Batibo (1986) and Atkinson et al (1989).

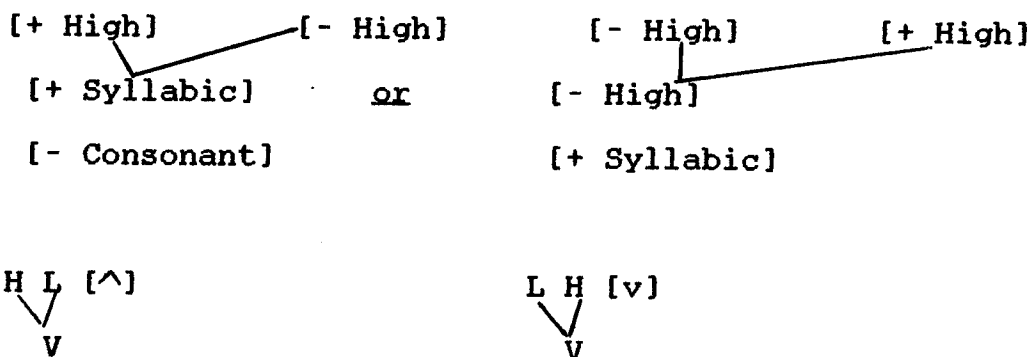
In their work of 1979 Kenstowicz and Kisserberth discuss the major trends in generative phonology and give an evaluation of the standard theory in the light of recent developments. They observe that two approaches to the study of tone can be distinguished, *viz* linear and ASP. Both approaches are said to fall within the framework of generative phonology, which views phonological elements in terms of feature specifications such as [ $\pm$  syllabic], [ $\pm$  anterior], [ $\pm$  coronal] and so on. They observe that whilst the description of tone has been affected by the principle of feature specification, it should, however, be stressed that tone is unlike other phonological elements in that it is a 'multi-valued scalar feature' which is able to function in a whole host of complex ways. Kenstowicz and Kisserberth also present and evaluate the reasons advanced in support of both linear and ASP approaches. They note that while in the former tone is viewed as a feature of the vowel and syllabic consonants, in the latter it is held that tone must be associated with morphemes (see also Batibo, 1986:35). Secondly, the linear approach holds the view that there are languages in which tonal realization is dependent upon phonetic environment in which the TBU finds itself, a situation which would not exist if tone and the segment were separate. On the other hand, the ASP approach advances the existence of contour tone, tone stability, automatic spreading and floating tones as evidence to strengthen the 'tone autonomy' argument:



Tone stability is taken to mean that when an underlying tone-bearing unit (normally a vowel) is either deleted or becomes non-syllabic and loses its ability to bear tone, the tone still survives and surfaces on an adjacent syllable (Katamba, 1989: 194).

Automatic spreading refers to the tendency for the tone borne by a segment that has been deleted to be 'spread over the now smaller chain' (Basboll, in Newmeyer, 1988: 204).

Concerning contour tones, it has been observed that they have the following internal structures where [+ high] stands for High tone, [-High] stands for low tone, <sup>[^]</sup> stands for falling tone and [V] stands for rising tone.



In concluding this review, it should be emphasized that the works cited are only those that have attempted to either look at the verbal system of Lamba or other related languages and the tonal systems of the latter or have used or reviewed the ASP approach. Consequently, this review is far from being exhaustive.

### 1.5. Historical and Sociolinguistic Background

This section addresses itself to issues related to the history of Lamba and Zambia's language situation and policy.

A good starting point would be to establish the areas in which the language (Lamba) is spoken. On the whole, much of the available literature suggests that Lamba has been, and is, spoken in and in the areas around the Copperbelt Province of Zambia and the Southern part of the Shaba Province of Zaire (Johnston 1919, Doke 1927, Bryan 1959, Luchembe 1974 and Ohannessian and Kashoki 1978). In fact, it would not be an exaggeration to assert that today the boundaries of Lamba extend into some parts of Northwestern and Central provinces of Zambia (see Map 2).

It is argued in the literature that the Lamba were one of the groups that originated from the Luba-Lunda Empire which was situated somewhere in the southern part of the present-day Zaire. Kashoki (1978: 9) asserts that the Lamba were one of the groups from Zaire 'that resulted in more or less distinct language groups'.

Historically the Lamba people are 'an agricultural and hunting people living in small villages sometimes far removed from one another' (Doke, 1927: xi). Each village is run by a headman who is directly responsible to the chief. Some of the prominent Lamba chiefs are Mushili, Nkana, Chiwala, Lesa, Ndubeni and Shibuchinga. Though the Lamba people are predominantly agriculturalists, their proximity to the copper mines has had a great impact not only on their way of life but also on their language.<sup>9</sup> For instance, Doke (1938: 401) observes that Lamba has had English words incorporated into it as a result of its contact with modern civilization, and '... the strong influence of Bemba in the mining areas of the Copperbelt is of considerable

importance.' Doke further states that Lamba has acquired words from other languages such as Portuguese, Swahili, Nyanja, Lenje, Kaonde and Afrikaans. <sup>10</sup>

The language situation in Zambia is quite complex owing to the great number of 'languages' spoken in the land and to population mobility. It is, in fact, not clear as to how many languages there are in Zambia; there are over 73 ethnic groups claiming to speak different languages so that it is often argued that there are over 73 languages spoken in Zambia (Ohannessian and Kashoki, 1978). There is a tendency to associate language with ethnic group or 'tribe' (see also Miti, 1979:)

Perhaps the difficulty in determining how many languages there are in Zambia arises from the lack of clarity in the use of the terms language and dialect". Distinguishing between these two concepts, it must be appreciated, is a rather difficult task as has been observed by scholars like Ladefoged, Glick and Cripser (1971), Ohannessian and Kashoki (1978) and Haugen (1979) who note that the two terms' meaning are ambiguous. Haugen states this case clearly when he writes about the relationship between the difficulties encountered when attempting to state how many languages are spoken in the world and the lack of clarity of the terms language and dialect:

...the impossibility of stating precisely how many languages or dialects are spoken in the world is due to ambiguities of meaning present in these terms.... The use of these terms has imposed a division in what is often a continuum, giving what appears to be a neat opposition when the edges are rugged and uncertain (Haugen, 1979: 97).

It may be noted that it is virtually impossible to determine whether Lamba is a language or a dialect of Bemba to which it is related. for instance, while Guthrie (1948) classifies Lamba and Bemba as Zone M54 and M42 respectively, (that is, he regards the two as separate but related languages), Kashoki (1978: 19) puts both in the same group although he acknowledges that the two are different in some respects.

In this study, however, Lamba is considered to be a language, although it is appreciated that this is a rather debatable stand. It is our view that the distinction between language and dialect is rather elastic and is perhaps only helpful for comparative purposes.

We wind up this section with a brief look at the language policy in Zambia. This, it must be point<sup>ed</sup> out, has been covered in works like Mwanakatwe (1968), Africa (1980), Simukoko, (1981), Chishimba (1984), Chisanga (1987), Siachitema (1987) and many others. However, it is worth reiterating that from the numerous indigenous languages, seven are used for official purposes (in education, media and administration). These are Bemba, Kaonde, Lozi Lunda, Luvale, Nyanja and Tonga. Of these, four are taught at both primary and secondary school levels (Bemba, Lozi, Nyanja and Tonga), while the rest are taught only at primary school level. These languages are meant to be taught in specified areas (or zones): Bemba in the Northern, Luapula, Copperbelt and parts of Central Provinces; Tonga for Southern Province and some parts of Lusaka Province; Lozi for Western Province (and Livingstone

in the Southern Province); Nyanja for Lusaka and Eastern Provinces and Kaonde, Lunda and Luvale for North-Western province (see map 1). In addition to these languages there is the English language which, since 1965, has been the official medium of instruction in the educational system from Grade 1 through university.<sup>I2</sup> It would be noted that Lamba, the subject of this study, is not an official language. Instead, the official language in Lamba-speaking areas is Bemba. This is in spite of the Lamba people's resentment of and opposition to the use of Bemba in their areas as observed by Serpell.<sup>I3</sup>

In the Copperbelt Province complaints have been voiced by Lamba-speaking parents against the use of Bemba as a medium of instruction (Serpell in Ohannessian and Kashoki, 1978: 436-437).

#### 1.6. Some Notes on the Phonology of Lamba

The phonemic system of Lamba comprises segments and suprasegments. The former category consists of vowels, consonants and glides and the latter includes amongst others length and tone. Vowels, glides and consonants are shown in the feature matrices below. Note that figure 1 is a matrix of all Lamba sounds without removing redundancies. These redundancies are removed in Figure 2 where the sounds are minimally described.

It should be pointed out that the sounds presented in the matrices are only those that are phonemically significant (that is, phonemes). Phonemes may have several variants (allophones) whose use is dependent upon the phonetic environment. For instance, (3) and (4) below give the allophones of the phonemes

Fig I Feature description of Lamba Phonemes

	i	e	a	o	u	p	B	t	l	k	g	s	f	v	ɣ	m	n	ɳ	ɰ	y	w
SYLLABIC	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CONSONANTAL	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-
INTERRUPTED	-	-	-	-	-	+	-	+	-	+	+	-	-	+	+	+	+	+	+	-	-
ANTERIOR	-	-	-	-	-	+	+	+	+	-	-	+	+	-	-	+	+	+	-	-	-
BACK	-	-	+	+	+	-	-	-	-	+	+	-	-	-	-	-	-	-	+	-	+
CORONAL	-	-	-	-	-	-	-	+	+	-	-	+	-	+	+	-	+	+	-	-	-
HIGH	+	-	-	-	+	-	-	-	-	+	+	-	-	+	+	-	-	-	+	+	+
LOW	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LATERAL	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-
SPIRANT	-	-	-	-	-	-	+	-	-	-	-	+	+	+	+	-	-	-	-	-	-
DELAYED RELEASE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
VOICE	+	+	+	+	+	-	+	-	+	-	+	-	-	+	+	+	+	+	+	+	+
NASAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	-	-

Fig 2: Minimal Feature description of Lamba Phonemes

	i	e	a	o	u	p	B	t	l	k	g	s	f	v	ɣ	m	n	ɲ	ɕ	w
SYLLABIC	+	+		+	+													-	-	-
CONSONANTAL																		-	-	
INTERRUPTED						+		+		+	+									
ANTERIOR						+		+								+	+			
BACK	-	-		+	+					+	+							+	+	+
CORONAL						-		+				+	-			-	+			
HIGH	+	-		-	+															
LOW			+	-																
LATERAL									+											
SPIRANT							+					+	+							
DELAYED RELEASE														+	+					
VOICE							+			-	+		-	-	+					
NASAL																+	+	+	+	

/B/ and /l/, respectively.<sup>I<sub>4</sub></sup>

(3) /B/---→ [b]/ Nasal --

This rule means that the phoneme /B/ is realized as [b] after a nasal and as [B] elsewhere as in 3 (a) and (b) respectively. This rule should be observed although in the orthography the letter 'b' is often used. (In the present work the fricative (B) is written as B so as to avoid complications in typing. This means that wherever B occurs in the data and the examples it should be read as [B]).

(a) Íimbwa---→[í:mbwà ] 'dog'

(b) aBáánike-----→[àBá:nìkè ] 'children'

(4) /l/---→ [d]/ Nasal -- states that the phoneme /l/ is realized as [d] after a nasal and as [l] in all other environments as in the examples below.

(5) (a) /n-la- lí-a/-----→ [ndályà] 'I eat'

(b) /Ba-la-lí-a/-----→ [Bàlályà ] ' They eat'

These are but a few examples of the nature of Lamba allophones vis-a-vis phonemes. There are other phonemes which may have one or more allophones. For a detailed discussion of Lamba sounds it is recommended that Doke (1938) be consulted.

It is important at this stage to mention the salient, segmental rules which, as is explained in Chapters 2 and 3 may affect tone



patterns; these are glide formation (see (5) a and b where the fusion of the vowels /i/ and /a/ produces a glide /-y/); consonant harmony (as in (5) a where the rule in (4) applies and /L/ becomes /d/ because it comes after a nasal /n/; vowel harmony and vowel coalescence as in (6) and (7) below respectively.

- (6) (a) -tem-il-a-----> temena 'cut down trees for'  
 (b) -tóB-ulul-a---> toBólola 'pull down a house'

Note that in (a) above there is also consonant harmony (or nasal assimilation) where the non-nasal sound /l/ is assimilated by the preceding nasal

At this stage a word or two should be said about the process of vowel coalescence where two vowels which are in contact fuse. Below are some examples:

- (7) (a) a+a---->a:  
 /ukúBona aBáá'nike/-----> [ùkùBònâ: Bâ:nìkè] 'to see the children'  
 (b) a+i---->e:  
 /ukúBona inkálamba/-----> [ùkùBònê: nkálàmbà] 'to see an angel'  
 (c) a+u-----> o:  
 /ukúBula ukúBona/---->[ùkùBulô: kùBònà] 'not to see'  
 (d) e+i--->e:  
 /Baalißwene inkálamba/--->[Bâ: lißwè: nê; nkálàmbà] 'they

saw an angel.

It has been mentioned that Lamba has two suprasegmental features: viz length and tone. These are features that are superimposed on segments; note, however, that in Chapter 2 they are treated as autonomous entities in line with the ASP theory.

In Lamba length is a phonemically distinctive suprasegmental feature as is shown by the following examples (minimal pair).

- (8) (a) ukunona [ùkùnònà] 'to be fat' (of animals)  
(b) ukunoona [ùkùnò:nà] 'to sharpen'

Tone is discussed in Chapter 2. It is, however, important to mention at this state that two level tones are attested in Lamba, viz, H (igh) and L (ow). Tone is phonemically significant in that it performs both lexical and grammatical functions. On the lexical level it distinguishes words which are 'similar in every other way but which have different tones and hence different meaning' (Mann, 1977: 15). For example in (9) below tone is responsible for the difference in meaning between the two words

- (9) (a) ukwimba [úkwì:mbà] 'to sing'  
(b) ukwimba [ùkwì:mbà] 'to dig'

On the grammatical level tone 'is used for signalling grammatical distinction' (Katamba, 1988: 187). It thus distinguishes grammatical categories such as tense and mood (see chapter 2 for a discussion of these categories).

### NOTES

1. There are other scholars like Karl Meinhof, S. Koelle, Joseph Greenberg and many others who have made significant contributions to Bantu linguistics. Greenberg classifies the languages of Africa (not just Bantu languages as does Guthrie) on the basis of their genealogy. In fact before Bleek there were other scholars like H. Lichtenstein who had earlier worked on Bantu languages. Credit, however, goes to Bleek for being the first to attempt to study these languages systematically; indeed he is the 'father' of Bantu linguistics.
2. Reference to a language as major or minor is by and large arbitrary and subjective. Perhaps one of the reasons given was the number of speakers but even this is not a precise criterion. Nevertheless, the literature suggests that Nyanja, Bemba, Lozi and Tonga have always occupied a place of 'honour.' This position seems to have been strengthened by the national language policy.
3. Plateau Tonga is regarded as the 'Standard variety,' the officially useful variety. There are, however, other varieties of Tonga such as valley Tonga of Gwembe.
4. Presently it appears that their role is only of academic value. For instance, while the University of Zambia's Department of Literature and Languages recognizes this and makes it a component for the course ZLG 410, nothing seems to have been done about these languages' role in education beyond the University lecture room.
5. In a paper entitled 'Language, Law and Human Rights vis-a-vis the Place and Role of Non-official Languages in Democracy in Multilingual Setting' presented at an Institute of African Studies, University of Zambia, Seminar, Prof. Mubanga Kashoki presents a case for the non-official languages because he feels that language is both a human right and a resource.
6. Vowel harmony is a phonological process in which in certain environments vowels agree with each other in terms of certain features e.g., High or Low.
7. The syllabic structure given here is based on the surface representation. This may not be the case in the underlying representation. For instance, while lva 'eat' is monosyllabic in the surface representation (it has syllabic structure CCV), its realization underlyingly is different: li-a (i.e. cv-v). The relationships between the surface representation and the Underlying representation especially with reference to tone is discussed in detail in Chapter 2.
8. J. Kamina, Interview 20/06/92.
9. Chief Mushili on his 30th anniversary of his ascension to power argues that the Lamba were the first to discover Copper

Mines which the white man later took over (Sunday Times of Zambia, 1/11/92, p.1.

10. Some of the words that have come into Lamba from other languages with the languages of origin in brackets are imbataata 'potato' (Portuguese); umwamfuli 'umbrella' (Swahili); pempela 'worship' (Nyanja); lupenie 'warthog' (Kaonde) (Doke, 1938).

11. A number of criteria for distinguishing between these notions have been postulated; some of these are prestige, size, and mutual intelligibility. It is felt that a language has more prestige than a dialect; that a language has more speakers and has a wider spatial boundary than a dialect; and that while dialects of the same language are mutually intelligible, different language are not. These criteria are not apt, though. For instance, the issue of mutual intelligibility is one of degree; or in terms of size, how big or small should the area covered by a language or dialect be?

12. With the growing numbers of families using English as the first language, English is gradually becoming a 'Zambian' language.

13. See also Lehman, 1978: 106.

14. Some phonological rules are responsible for the occurrence of the allophones (e.g. /s/--->[ʃ] (palatalisation); /l/-->[d] (stopping)).

## CHAPTER TWO

### A TONOLOGICAL ANALYSIS OF THE LAMBA VERB

#### 2.0. General

This chapter sets out to present a tonological analysis of the Lamba verb using the theory of ASP. It first discusses the morphological structure of the verb and the various grammatical categories that characterize it. These are then analyzed for tone, first on an individual basis and then generalizations are made. It should be emphasised that although this chapter primarily concerns itself with the analysis of verbal tonology in Lamba, it is necessary to discuss the morphology of the verb because morphology is integrally connected with tonology in linguistic structure.

#### 2.1. Grammatical Categories

##### 2.1.0 General

Any study of the verb in Lamba and indeed any other Bantu language, should, of necessity, consider the major grammatical categories that are morphologically or/and phonologically marked. For the study of Lamba verb forms, the relevant grammatical categories are mood, tense, aspect, relativity (relative and absolute (non-relative order) and polarity (positive/negative).

##### 2.1.1 Mood

In Lamba the category 'mood' comprises five members which are morphologically marked, namely, the infinitive, the imperative,

the indicative, the potential, and the subjunctive.<sup>1</sup> In this study these are used in the traditional sense. The notion 'mood' in this study is used to refer to 'grammatical distinctions in verb forms which express a speaker's attitude to what he is saying. (Hartmann and stork, 1972: 144). A verb may, in this vein, be used to make a statement (indicative mood), give a command (imperative mood), make a wish, a supposition or a concession (subjunctive mood) or indicate a condition or a possibility (conditional or potential mood). It is important to note that the infinitive mood (usually marked by the prefix Ku-) has the ability to behave as a noun (for instance nominal class 17). Below are some examples:

(10) Infinitive: úkulya 'to eat'

Imperative: lyá: 'eat.'

Indicative: Balálya 'they eat'

Subjunctive: úlye 'You should eat/may eat'

Potential: Bangeesa 'they can/could come!

It should be pointed out that while we have isolated the five major moods above, there are other moods which are not morphologically marked such as the interrogative and, to some extent the potential; Doke refers to the latter as the conditional (Doke, 1938). These moods are syntactically marked; for instance, the 'conditional' mood is marked by kani + -nga- as in

(11) kani Ba-nga-is-a-->[kániBangé:sa] 'if they could come'

The interrogative may be marked by words which may in English be translated as 'when,' 'why,' 'what,' 'which' and other particles when used in questions.

(12) (a) Balúkulyeéndo.? (Balúkulya índo?) 'What are they eating?' (lit. they are eating what?)

(b) Bakalimá líisa? 'When are they going to cultivate (lit- They are going to cultivate when?)

It should be emphasized, though, that the interrogative is not investigated in detail in this study because it is phonologically, and not morphologically, marked.

### 2.1.2 Tense

The category 'Tense' is associated with three of the five moods that have been identified in 2.1.1, namely the indicative, the subjunctive and the imperative moods, as shown in the table.

Fig 3. Co-occurrence of Tenses, Aspects and Moods

	TENSE/ASPECT	INDICATIVE	SUBJUNCTIVE	IMPERATIVE
	PRESENT	✓	✓	✓
PAST	Hodiernal	✓	NIL	NIL
	Pre-hodiernal	✓	NIL	NIL
FUTURE	Hodiernal	✓	✓	✓
	Post-hodiernal	✓	✓	NIL

Two points should be raised here. First, it should be emphasized that the infinitive and the potential are tenseless. Secondly it should be noted that some of the slots in the table above may not be morphologically differentiated. For instance úlve may be either in hodiernal future subjunctive ('You should eat now') or hodiernal future imperative ('You should eat later today'). Below are some further examples showing co-occurrence of the Moods and tenses in Lamba.

- (13) a. Present indicative: ndáBona 'I eat'  
 b. Present Subjunctive: UBóne 'You should eat'  
 c. Present Imperative: Bóna 'see'  
 d. Hodiernal Past Indicative: BaacíBona 'They saw today'  
 e. Pre-hodiernal past indicative: Baalíliile 'They ate'  
 f. Hodiernal Future Indicative: BáákuBona. 'They will see (today)'  
 g. Hodiernal Future Subjunctive: úlve 'You should eat today'  
 h. Hodiernal Future Imperative: UBóne 'You must see'  
 i. Post-hodiernal Future Indicative: BakaBona 'They will see.'  
 k. Post-hodiernal Future subjunctive. Bakálye 'They must eat'.

### 2.1.3 Aspect

In Lamba five aspects have been identified: the progressive, the habitual, the persistive ('still') the punctual and the perfect,



as illustrated below:

(14) Progressive	Balúkulya	'They are eating'
Habitual	Balálya	'They eat'
Persistive	Bacílya	'They are still eating'
Perfect	Balíliile	'They have eaten'
Punctual	Báákulya	'They will eat today'

These aspects may co-occur with other grammatical categories (mood and tense as is shown below):

FIG.4 CO-OCCURRENCE OF TENSES AND ASPECTS

MOOD	TENSE	ASPECT	EXAMPLE	GLOSS
INDICATIVE	PRESENT	Habitual	Balálya	They eat
		Progressive	Balúkulya	They are eating
		Persistive	Bacílya	They are still eating
		Perfect	Balíliile	They have eaten
	Hodiernal	Simple	Baalya	They have eaten
			Baacilya	They ate (today)
		Progressive	Baaciláalya	They were eating (today)
	PAST Pre-hod.	Punctual	Baalíliile	They ate
		Progressive	Baalúkulya	They were eating
			Baaléelya	They were eating
		Perfect	Baalíliile	They ate
	Hodiernal	Punctual	Báákulya	They will eat
			Baléelya	They will be eating
		Progressive	Báákulúkulya	They will be eating (today)
		Perfect	Bákulúkuliile	They will have eaten
	FUTURE Post-hodiernal	Punctual	Bakálya	They will eat
		Progressive	Bakálukuβona	They will be eating

MOOD	TENSE / ASPECT		EXAMPLE GLOSS
SUBJUNCTIVE	present	Punctual	Bálye 'They should eat'
		Progressive	Báleekúlya 'They should be eating'
		Perfect	Báleekúliile 'They should have eaten'!
	FUTURE	hodiernal Punctual	Bálye 'They should eat (today)'
		Progressive	Báleekúlya 'They should be eating (today)'
		Perfect	Báleekúliile 'They should have eaten'!
IMPERATIVE	PRESENT	Punctual	Lyá 'eat'
		Progressive	Bóna 'see'
			úleekúBona 'You should be seeing'
	FUTURE	hodiernal Punctual	Koolya 'You should be eating'
		Progressive	úlye 'You must eat'
			koolya 'You should eat'
	post-hodiernal	Punctual	múleekúlya 'You must be eating'
		Progressive	kamúlya 'You must be eating'
			ukálye 'You must eat (in Future)'
		Punctual	ukáBone 'You must see'
		Progressive	ukáleekúlya 'You should be eating'
			ukáleekúBona 'You (sg) should be eating'

On the basis of the co-occurrence of mood, tense and aspect, we can isolate and represent the markers of these grammatical categories as in the table below.

FIG. 5 Markers of Mood, Tense <sup>2</sup>

MOOD	TENSE	ASPECT	MARKER
INDICATIVE	PRESENT	Punctual Progressive Perfect Persistive	-la- -a -lee- -a/-luku- -a -li- -ile -ci- -a
	hodiernal	Simple	-a- -a/ -aci- -a
	PAST pre- hodiernal	Progressive Punctual Progressive Perfect	-acilaa- -a -aali- ile -aaluku- a -aali- ile
	hodiernal FUTURE	Punctual Progressive Perfect	-ku- -a/ -lee -a -akaluku- -a -akuluku- -ile
	post- hodiernal	Punctual Progressive	-ka- -a -kalu- -a

#### 2.1.4 Relativity (Absolutive-Relative Order)

As suggested by the term 'absolutive-relative order,' this category comprises two sub-categories, the absolutive and the relative. The absolutive form of the verb is one where the verb form is used in a clause that is not a relative clause and a relative verb form is one that is used in a relative clause. This dichotomy is relevant to Lamba as is shown below.

- (15) (a) ABáánike BalúkuBona 'The children are seeing'  
 (b) ABáánike áBalúkuBona 'The children who are seeing'

In the example above the only semantico-syntactic difference between (a) and (b) is that in (a) the verb is used in a non-

relative (absolute) clause while in (b) it is used in a relative clause. It may be noted that relative clauses in Lamba are those introduced by words which correspond to the English relative pronouns who, whom, which, that and so on with their use dependent upon the nature of the subject--whether it is human or non-human as in the examples below:- <sup>3</sup>

- (16) (a) Ímbwa íilyée nshima 'The dog that/which eats nshima.'  
(b) IBala íli Báálimine 'The farm which they cultivated.'  
(c) ABaantu áBalyée nsoka 'The people who eat snakes.'  
(d) Kalúmbwana úu mwaBóna 'The boy who you have seen.'

It is also important to distinguish between subject relative clauses and non-subject relative clauses as is shown in (b) and (c) below respectively.

- (17) (a) ÁBaana BalúkuBonée nkálamba (áBaana BalúkuBona inkálamba). 'The children are seeing an angel'. (non-relative)  
(b) áBaana áBalúkuBonée nkálamba ( áBaana áBalúkuBona inkálamba) 'The children who are seeing an angel.'  
(subject relative)  
(c) (i) Inkálamba íi BalúkuBona áBaana 'The angel whom the children are seeing.'  
(ii) Inkálamba ii áBaana BalúkuBona 'The angel <sup>(which)</sup> the children are seeing.' (non- subject relative).

Note the presence of a- in (b) and its absence in (c) before the verb. It should also be noted that in non-subject relative clauses it is possible to use the zero (Ø), relative (that is a relative clause in which a relative pronoun is not included structurally) as in the following example.

- (18) (a) IBala áBaana Balúkúlima 'The farm the children are cultivating.' Contrast this with the following:-

- (a) IBala íli áBaana Balúkúlima 'The farm which the children are cultivating.'

It is important to make it clear that the category absolutive - relative is relevant in the indicative only.

#### 2.1.5 Polarity (positive-negative)

This category co-occurs with every other category; that is, to every positive verb form, there is a corresponding negative form. Below are some examples.

- (19) (a) UkúBona 'to see' (infinitive-positive)  
UkuBulóó kúBona 'not to see' (infinitive - negative)
- (b) Balálya 'They eat' (indicative present habitual positive)  
TaBalyapo 'They don't eat' (Indicative Present Habitual negative)
- (c) Ukályepo 'You should eat' (subjunctive past-hodiernal future positive)

Wíkalyapo 'You should not eat' (Subjunctive past-hodiernal Future negative)

Except for the infinitives, negation is morphologically marked; the nature of the negative marker to be used is dependent upon the nominal category 'person' - whether first person, second or third person (for instance, in (b) and (c) above ta- and -i- are used to refer to the third and the second person respectively. In the infinitive negation is syntactically marked, see for instance, 19 (a) above.

## 2.2. Morphological structure of the Verb

The structure of the Lamba verb is similar to that of all other Bantu languages which, as Miti (1988), observes comprises a radical and several affixes which precede it or follow it as in the following example.

(20) Ba-luku-Bón-a→[BalúkuBona] 'They are seeing'

The radical is the nucleus of the verb and may in some languages influence the application of tonal rules (Chanda, 1987).

There are several verbal morphemes (or constituents) which may precede and/or follow the Radical. These are presented in the table below:

FIG. 6 Lamba Verbal Constituents

CONSTITUENT	EXAMPLE	GLOSS
Pre-prefix	<u>ta</u> -Ba-li'-a-po (taBalyapo)	'They don't eat'
Prefix	Ba-la-li'-a (Balálya)	'They eat'
Tense/Aspect sign	Ba-luku-Bón-a (BalúkuBona)	'They are seeing'
Infix	Ba-luku- <u>mu</u> -Bón-a (BalukúmuBona)	'They are seeing him'
Radical	Ba-lu-ku- <u>li</u> -a (Balúkulya)	'They are eating'
Extension	Ba-li-mu-lim-il-ile (Balimulimine)	'They have cultivated for him'
Ending	Baluku-Bón- <u>a</u> (BalúkuBona)	'They are seeing'
Post-ending	muBón-a- <u>ini</u> (muBonéeni)	'See him'

In Lamba it is possible for all these morphemes to be used in one sentence as in the following example.

(21) TaBalúkumúliminapo 'they are not cultivating for him'

where ta- is a pre- prefix

-Ba-is a prefix

-luku-is the tense marker

-mu-is the object infix

-lim-is the Radical

-il-is the extension (applied)

-a-is the ending, and

-po is the post-ending.

It is important also to mention that these morphemes occur in the order in which they appear here and have specific functions to perform in the verbal system.<sup>4</sup> It should be emphasized that not

every verb can have all of these morphemes.

In winding up this section, a word or two more should be said about the prefix and the infix. It should be mentioned that the realization (form) of these morphemes largely depends on the nature of the enclitic they refer to as in (22) below.

(22) (a) Bákólwe taBaBónapo 'Monkeys don't see'

(b) UkúíBoná inkálamba 'To see the angel'

In (a) the underlined segment is the prefix while in (b) it is an infix. Appendix III gives all the possible prefixes and infixes *vis-a-viz* noun prefixes.

There are several verbal extensions in Lamba, these include among others the causative, the reciprocal, the associative, the reversive, the applied and the intensive.<sup>5</sup> All these extensions perform different functions in the verbal system of Lamba. For instance, the passive extension (suffix -u-) indicates that the subject has been acted upon by some agent, the reciprocal (suffix -an-) denotes the idea that something is done reciprocally; the reversive indicates a reversal of an action (suffix -ulul-, with variations depending on the phonetic environment); the applied is used 'to indicate an action when applied on behalf of, towards or with regard to some object' (Doke, 1938: 184); its suffix is -il- with variations depending on phonetic environment; it may be realized as -el-, -in- or -en-.



- (23) (a) -Bón--->Bón-u-a [Bónwà] 'Be seen' (passive)  
 (b) -Bón-an-a [Bónànà] 'See each other' (reciprocal)  
 (c) (i) -lim- -lim-il-a [Lìminà] 'Cultivate on behalf of'  
 (applied)  
 (ii) -Bómb--->Bómb-il-a [Bómbèlà] 'Work for/on behalf  
 of' (Applied)  
 (iii) -tém--->tém -il-a [témènà] 'Cut down trees for'  
 (Applied)

These are but a few examples of verbal extensions in Lamba. A more detailed analysis of these is made in Doke (1938); it is strongly recommended that this document be consulted for more examples.

Finally, it should be emphasized that the discussion of verbal morphology above is of paramount importance to this study since in the discussion of verbal tonology in the next sections constant reference will be made to morphological and phonological processes as these and tonal realization are inextricably interrelated.

## 2.3 Tone Patterns and Rules

### 2.3.0 General

This section discusses the tonal behaviour of the Lamba verb from an autosegmental point of view. Tone patterns are observed in terms of underlying and surface representations. Rules are then formulated to account for the relationship between these representations. The discussion is confined to the following

parameters: (a) mood, (b) tense and aspect, (c) polarity (d) relativity, (e) the position of the verb (whether in isolation or not sentence-final), (f) the nature of the word that follows the verb, and, (g) whether there is an infix or not. These elements determine the tone pattern that may occur. Except for the nature of the word (s) that follow (s) the verb, the other parameters have been discussed adequately in the preceding sections. It should be stated that words that may follow the verb in Lamba may fall into two broad categories, viz consonant-initial words and vowel-initial words. The former category may be further divided into two sub-categories: those consonant-initial words which do not induce the raising of the tone of the FV of the verb (type A, Bwino-type words) and those that do (type B, kolwe-type words).<sup>6</sup>

### 2.3.1 Surface Tonal Patterns

Several tone patterns are observable in the data. Further, there are differences between the surface representations and the underlying ones. For instance the positive infinitive úkulya 'to eat' which is underlyingly L-L-H-L (u-ku-lí-a) is realized as HLL (úkulya) superficially. Some of the surface tone patterns and the conditions under which they occur are illustrated below.

#### (i) # LHL<sup>h</sup>##

This pattern occurs in the positive infinitive with -CVC-, in the present habitual positive and the post-hodiernal future positive with CV(C) with or without an infix. In the infinitive it may also occur with CV

radical with an infix.

- (24) (a) ukúBona 'to see' (infinitive)  
 (b) ukúmuBona 'to see him' (infinitive)  
 (c) BaláBona 'they see' (Present habitual)  
 (d) BalámuBona 'they see him' (Present habitual)  
 (e) BakáBona 'they will see' (Post hodiernal future)  
 (f) BakámuBona 'they will see him' (post hodernal future)  
 (g) Bakácilya 'they will eat it' (Post-hodernal Future)  
 (h) ukúmulya 'to eat him' (infinitive)  
 (i) ndálya 'I eat' (indicative Present habitual)

(ii) # HL<sup>2</sup> ##

This pattern occurs with the positive infinitive with CV radical

(25) úkulya 'to eat'

ukúliila (not \*úkuliila) 'to eat on behalf of'.

(iii) # L<sup>n</sup> #

This pattern is used with

1. the positive infinitive with CV (C) radical before A

(26) ukuBona Bwino 'to see well'

2. the positive infinitive with CV (C)... ##

- (27) (a) ukulima 'to cultivate'      (b) ukulimina 'to cultivate  
for'

3. the positive present habitual, present progressive, post-hodiernal future and pre-hodiernal past with CV (C) radical with or without an infix-in the absolute, either in isolation or before A.

- (28) (a) Balalima 'they cultivate' (Present habitual)  
(b) Balalima Bwino 'they cultivate well' (Present habitual)  
(c) Balukulima 'they are cultivating' (Present Progressive)  
(d) -Balukulilima 'they are cultivating it' (Present progressives)

- (e) Bakalima 'they will cultivate' (Post hodiernal future)  
(f) Bakalima Bwino 'they will cultivate well' (Post-hodiernal future'.  
(g) Baalilimine 'they cultivated' present hodiernal Future)

4. the negative absolute present habitual and pre-hodiernal past with CV (C) radical with or without an infix.

- (29) (a) taBalyapo 'they don't eat  
(b) taBaBonapo 'they don't see' (Present habitual)  
(c) taBaaBweenepo 'they didn't' (Present habitual past)

(iv) #L<sup>n</sup>H#

This pattern occurs in the infinitive and all absolute indicative tenses with both CV<sup>1</sup> (C) and CV (C) radicals before B in both the positive and the negative. Below are some examples:-

- (30) (a) ukuBoná kolwe 'to see the monkey' (infinitive)  
 (b) ukulimá na káBili 'to cultivate again' (infinitive).  
 (c) BalaBoná kolwe. 'They see the monkey (Present habitual positive)  
 (d) taBaBonapó kolwe 'they don't see the monkey (negative Present habitual).  
 (e) BakaBoná nakaBili 'they will see again' (Positive post modernal future).

These are just some of the examples illustrating the occurrence of the pattern above.

(v) #L<sup>2</sup>HLHL<sup>n</sup>##

-This tone pattern is used in the absolute present progressive negative with both CVC and CVC radicals with or without an infix.

- (31) (a) taBalúkuBónapo 'they are not seeing'  
 (b) taBalúkucíBonapo 'they are not seeing it'

- (c) tatulúkúlimapo 'we are not cultivating'
- (d) tatulúkucílimapo 'we are not cultivating it'

(vi) #L<sup>2</sup> HL<sup>n</sup>##

This pattern occurs in the negative post-hodiernal future with or without an infix with both CV<sup>1</sup> (C) and CVC radical.

- (32) (a) taBakáBonapo 'They won't see'
- (b) taBakálimapo 'They won't cultivate.'

(vii) #HL HL<sup>n</sup>##

This pattern occurs in the subject relative present habitual, and hodiernal past for CVC and CVC radicals with or without an infix.

- (33) (a) áBaBóna 'who see' (Present habitual)
- (b) áBalíma 'who cultivate (Present habitual)
- (c) áBaaBóna 'who saw today' (Hodiernal past)
- (d) áBaalíma 'who cultivated today' (Hodiernal past).

(viii) #HL<sup>n</sup>##

-This tone pattern is used in the negative relative present habitual and pre-hodiernal past for CV<sup>1</sup> (C) and CV (C) radicals without an infix. note that in the pre-hodiernal past this pattern may occur even when there is an infix.

- (34) (a) áBataBonapo 'who don't see' (Present Habitual)  
 (b) áBatalimapo 'who don't cultivate' (Present Habitual)  
 (c) úutaliilepo 'who didn't eat (present hodiernal past)  
 (d) áBo tatuBonapo 'whom we don't (Present Habitual; non-subject relative).  
 (e) íli tatwaaliminepo 'which we didn't cultivate' (Present Hodiernal past; objective rel.)

- (ix) # HL<sup>2</sup> HL<sup>n</sup> ##

This pattern occurs in the subject relative post-hodiernal future negative with or without an infix with both CVC and CVC radicals.

- (35) (a) úutakáBonapo 'who won't see'  
 (b) úutakálilimapo 'who won't cultivate it'.

- (x) # HL<sup>3</sup> HLHL<sup>n</sup> ##

This tone pattern is observable in the non subject relative present progressive negative with both lexically H and lexically L verbs.

- (36) (a) úutamulúkuBónapo 'whom you are not seeing'  
 (b) íli tamulúkulímapo 'which you are not cultivating'

- (xi) -#HL #

This pattern is observable in the imperative

- (36) Bóna 'see'

### 2.3.2 Underlying Tonal Patterns

The corpus reveals two basic underlying tone patterns which are represented below. It should be reemphasized that in our analysis it is only the verb radical and the augment - like vowel in relative clauses that can be underlyingly H-toned. The two underlying patterns are:-

- (i) # L<sup>n</sup>HL<sup>n</sup>##
- (37) (a) Infinitive positive: u-ku-Bón-a 'to see'
- (b) Subjunctive positive: u-lí-e 'you should eat'
- (c) indicative Pres. Hab: Ba-la-lí-a 'they eat'
- Ba-la-Bón-a ' they see'
- (d) indicative Pres. Prog. positive Ba-luku-Bón-a 'they
- (e) indicative Post-hon-future Positive Ba-ka-Bón-a 'they will see'
- (f) Indicative post-hod-Future negative ta-Ba-ka-Bón-a-apo 'They won't see'
- (g) indicative Pres. Hab. Neg: ta-Ba-Bón-a 'they don't see'

These are some of the examples of this tone pattern. It should be stated though that this pattern accounts for the absolutive forms (both positive and negative).

#### (ii) #HL<sup>n</sup>HL<sup>n</sup>#

This underlying pattern is observable in the relative forms as in the following examples:



(38) Pres. Hab. á-Ba-Bón-a 'who see' (subject-relative)

Pres Prog. á-Ba-luku-Bón-a 'who are seeing'

Pres Hab. í-li- Ba-Bón-a 'which they see' (non-subject relative)

-Post-hod future: á-Ba-ka-Bón-a 'who will see' (subject relative)

These are the major tone patterns that are observable in our data. A number of tonal rules account for the relationship between the surface representations and their underlying forms. the rules are discussed in 2.3.3 but before this is done a word should be said on the role of certain segments in the occurrence of the surface patterns.

It should be noted that in some forms the inclusion of an infix has an important influence on the surface tone pattern; compare for instance the infinitive forms úkulva 'to eat' and ukúcilva 'to eat it'. The difference in the tone patterns in these examples has largely to do with the inclusion of the object infix -ci- in the latter. There are several examples of this situation in Lamba. A further point concerning the infix is that it may in some cases have a surface H tone while in others it may not. In this vein, therefore, it may not be appropriate to make any generalisation concerning the tone of this segment; suffice it to say that, like with all other morphemes the tone of the object infix is dependent as much on the nature of the verb as on the position (or environment) in which it is used.

Another element that needs special mention is the augment-like vowel in relative clauses (both subject and non-subject). It is important to note that this segment is H-toned in all cases. Therefore, we consider it lexically H - toned.

### 2.3.3 Tonal Rules<sup>7</sup>

#### 2.3.3.0 General

The last section presented some of the tone patterns observable in the Lamba data. We now discuss the rules that account for these and other patterns. In doing so we establish the relationship between underlying and surface tone patterns. The presentation of the rules, it should be stressed, is based not on individual parameters as stated in 2.3.0 but on the nature of the rules themselves. In this vein, therefore, the rules identified are of five types. These are:-

1. Rules of tone shift
2. Rules of tone lowering
3. Rules of tone raising
4. Rules of tone imposition (insertion)
5. Rules of tone spreading

These various types of tonal rules may work quite well with each other. For instance, as is see below there are cases where we have tone imposition with lowering as well as tone imposition with raising.

At this point, a point should be made on the conventions used in this study. As stated above (see list of symbols and abbreviations) S represents any syllable. Since in Lamba all TBU's are vowels, in <sup>H</sup>S, for example H is born by the vowel of the syllable; V represents word-final syllable made of a vowel only. This is used to refer to verbal ending -a and -e.

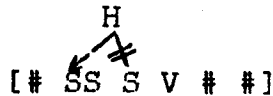
Most syllables in Lamba being L-toned, the L tone is unmarked and H tone is marked both underlyingly and superficially. This allows us to consider, for the purpose of this analysis and in accordance with the under specification theory (see Archangelli) to posit only one underlying tone, H. In most verbal forms the first syllable of the radical is the only syllable which may be underlying H. The only other exception is the augment-like vowel in relative clauses.

#### 2.3.3.1 Rules of Regressive Tone Shift (RTS)

##### 2.3.3.1.0 General

Miti (1988) observes that Regressive Tone Shift is a historical tonal rule which has been observed in the majority of Bantu languages. In this category of tonal rules, tone shifts to the left, that is regressively. In Lamba there are a number of rules of regressive tone shift and these are presented and exemplified below:

### 2.3.3.1.1 RTS Rule 1



This rule has two conditions for its application: (a) the radical of the verb should be of CV type and (b) there should be one syllable between the radical and the syllable to which the H tone shifts. This rule accounts for the positive infinitive as in pattern (ii) above. Below are examples of how the rule works.

- (39) u-ku-lí-a--- → úkulya 'to eat'  
 u-ku-nú-a----- → úkunwa 'to drink'

(a) UR u-ku-li-a

Rule 1 u-ku-li-a

Glide Formation: u-ku-[ly]a

SR úkulya 'to eat'

(b) -UR u-ku-nu-a

RTS 1: u-ku-nu-a

Glide Formation u-ku-[nw]a

SR úkunwa 'to drink'

It should be noted that in these examples there is also application of the phonological process of glide formation (or semi-vocalisation). Note also that in the example above there is no infix.

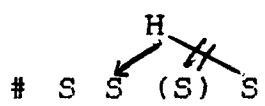
The following examples show that the rule is category - sensitive:

- 40) (a) indicative Pres. Hab: u-la-lí-a→ulálya (\*úlalya)  
'you eat'  
(b) Subjunctive Pres: u-ci-lí-e→ucílye (\*úcilye) 'you  
should eat it'  
(c) indicative Future: u-ka-lí-a→ukálya (\*kalya) 'you will  
eat'

The forms in (39) and (40) have the same structure, that is v-cv-cv-v but RTS Rule 1 applies to (39) but not to (40). This shows that RTS Rules 1 is category - sensitive. The following example shows that tonally nothing happens to infinitives with L-toned radicals.

- (41) (a) u-ku-i-a---->ukuya 'to go'  
(b) u-ku-ni-a---->ukunya 'to defecate'

### 3.1.2 RTS Rule 2

 X # #, where X is any number of  
permissible syllables in a word

In this rule tone shifts to the second syllable. Note that in this rule there may or may not be an obligatory infix between the radical and the syllable to which tone shifts.<sup>8</sup> This rule applies to several verbal forms as in the examples below:

(i) Infinitive Positive

(42) (a) UR: u-ku-mu-li-a

RTS Rule 2: u-ku-mu-li-a

SR ukúmulya 'to eat him'

(b) UR: u-ku-mu-li-il-a

RTS Rule 2 u-ku-mu-li-il-a

SR ukúmuliila 'to eat in his behalf'

(c) UR: u-ku-(mu)-Bon-a

SR ukumuBona 'to see him'

(ii) Present Habitual Positive Indicative

(d) UR Ba-la-Bon-a

RTS Rule 2 Ba-la-Bon-a

SR BalaBona. 'They see'

(e) UR: n-la-Bon-a

RTS Rule 2: n-lá-Bon-a

Nasal Assimilation: N[d]a - Bon-a

SR: NdáBona 'I see'

(f) UR Ba-la-mu-Bon-a

RTS Rule 2: Ba-lá-mu-Bon-a

SR BalámuBona 'they see him'

(g) a. UR n-la-li-a

RTS Rule 2: n-lá-li-a

Nasal Assimilation n[d]a-li-a

SR ndálya 'I eat'

(iii) Post-Hodiernal Future Positive

(h) Ba-ka-Bón-a--->BakáBona 'they will see'

Ba-ka-twal-a-->Bakátwala 'They will deliver'

UR. Ba-ka-Bon-a

RTS Rule 2: Ba-ká-Bon-a

SR BakaBona 'they will see'


(iv) Subjunctive Future Positive

(i) UR: Ba-ka-Bon-a

RTS Rule 2: Ba-ka-Bon-e


RS: BakaBone 'They should see'

2.3.3.1.3 RTS Rule 3

  
 # S SS (S) S--- # # [Indicative Positive]


In this rule tone shifts to the third syllable between which and the radical there is an optional infix (object marker). The rule accounts for tone in a number of absolute tenses such as positive pre-hodiernal past simple with or without an infix, hodiernal past progressive without an infix.

(43) (a) UR: Ba-ali-Bon-ile


  
 Rule 3 Ba-ali-Bon-ile  
 SR: BaaliBweene 'They saw'

H


(b) UR: Ba-ali-mu-Bon-ile

  
 Rule 3: Ba-ali-mu-Bon-ile  
 SR: BaalimuBweene 'They saw him'

(c) UR: Ba-aluku-Bon-a

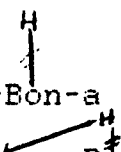
  
 Rule 3: Ba-aluku-Bon-a  
 SR: BaalukuBona 'They were seeing'

2.3.3.1.4 RTS Rule 4

  
 [#S S S S---##]



This rule specifies that there should be three syllables before the syllable to which tone shifts and one between it and the radical; the latter is an infix. The rule accounts for examples such as the following:

- (44) UR: Ba-aluku-mu-Bon-a  
 Rule 4: Ba-aluku-mu-Bon-a  
 SRd: BaalukúmuBona 'They were seeing him'
- 
- The diagram shows the UR form 'Ba-aluku-mu-Bon-a' with an 'H' tone marker above the third syllable 'Bon'. An arrow points from this 'H' to the first syllable 'Ba', indicating a tone shift.

#### 2.3.3.1.5 RTS Rule 5

# S S V # #



The diagram shows the pattern '# S S V # #' with an 'H' tone marker above the second 'S'. An arrow points from this 'H' to the first 'S', indicating a tone shift.

In this rule H tone shifts to the syllable to the immediate left of the radical. This rule is category sensitive and applies only to the subjunctive with CV radical as in the example below.

- (45) UR: Ba-li-e
- 
- The diagram shows the UR form 'Ba-li-e' with an 'H' tone marker above the second syllable 'li'. An arrow points from this 'H' to the first syllable 'Ba', indicating a tone shift.

SR: Bálye 'They should eat'

The rules above are the main regressive tone shift rules that can be formulated to account for some of the tone patterns observable in the data.

### 2.3.3.2 Rule of Progressive Tone Shift (PTS)

In this rule, tone shifts progressively, that is to a tone bearing unit that comes after the one that originally bore it. Like RTS Rule, this rule is category-sensitive and applies only to the negative infinitive. Note that the negative infinitive comprises an auxiliary plus the infinitive where the former ukuBula is lexically H-toned. PTS Rule 1 may be formulated as below:

[ S S S S# ] Neg infinitive Auxiliary.

(46) (a) UR: U-Ku-Bul-a # Uku-lim-a  
 PTS Rule 1: U-ku-Bul-a # u-ku-lim-a  
 SR: UkuBulo<sup>oo</sup> kulima 'Not to cultivate'

This rule may apply together with other rules such as those or RTS as in (46) below:

(b) UR: u-ku-Bul-a # u-ku-li-a  
 PTS Rule 1: U-ku-Bul-a # U-ku-li-a  
 RTS Rule 1: u-kuBul-a u-ku-li-a  
 Vowel Coalescence: u-ku-Bul- [o o] ku-li-a

Glide formation: u-ku-Bul- <sup>H H</sup>[o o] ku-[lya].

SR: ukuBul<sup>˩</sup>okulya 'not to eat'

(c) UR: u-ku-Bul-a <sup>H</sup> u-kuBon-a <sup>H</sup>

PTS Rule 1: u-ku-Bul-a <sup>H</sup> u-ku-Bon-a <sup>H</sup>

RTS Rule 2: u-ku-Bul-a <sup>H</sup> u-ku-Bon-a <sup>H</sup>

Vowel coalescence u-ku-Bul-<sup>H H</sup>[oo] <sup>H</sup>ku Bona

SR: ukuBul<sup>˩</sup>o: kuBona 'Not to see'

An important observation to make here is that in these examples the behaviour of the main verb is like that of type B- words (Kolwe-type words); that is it induces the raising of the FV of the auxiliary ukuBula (see TR Rule 1 and note 6 below for more information on type B words). The only problem this would raise is that it would not be easy to account for what happens to the H on the radical of ukuBula. One explanation would be to say that this tone is lowered but this would require a different rule altogether. To avoid such complexities, therefore, it is safer to assert that the rule of PTS applies.

In these examples there is tone stability, that is even when, in these cases, the phonological rule of vowel coalescence is applied and a new sound is formed, the tone is maintained. Secondly these examples show the occurrence of contour tones in Lamba. It may further be observed that these examples show the interrelatedness

between tonal and phonological rules.

### 2.3.3.3 Rules of Tone Lowering (TL)

In Lamba verb forms, there are two principal rules of tone lowering. TL rule 1 formulated below, applies only when the verb is followed by Type A (Bwino-type) words while TL rule 2 does not need to be followed by A.

#### 2.3.3.3.1 TL Rule 1

$$\begin{array}{c} H \\ | \\ \neq \\ \hline \end{array}$$

$$[ \# X S Y \# A \# \# ]$$

Where X and Y can be any number of permissible syllables before and after the radical respectively.

This rule means that the tone of the radical is lowered before A (Bwino-type) words as in the example below:

(47) (a) UR: u-ku-Bon-a #Bwino

$$\begin{array}{c} H \\ | \\ \neq \\ \hline \end{array}$$
 TL1 u-ku-Bon-a #Bwino

SR: ukuBona Bwino 'To see clearly'.

$$\begin{array}{c} H \\ | \\ \hline \end{array}$$
 (b) UR: ta-Ba-Bon-a-po # Bwino

$$\begin{array}{c} H \\ | \\ \neq \\ \hline \end{array}$$
 TL 1: ta-Ba-Bon-a po # Bwino

SR: taBaBonapo Bwino 'They don't see clearly'





SR: ukulimá nakaBili 'To cultivate again'

(b) UR u-ku-Bon-a #kolwe  
 TL u-ku-Bon-a # kolwe

TR Rule u-ku-Bon-a # kolwe

SR: ukuBoná kolwe 'To see the monkey'

It should be stated that while there is a temptation to argue that in (b) there is progressive tone shift, it cannot be considered for then we may not account for the H on the FV of ukulimá; we know that -lim- is lexically low - toned. The only solution, therefore, is to apply TR rule 1. This means that TR rule 1 accounts for both lexically L and lexically H verbs.

#### 2.3.3.4.2 TR Rule 2

[ # - - - S # V S # # ]

This rule means that at word boundary if the FV of the first word is H, the IV of the next word is raised. Note that the rule applies only when the verb is L for both CVC and CV radicals or H with CV radical. This rule is sensitive to the nature of the verb. That is why it can account for (46) a and b but not (42)b.

(50) (a) UR: u-ku-Bul-a u-ku-lim-a

PTS: u-ku-Bul-a u-ku-lim-a

TR Rule 2: u-ku-Bul-a <sup>H</sup> <sup>H</sup> u-ku-lim-a

Vowel Coalescence: u-ku-Bul=<sup>H</sup> <sup>H</sup> [oo] ku-lim-a

SR: ukuBul<sup>oo</sup> kulima 'not to cultivate'

(b) UR u-ku-lim-a # i-Bala

TR Rule 1 u-ku-lim-a <sup>H</sup> #i-Bala

TR Rule 2: u-ku-lim-a <sup>H</sup> <sup>H</sup> i-Bala

Vowel Coalescence: u-ku-lim <sup>H</sup> <sup>H</sup> [e e] Bala

SR: ukulime<sup>ee</sup> Bala 'To cultivate the field'

### 2.3.3.5 Rules of Tone Imposition (insertion) RTI

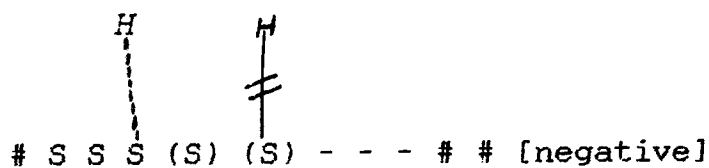
#### 2.3.3.5.0 General

There are several rules of tone imposition in Lamba verbal tonology. These are rules that account for the imposition (or insertion) of tone on certain positions. In this case, surface tones, unlike in regressive tone shift, cannot be accounted for in terms of lexical or underlying tones. This phenomenon may be likened to what has elsewhere in the literature been referred to as 'floating tones' (see for instance Kenstowicz and Kesseberth, 1979 and Batibo, 1968). In Lamba, as we have already seen, these rules are category-sensitive; that is, they apply only to particular categories - namely, the negative absolute and relative (both positive and negative). It is crucial to note that these rules may be applied together with other rules, prominently



TL and TR.

2.3.3.5.1 TI Rule 1



This rule specifies that the third syllable receives an imposed H tone and in such a case the tone of the radical is lowered if it is lexically H.

- (51) a. UR : ta-Ba-ka (mu)-Bon-a-po  
 RTI Rule 1: ta-Ba-kā-(mu)-Bon-a-po  
 TL Rule 1: ta-Ba-ka-(mu)-Bon-a-po  
 SR: taBakámuBonapo 'They won't see him'

- b. UR: ta-Ba-ka-li-lim-a-po  
 TI Rule 1: ta-Ba-ka-li-lim-a-po  
 SR: taBakálimapo 'They won't cultivate it'

- c. UR Ba-i-ka-Bon-a-po  
 TI Rule 1: Ba-i-kā-Bon-a-po

TL Rule 1: Ba-i-ka-Bon-a-po

Vowel Coalescence: B[ee] - ka-Bon-a-po

SR: BeekáBonapo. 'They shouldn't see.'

Note that in this rule it is the TM that receives H tone. This rule accounts for both verbs with L-toned first syllable of radical and those with H-toned ones. The justification in the application of this rule lies in the fact that if other if other rules such as RTS were applied it would be impossible to account for the surface H on the TM in (b) for we know that -lim- is lexically L-toned. Compare (51) with what happens in the positive.

- (52) a. Ba-ka-Bon-a ---  $\xrightarrow{\text{H}}$  BakáBona  
 b. Ba-ka-lim-a ---  $\rightarrow$  Bakalima (\*Bakálima)

#### 2.3.3.5.2 TI Rule 2

$\begin{array}{ccccccc} & & \text{H} & & \text{H} & & (\text{H}) \\ & & | & & | & & | \\ \# & \text{S} & \text{S} & \text{S} & \text{S} & (\text{S}) & \text{S} & - & - & - & \# & \# \end{array}$

In this rule the third syllable (the first syllable of the TM in this case) and the infix, if it is there, receive an imposed H tone: if the radical is lexically H, its tone is lowered.

- (53) a. UR: ta-Ba-luku(mu)-Bon-a-po  
 $\begin{array}{ccccccc} & & & & \text{H} & & \\ & & & & | & & \\ & & & & \text{H} & & \text{H} & \text{H} \\ & & & & | & & | & | \\ \text{TI Rule 2:} & \text{ta-Ba-lú-ku-(mú)-Bon-a-po} \end{array}$   
 $\begin{array}{ccccccc} & & \text{H} & & \text{H} & & \text{H} \\ & & | & & | & & | \\ \text{TL} & \text{ta-Ba-luku-(mu)-Bon-a-po} \end{array}$   
 SR: taBa<sup>l</sup>uku<sup>u</sup>Bonapo 'They are not seeing him'

b. UR: ta-Ba-luku-li-lim-a-po

$$\begin{array}{c} \text{H} \quad \text{H} \\ | \quad | \\ \text{TI Rule 2: ta-Ba-luku-li-lim-a-po} \end{array}$$

SR: taBalúkúliílimapo 'They are not cultivating it'

In this rule the third syllable (the first syllable of the TM in this case) and the infix, if it is there, receive an imposed H tone; if the radical is lexically H, its tone is lowered.

### 2.3.3.5.3 TI Rule 3

$$\begin{array}{c} \text{H} \quad \text{H} \\ | \quad | \\ \#SS \text{ (S) X} \# \# \text{ subjunctive positive} \end{array}$$

This rule is category sensitive in that it applies only to some subjunctive positive forms. The S on which H tone is imposed is the second and may be the radical or any other TBU such as TM or infix but not the IV.

- (54) a. u-lim-e - - - - - → ulíme 'You should cultivate'  
 b. Ba-lim-e - - - - - → Balíme 'They should cultivate'  
 c. Ba-ka-(li)-lim-e - - - → Bakálilime 'They should cultivate it'

UR: u-lim-e

$$\begin{array}{c} \text{H} \\ | \\ \text{TI Rule 3: u-lim-e} \end{array}$$

SR: ulíme 'You should cultivate'

- d. u-mu-Bón-e - - - → umúBone 'You should see him'

$$\begin{array}{c} \text{H} \\ | \\ \text{UR u-mu-Bón-e} \end{array}$$

$\begin{array}{c} \text{H} \quad \text{H} \\ \vdots \quad \vdots \\ \text{TI} \text{ u-mu-Bon-e} \end{array}$   
 $\begin{array}{c} \text{H} \quad \text{H} \\ | \quad \diagup \\ \text{TL} \text{ u-mu-Bon-e} \end{array}$   
 SR umúBone 'You should see him'

#### 2.3.3.5.4 TI Rule 4

$\begin{array}{c} \text{H} \quad \text{H} \\ / \quad \vdots \\ \# \text{ S (S) S S} \end{array}$  Relative

Where (S) is the second syllable of the relative pronoun in non-subject relatives and which does not occur in subject relatives.

This rule means that in the subject relative form, the third syllable has H tone imposed on it while in the non-subject relative form the fourth does so. This S may be the radical or not. This means that if the radical is underlyingly H its tone is maintained in which case the imposition of H tone becomes redundant.

- (55) (a)  $\begin{array}{c} \text{H} \quad \text{H} \\ / \quad | \\ \text{UR: a-Ba-Bon-a} \end{array} \text{----} \rightarrow \text{SR: áBaBóna}$  'Who see'
- (b)  $\begin{array}{c} \text{H} \\ | \\ \text{UR: a-Balim-a} \end{array} \text{---} \rightarrow \text{SR: áBalíma}$  'Who cultivate'
- (c)  $\begin{array}{c} \text{H} \quad \text{H} \\ | \quad \diagup \\ \text{UR: a-Bo} \# \text{ tu-Bon-a} \end{array} \text{---} \rightarrow \text{SR: áBo tuBóna}$  'Whom we see'
- (d)  $\begin{array}{c} \text{H} \\ | \\ \text{UR: a-Ba-sek-a} \end{array} \text{-----} \rightarrow \text{SR: áBaséka}$  'Who laugh'

### 2.3.3.5.5 TI Rule 5

$$\begin{array}{ccccccc}
 & H & & H & & H & \\
 & | & & | & & | & \\
 \# & S & S & S & S & \dots & \# \# \text{ [relative positive]}
 \end{array}$$

In this rule the third S has H tone imposed on it and the tone of the radical is lowered. The S that receives H tone may be an infix or a TM. The condition is that the radical should have a lexically H tone.

(56) (a) UR:  $\begin{array}{c} H \\ | \\ a-Ba-tu-Bon-a \end{array}$

TI Rule 5:  $\begin{array}{c} H & & H & & H \\ | & & | & & | \\ a-Ba-tu-Bon-a \end{array}$

TL:  $\begin{array}{c} H & & H & & H \\ | & & | & & | \\ a-Ba-tu-Bon-a \end{array}$

SR: áBatúBona 'Who see us'

(b) UR  $\begin{array}{c} H & & H \\ | & & | \\ a-Ba-ka-Bon-a \end{array}$

TI Rule 5:  $\begin{array}{c} H & & H & & H \\ | & & | & & | \\ a-Ba-ka-Bon-a \end{array}$

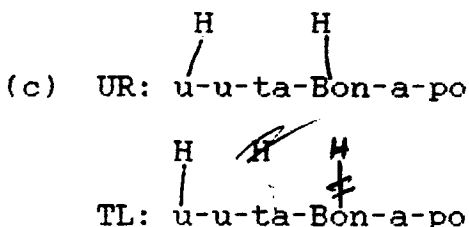
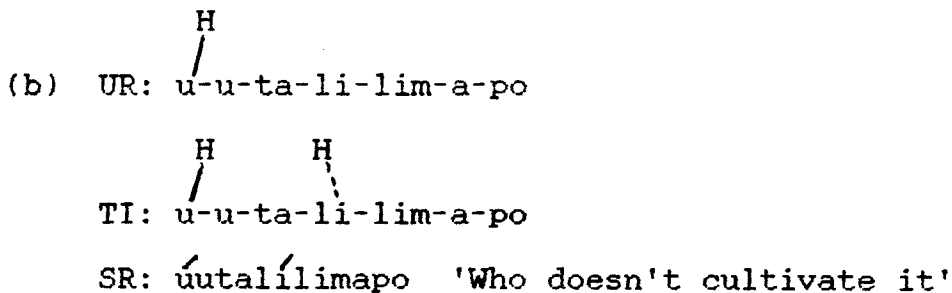
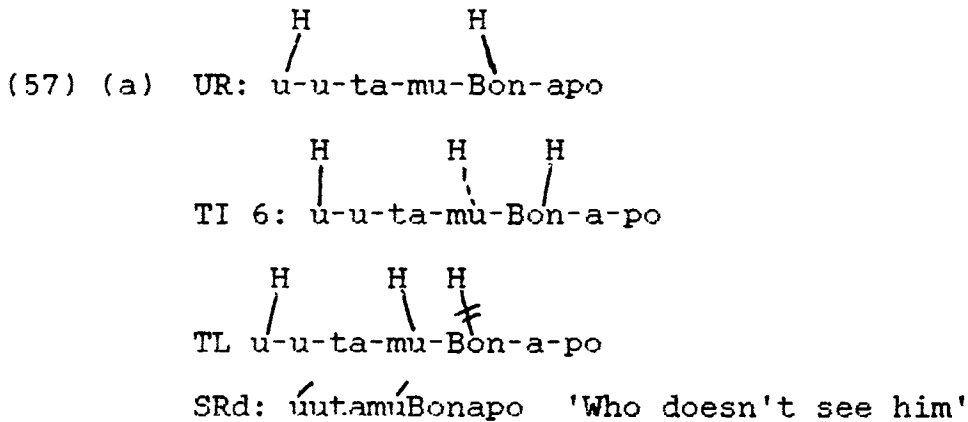
TL:  $\begin{array}{c} H & & H & & H \\ | & & | & & | \\ a-Ba-ka-Bon-a \end{array}$

SR: áBakáBona 'Who will see'

2.3.3.5.6 TI Rule 6



This rule means that the infix, if it is there and which in this case would be the fourth syllable has H tone imposed on it and the tone of the radical, if it is underlying H is lowered; note that the radical in this rule does not necessarily need to have a H tone. This rule also applies if there is a tense - sign whether or not there is an object infix (see, for example (58) below).



SR: úutaBonapo 'Who doesn't see'

(58) (a) UR:  $\begin{array}{c} H \\ | \\ a-Ba-ta-ka-Bon-a-po \end{array}$   
 TI Rule 6:  $\begin{array}{c} H \quad H \\ | \quad | \\ a-Ba-ta-ka-Bon-a-po \end{array}$

TL  $\begin{array}{c} H \quad H \quad H \\ | \quad | \quad | \\ a-Ba-ta-ka-Bon-a-po \end{array}$

SR: áBatakaBonapo 'Who won't see'

(b) UR:  $\begin{array}{c} H \\ | \\ i-li- \# Ba-ka-lim-a \end{array}$

TI Rule 6:  $\begin{array}{c} H \quad H \\ | \quad | \\ i-li- \# Ba-ka-lim-a \end{array}$

SR: íli Bakálima 'Which they will cultivate'

UR:  $\begin{array}{c} H \quad H \\ | \quad | \\ i-li- \# Ba-ka-li-a \end{array}$

TI 6:  $\begin{array}{c} H \quad H \quad H \\ | \quad | \quad | \\ i-li- \# Ba-ka-li-a \end{array}$

SR: íli Bakálya 'Which they will eat'

#### 2.3.3.5.8 TI Rule 7

$\begin{array}{c} H \quad H \quad H \quad H \\ | \quad | \quad | \quad | \\ \# S (S)_a S S S (S) S - - - \# \# \end{array}$  [relative positive] where  
 (S)<sub>a</sub> is the second syllable of the object relative  
 pronoun. It should, however, be observed that (S) a  
 is a surface syllable which comes from two syllables  
 underlyingly; for example: bo comes from two syllables  
ba-o.

TI: a-Ba-luku-mu-Bon-a

relative; where (S) is the second syllable of the object relative pronoun.

SR: aBa-luku-mu-Bona 'who are seeing him'

This rule is category sensitive and applies only to the present progressive positive in both the subject and object relative forms.

(59) (a) UR a-Ba-luku-Bon-a

TI Rule 7: a-Ba-luku-Bon-a

TL a-Ba-luku-Bon-a

SR: aBalukuBona 'who are seeing'

This rule means that the fourth syllable has H tone imposed on it and so is the radical if it is underlying L. If the radical is H underlyingly, then the imposition of H tone on it becomes unnecessary. This rule is also category-sensitive and accounts

(b) UR: a-Bo# Ba-lu-ku-Bon-a

TI Rule 7: a-Bo-# Ba-lu-ku-Bon-a

TL: a-Bo # Ba-luku-Bon-a

(60) (a) UR: a-u-ta-luku-Bon-a-po

SR: aBo BalukuBona 'Whom they are seeing'

(c) UR: a-Ba-luku-lim-a

TI Rule 7: a-Ba-luku-lim-a

SR: aBulukulima 'Who are cultivating'

(d) UR: a-Baluku-mu-Bon-a

H H H H



TI:  $\begin{array}{cccc} H & H & H & H \\ | & | & | & | \\ a-Ba-luku-mu-Bon-a \end{array}$

TL:  $\begin{array}{cccc} H & H & H & H \\ | & | & | & | \\ a-Ba-luku-mu-Bon-a \end{array}$

SR:  $\acute{a}Baluk\acute{u}mu\acute{b}ona$  'Who are seeing him'

This rule is category sensitive and applies only to the present progressive positive in both the subject and object relative forms.

#### 2.3.3.5.8 TI Rule 8

$\begin{array}{ccccccc} & H & H & H & & & \\ & | & | & | & & & \\ \# & S & S & S & S & S & - - - \# \# \text{ Present Prog. negative without} \\ & & & & & & \text{Infix.} \end{array}$

This rule means that the fourth syllable has H tone imposed on it and so is the radical if it is underlying L. If the magical is H underlyingly, then the imposition of H tone on it becomes unnecessary. This rule is also category-sensitive and accounts inlay for the patterns in the subject relative negative present progressive without an infix.

(60) (a) UR:  $\begin{array}{ccccc} & H & & H & \\ & | & & | & \\ u-u-ta-luku-Bon-a-po \end{array}$

TI Rule 8:  $\begin{array}{ccccc} & H & & H & H \\ & | & & | & | \\ u-u-ta-luku-Bon-apo \end{array}$

SR:  $\acute{u}tal\acute{u}kuBonapo$  'Who is not seeing'

(b) UR:  $\begin{array}{c} H \\ | \\ u-u-ta-luku-lim-a-po \end{array}$

TI Rule 8:  $\begin{array}{c} H & H & H \\ | & | & | \\ u-u-ta-luku-lim-a-po \end{array}$

SR:  $\acute{u}tal\acute{u}kul\acute{i}mapo$  'Who is not cultivating'

#### 2.3.2.5.9 TI Rule 9

$\begin{array}{c} H & & H & H \\ | & & | & | \\ \# & S & S & S & S & S(S) & - & - & - & \# & \# \end{array}$  Subject relative pres  
prog neg with Infix.

In this rule there is an obligatory infix on which H tone is imposed. Following the application of Ti rule 9 the fourth syllable and the radical are now lexically H in all cases. This way the rule is able to account for lexically L radicals like lim- as well. It should be noted that Ti rules 9 and 10 are in a feeding relationship - the former feeds the latter. That is, the former increases the number of environments to which the latter can apply.

(61) UR:  $\begin{array}{c} H & & H \\ | & & | \\ u-u-ta-luku-mu-Bon-a-po \end{array}$

TI Rule 8:  $\begin{array}{c} H & & H & H \\ | & & | & | \\ u-u-ta-luku-mu-Bon-a-po \end{array}$

TI Rule 9:  $\begin{array}{c} H & & H & H & H \\ | & & | & | & | \\ u-u-ta-luku-mu-Bon-a-po \end{array}$

SR:  $\acute{u}tal\acute{u}kumu\acute{B}onapo.$  'Who is not seeing him'

TI rules 8 and 9 may be collapsed into one rule as below.

$$\begin{array}{ccccccc} H & H & H & (H) \\ \diagdown & \diagdown & \vdots & | \\ \# & S & S^2 & S & S & (S) & S & X & \# & \# & \text{[Relative negative]} \end{array}$$

where (S) is an optional object infix.

This rule accounts for both (60) and (61)

### 2.3.3.5.10 TI Rule 10

$$\begin{array}{ccccccc} H & H \\ \diagdown & \diagdown \\ \# & S & S & S & S & - & - & - & \# & \# & \text{object relative post-} \\ & & & & & & & & & & \text{hodiernal future negative.} \end{array}$$

(62) (a) UR:  $\begin{array}{c} H \\ | \\ i-li- \end{array} \# \begin{array}{c} H \\ | \\ ta-Ba-ka-Bon-a-po \end{array}$

TI:  $\begin{array}{c} H \\ | \\ i-li- \end{array} \# \begin{array}{c} H & H \\ \diagdown & \diagdown \\ ta-Ba-ka-Bon-a-po \end{array}$

TL:  $\begin{array}{c} H \\ | \\ i-li- \end{array} \# \begin{array}{c} H & H \\ \diagdown & \diagdown \\ ta-Ba-ka-Bon-a-po \end{array}$

SR:  $\begin{array}{c} \diagup \\ ili \end{array} \begin{array}{c} \diagup \\ taBaka \end{array} \begin{array}{c} \diagup \\ Bonapo \end{array}$  'Which they won't see'

(b) UR:  $\begin{array}{c} H \\ | \\ i-li- \end{array} \# \begin{array}{c} H \\ | \\ ta-Ba-ka-lim-a-po \end{array}$

TI:  $\begin{array}{c} H \\ | \\ i-li- \end{array} \# \begin{array}{c} H \\ \diagdown \\ ta-Ba-ka-lim-a-po \end{array}$

SR:  $\begin{array}{c} \diagup \\ ili \end{array} \begin{array}{c} \diagup \\ taBaka \end{array} \begin{array}{c} \diagup \\ limapo \end{array}$  'Which they won't cultivate'

UR:  $\begin{array}{c} H \\ | \\ i-fi- \end{array} \# \begin{array}{c} H \\ | \\ ta-Ba-ka-ni-a-po \end{array}$

(c) UR:  $\begin{array}{c} H \\ | \\ i-fi- \end{array} \# ta-Ba-ka-ni-a-po$

TI:  $\begin{array}{c} H \\ | \\ i-fi- \end{array} \# \begin{array}{c} H \\ | \\ ta-Ba-ka- \\ ni-a-po \end{array}$

Glide Formation:  $\begin{array}{c} H \\ | \\ i-fi- \end{array} \# \begin{array}{c} H \\ | \\ ta-Ba-ka-n[yl]a-po \end{array}$

SR:  $\acute{i}fi \ taBak\acute{a}nyapo$  'Which they won't defecate'

In this rule the tone of the verb-radical may be either H or not underlyingly.

#### 2.3.3.6 Rule of Tone Spreading (TS)

$\begin{array}{c} H \\ / \quad \backslash \\ \# \ S \ S \ S_2 \quad \# \end{array}$

This rule just means that in some cases tone spreads from one syllable to another as in the following example. In the Lamba verbal forms, this rule is applied after RTS rule 1 has been applied with minor adjustments (for instance there are some changes on the verbal morphemes involved). While even in this case tone shifts to the first S as in RTS1 this S is not the IV. In fact in this case RTS Rule 1 applies to both CVC and CV radicals.

(63) UR:  $\begin{array}{c} H \\ | \\ Ba-a-Bon-a \end{array}$

RTS 1:  $\begin{array}{c} H \\ / \quad \backslash \\ Ba-a-Bon-a \end{array}$

TS:  $\begin{array}{c} H \\ / \quad \backslash \\ Ba-a-Bon-a \end{array}$

SR: BaaBona 'They have seen'

This rule applies only to verbs with a lexically H first syllable of the radical. It should be emphasized that this rule applies to a low-toned vowel following a raised vowel (for instance, a-a-→ a a) except in the penultimate position. Compare for example, BaaBona 'They have seen' and Raalya (\*Baaalya) 'They have eaten.'

#### 2.3.3.7 SUMMARY

In this chapter we have discussed verbal tonology in Lamba on the basis of the data presented in the appendices. Tone patterns were identified and rules formulated to account for them. It has been shown that in the Lamba verb some tonal rules can be applied to several grammatical categories. Also raised has been the crucial interrelatedness of phonological and morphological process on one hand and tonal processes on the other.

78.

### NOTES

1. In fact the nature of these moods raises questions as to whether we, in the Lamba context, may actually refer to them as moods. This raises some semantic difficulties, the discussion of which goes beyond the scope of this work. By the same token, it should be mentioned that ideophonic verbs are not discussed in this work because there are many of them that function as predicators of declarative and descriptive utterances.
2. Note that the imperative and the subjunctive are marked by radical + - a and radical + - e respectively.
3. In terms of structure the relative pronoun in Lamba also has an augment - like vowel (e.g. a-Ba-Bon-a 'who see').
4. For instance marker + ending denote tense/aspect; infixes denote object and function in more or less the same way as English object pronouns such as 'me', 'then', 'you' and so on (Chanda, 1987: 56).
5. Extensions are a type of verbal suffixes in Bantu. For more information of these, Guthrie, comparative Bantu Vol. 1 may be consulted.
6. There are several words that fall into these types. It should also be mentioned that usually, if a word that follows the verb is vowel-initial it tends to behave like type B words. Type B words induce the raising of the tone of the FV of the preceding word but type A words lower tone.
7. In the formulation of the rules S may represent a vowel alone or a vowel preceded and/or followed by consonant (e.g. -a- or -Bon- respectively); unless otherwise specified, the last S is always the verb radical, # means word-boundary and # means word ending. Note also that in this work only H is indicated both underlyingly and superficially. This therefore means that if the tone of any TBU is not indicated then its tone can be considered to be L since as stated above only two level tones, L and H are attestable in Lamba.
8. Note that in 42e the nasal -n- behaves syllabically, that is, it has a L tone so that the tone patterns of the example corresponds with those of the others in this group.

### CHAPTER THREE

#### SUMMARY OF FINDINGS, THEIR IMPLICATIONS AND CONCLUSION

##### 3.0 General

The last chapter discussed tonal phenomena in the verbal system of Lamba in terms of the rules accounting for the relationship between underlying and surface tone representations.

In this chapter we make general observations and/or comments on the application of rules and the resultant tone patterns. This chapter also evaluates briefly the occurrence of the major attributes of ASP and discussed in 1.3.2 and 1.4., namely, contour tones, tone stability, tone spreading and floating tones. Special attention is paid to identifying the environments in which these features occur.

The point of departure should perhaps be to re-emphasise a point raised earlier. This study has confirmed the view put across by most of its predecessors that have investigated Bantu tonology - that tone is a rather complex entity. It becomes even more complex when it relates to the verb because, as Miti (1988: 203) rightly states, verbal tone cannot be understood on the basis of radicals uttered *in* isolation as these always occur with other morphemes (such as SM, TM, infix, negative markers and so on) and lexical items. It has now been established that these elements have an important role to play in the occurrence of tone in the

Lamba verb. For instance the difference between RTS rules 1 and 2 lies in the inclusion of an infix in the latter and its absence in the former; in some rules (such as RTS rules 3, and 5, the infix is optional while in others (such as RTS rule 4) it is obligatory. The inclusion or absence of an infix in these rules does have an effect on tone representations.

There are, however, other morphemes such as verbal extensions which do not affect tone realization in any significant way. See for instance (22), and (35)b. It has also been discovered that while some rules and patterns apply to several categories (Moods, tenses etc) others are category-sensitive. For instance the rules of Regressive Tone shift apply only to the absolutive indicative positive, infinitive and subjunctive while rules of Tone Imposition apply to the absolutive indicative negative and the relative (positive or negative). Further there are also rules that apply only in certain environments such as when the verb is followed by a certain type of words, for instance TR rules 1 and 2 and TL rule 1. It has been revealed in this study that the position of the verb in a sentence has an important role to play in the realization of tone.

The study has also found that the grammatical categories established in 2.1 do influence the tone patterns and indeed the rules that may apply. For instance some of the rules that apply to the absolutive cannot work in the relative.



In fact it may be observed that one major difference (in terms of rules) between the absolute and relative is that the former is predominantly accounted for by rules of Tone Shift (except in the negative) while in the latter tone imposition is prominent. This means that the categorial relations are crucial to the appreciation of tone in the Lamba verb. It should, in fact be stressed that every morpheme or segment is important although no single rule can account for the tone of individual segments. For instance while the infix may have H tone in some categories, in others it may not.

It should also be noted that some rules may have some exceptions. For instance, the rule of Final Vowel Tone Raising before Kolwe - type words may not always apply, as in ÚuBóna kolwe (not \* ÚuBóná Kolwe) 'who sees a monkey ' and Bakálya kolwe (not\* Bakályá kolwe). Perhaps this is a result of influence from the H tone on the penultimate syllable of the verb. It is rare, if not impossible, for two H tones to follow each other on two different syllables in Lamba.

The formulation and presentation of rules in the last chapter was based on the premise that only H and L tones are observable in Lamba and by convention only H is indicated both underlyingly and superficially. It should be stated that studies in other Bantu languages have revealed the existence of as many as five level tones (see for instance,

Katamba, 1989, Kaye, 1989 and Kenstowicz and Kisseberth, 1979). It is probable that even in Lamba other tones, such as mid, may occur. For instance in (46) the H on ukuBona is likely to be mid because of influence from the preceding H. This study has, however, not been able to identify tones other than H and L.

In the analysis, only the first syllable of the radical had the ability be underlyingly H; all other segments with the exception of the augment like vowel in the relative are not. There are, however, situations where this proves problematic. Consider for instance the progressive marker -luku- in which the first syllable is H in most cases both in the absolutive and relative. It is not clear whether this segment can be considered lexically H. This segment presents problems even morphologically; it is one of the few TM's in Lamba that are bisyllabic. It could be argued that this form may have originally been -li-ku where -li- was an auxiliary which due to phonological processes such as assimilation changed to -lu-. This study, cannot, however confirm this; -it is for historical linguists to do so. Suffice it to say, therefore, that for now -luku- is one TM and is lexically L - toned.

Having made these general observations a comment or two should now be made on the occurrence of the ASP elements (or features) as stated above.

### 3.1 Comments on ASP Elements

#### 3.1.0 Association Conventions

The application of rules observed the association conventions as stipulated in the well-formedness condition (see 1.3.2. above). In all the rules, care has been taken to ensure that there are no violations of the ASP conventions such as association of tones to TBU's from left to right, non-crossing of association lines and so on.

Looking at the rules it may be observed that in Lamba it is possible for a TBU to have one or more tones or for a tone to be associated to one or more TBU's as in the following illustrations.

- (64) (a) Tonal Tier                      L    H    L  
                                                  |    |    /  
                                                  Ba   la   Bon a   'They see'
- (b) Tonal Tier                      L    H    L    H    L  
                                                  /    /    /    /    /  
                                                  ta Ba luku mu Bon a po 'They are  
                                                  not seeing him
- (c) Tonal Tier                      H    L    H    L  
                                                  |    |    |    /  
                                                  a   Ba   ka   Bon a   'Who will see'
- (d) Tonal Tier                      L                      HL    H    L  
                                                  /                      /    /    /  
                                                  u ku Bul o: kuBona 'Not to see'

These are but some examples to show that the rules have not

violated the ASP conventions; that is, all the associations conform to the established ASP Conventions.

### 3.1.1 Contour Tones

It was observed in Chapter 1 that in languages that have them contour tones may be analyzed as a concatenation of two disparate level tones, that is LH and HL, rising and falling respectively.

It is important to note that while Leben (1973) has observed that there are languages in which contour tones are borne by short vowels, in Lamba they are always borne by long vowels. Further, except for a few non-predictable cases, they occur at word boundary especially when vowels run together between words and in which case the phonological process of vowel coalescence applies (see, for instance 46 above). A further example would be BaláBonée nkálamba 'They see an angel'. In these examples the contour tones are borne by long vowels occurring at word boundaries. There are, instances where contour tones occur within a word as in the example below:

- (65) (a) Báalya [Bá:lyà] 'They have eaten'  
(b) Lyáa [lyá:] 'Eat!'

It is not, however, easy to explain the occurrence of these contour tones. Further, while in some languages like Bemba (see Mann, 1977) the nature of the vowels that are in contact dictates the surface tone there is yet no evidence in Lamba to point to this.

The important point to note is that contour tones exist in Lamba, but it is yet to be confirmed whether the nature of vowel combinations (such as a + u, a + i, etc) has any effect on the nature of the contour tone.

### 3.1.2 Tone Stability

This phenomenon, as has already been explained, means that even after a TBU that bore a tone has been deleted or loses syllabicity its tone still remains. This has been observed in Lamba (see for instance (46 and (50) above).

### 3.1.3 Floating Tones

There does not seem to be very strong evidence to suggest the occurrence of this feature in the Lamba verb. Floating tones may be said to exist only if we considered the rules of tone imposition as floating tones. This is an area in which further research should be encouraged.

### 3.1.4 Tone Spreading

It is evident from the last chapter that this feature does occur in the Lamba verb (see the TS rules above). Note that while it was noted that this phenomenon occurs when a segment is deleted and its tone spreads over 'the now smaller chain' (Basboll, 1988: 204), in the Lamba verb tone spreads even when no TBU is deleted; see for instance (63) above.

## 3.2 Tonal Rules and Morphophonological Processes

As has been stated above, there is interaction between

phonological processes and tonal rules. This interaction may affect the nature of the surface tone patterns that may occur.

The major phonological processes that affect the realization of tone in the Lamba verb are vowel coalescence, glide formation (or semi - vocalization), and nasal assimilation. These processes have been mentioned in passing before.

The importance of vowel coalescence with regard to the tone of the Lamba verb lies in its primary role in the occurrence of contour tones as discussed in 3.1.1.

The phonological process of nasal assimilation is important in that in some cases it is instrumental in the allocation of tone to segments that would otherwise not carry it; see for instance, 42 e and g.

Glide formation affects the realization of tone in that it reduces the number of TBU's (cf) (42) and (39), ukuBona and ukulya respectively). In these examples the underlying pattern is the same in both cases, that is L-L-H-L but in the surface representation there is a difference because glide formation reduces the number of syllables in ukulya which has a CV radical, hence the difference in the position of H (see RTS rules 1 and 2).

Imbrication occurs with verbs like -Bón- when used in the perfect and the pre-hodiernal past (for example, Ba-li-Bón-ile--->

BaliBweene 'They have seen'; Ba-ali-Bón-ile→BaliB<sup>w</sup>eene 'They saw). Note the lengthening of the penultimate vowel. It should, further be noted that while in most Bantu languages imbrication occurs when a vowel is followed by a nasal cluster (that is, a nasal + a consonant), in Lamba it may just need to be followed by a nasal alone.

Vowel harmony is a process where in certain environments vowels influence each other. In Lamba, the influence is between the vowel in the verb radical and a vowel in another morpheme such as an extension; see the discussion of the applied extension in 2

### 3.3. Limitation of the Study and Recommendations for Further Research

This study has a number of limitations which should be considered in evaluating its findings. Firstly, the study has just been a glimpse at a very wide and complex area; verbal tonology is one of the most intricate areas of Bantu linguistic analysis. It is therefore, not possible to discuss it exhaustively in a work of this magnitude. It is recommended that more research be done to investigate the influence of the syntactic nature of the verb on tone realization. For instance it would be interesting to investigate whether there are specific tone patterns for static, dynamic, transitive and intransitive verbs. Secondly, this study has investigated verbal tonology only by looking at the verb either in isolation or with other words within a sentence. Analysis of longer units would possibly reveal other tone patterns. It would also be helpful if more work could be done

on the nature of the two syntactic environments, A and B. Further research may reveal there classes which this study has not been able to identify.

The third limitation relates to the theoretical model used in this study. The study has applied the ASP model as expoused by Clements and Goldsmith (1984). It is probable that in recent years ASP may have undergone several developments - it is for future researchers to investigate whether these can be applied to Lamba and other related languages.

Fourthly, for this study only three informants were interviewed and only selected verbs were used. For further research it is recommended that more subjects be interviewed in a large area and more verbs used. The analysis could be extended to other word classes as well.

Finally, it should be emphasized that this study's discussion of Lamba verbal tonology should be understood in the light of these limitations. It would be greatly inconsistent with linguistic practice to generalize the findings to other languages - except if further enquiry warrants it.

### **CONCLUSION**

This study has been an investigation of the occurrence of tone in Lamba verbal forms from an autosegmental view point. Tone patterns were established and rules applied to account for the representations. The study has established that surface and



underlying tone patterns in the Lamba verb are different. It should, however, be understood that this study has looked at only some aspects of verbal tonology in Lamba. It should be emphasized that the study has confirmed all the hypotheses presented in 1.2.2. The study has established two lexical tones of the verb radical viz. L and H and that lexical, syllabic structure and syntactic environment have a great effect on tone realization.

Regarding the two types of syntactic environments (that is, A and B) it should be noted that several words belonging to different classes or 'parts of speech' may fall in each type. Among type A (bwino -type words) are words like fyoonse 'everything' and makosa 'hard' as in the examples below.

- (66) (a) Balálya fyoonse 'They eat everything'  
(b) TaBalúkulímapo makosa 'They are not cultivating hard'  
(c) Íimbwa íshi tashiipayapo Baapushi. 'They dogs which don't kill cats'

Examples of type B (kolwe - type words) are numerous. Some of these words and/or phrases are 'Mwape', paníni paníni, mootoka 'car', munganda 'in the house', pa mutenge 'on the roof top', mu mányinsa 'in the rainy season', púshi 'cat', ne makosa 'very hard' and so on. Below are some examples.

- (67) (a) BalámuBoná Mwape 'They see Mwape'  
(b) Bakeendá panini panini 'They will walk slowly'  
(c) BakáúBoná mootoka 'They will see the vehicle'

(d) TaBakáyapó mú ~~h~~anda 'They will not go into the house'

(e) BakámuBoná puushi 'They will see the cat'

(f) TaBalúkulímapó ne makosa. 'They are not cultivating very hard'

It may be noted that certain classes of nouns and prepositions are predominately of the kolwe - type. However, as stated in 3.3 above more research should be encouraged in establishing the nature of these word types.

It is important also to point out that there are some tonal rules which are universal in most Bantu languages that this study has not discussed; these are rules such as downstep and downdrift. While these rules apply in Lamba they were not observable in the verb; they applied only in words other than the verb. For instance in (67) d, the tone of mu in mu<sup>h</sup>anda is likely to be mid; it is lower than that of the FV of the preceding verb but higher than L proper. Other examples of downstep can be found in the examples below:

(68) (a) BaakuBaBoná Ba<sup>h</sup>ataata 'They will see my father.'

(b) BakámuBoná Bu<sup>h</sup>upe. 'They will see Buupe.'

In these examples, Baa in Ba<sup>h</sup>ataata in (a) and Buu in Bu<sup>h</sup>upe in (b) downstep to mid Ba<sup>h</sup> and Bu<sup>h</sup> respectively.

The point to note is that the fact that these rules have not been discussed in detail does not in any way suggest that they are insignificant in Lamba.

Finally, it should be noted that in the analysis of tone patterns, the role of emphasis was not considered although it may affect tone realization. For instance, NdaBona'kolwe 'I see a monkey' may occur as NdaBona'kolwe because of emphasis.

# APPENDIX I:

## LIST OF VERBS AND THEIR LAMBA TRANSLATIONS

	IMPERATIVE	INFINITE	
Arrive	Fíka	Ukufika	'to arrive
Beat	Páma	Ukúpama	'to beat'
Bite	Súma	Ukúsuma	'to bite'
Break	TóBa	ukútoBa	'to break'
Burn	óca	Ukooca	'to burn'
Send	Túma	Ukútuma	'to send'
Chase	Támfya	Ukutamfya	'to chase'
Cry	Líla	Ukulila	'to cry'
Curse	Fínga	Ukúfinga	'to curse'
Drink	Nwáa	Ukunwa	'to drink'
See	Bóna	UkúBona	'to drink'
Go	Yáa	Ukuya	'to go'
Hear	úmfwá	Ukuumfwa	'to hear'
Steal	ÍBa	ÚkwíBa	'to steal'
Swallow	Mína	Ukúmina	'to swallow'
Kill	ípaya	Ukwípaya	'to kill'
Defecate	Nyáa	Ukunya	'to defecate'
Send	Túma	Ukútuma	'to send'
Eat	L yáa	Ukulya	'to eat'
Cultivate	Lima	Ukulima	'to cultivate'

## APPENDIX II

### CONSONANT SOUNDS WITH EXAMPLES

SOUND	EXAMPLE
[p]	poosa [po:sa] 'throw'
[b]	limbwa [i:mbwà] 'dog'
[t]	tema [tema] 'cut down trees'
[d]	eenda [e:nda] 'walk'
[ʃ]	ícaani [íçà:nì] 'grass'
[k]	kolwe [kolwe] 'monkey'
[g]	uBuunga [uBu:ŋga] 'mealmeal'
[β]	úBuŋfi [úBùfì] 'lies'
[f]	fimba [fi:mba] 'cover'
[s]	íisaBi [í:sàbì] 'fish'
[n]	néBo [néBò] 'me'
[m]	limbwa [ɸmbwà] 'dog'
[ʃ]	íishilu [í:shilu] 'madman'
[ɣ]	ɣya[ɣya] 'defecate'
[w]	wa [wa] 'fall down'
[l]	lila [lílà] 'cry'
[ŋ]	ɪŋkoko [í:ŋkòkò] 'chicken'

APPENDIX III:

VERBAL PREFIXES AND INFIXES ACCORDING TO CLASS

CLASS	PREFIX	INFIX	EXAMPLES OF INFIXES
1	mu-	-mu-	uku-mu-Bóna 'To see him'
1a	ø-		
2	Ba-	-Ba-	uku-Ba-Bóna 'To see them'
2a	Baa-	-Ba-	u-ku-Ba-Bón-a 'To see them'
3	mu-	-u-	u-ku-Ba-Bón-a 'To see them'
4	mi-	-i-	uku-iBónée mishi 'To see the villages'
5	li-	-li-	uku-li-Bónailinso 'To see the eye'
6	ma-	a-	uku-a-Bón-a amenso 'To see the eyes'
7	ci-	-ci-	uku-ci-Bón-a 'To see it'
8	fi-	-fi-	u-ku-fi-Bón-a 'To see the'
9	n-	-i-	i'-nkoko-u-ku-i-Bón-a 'To see he chicken'
10	n-	-shi-	i'-nkoko-uku-shi-Bón-a 'To see the chicken'
11	lu-	-lu-	uku-luBón-a 'To see it'
12	ka	-ka-	uku-kaBón-a aka-nike 'To see the young boy'
13	tu-	-tu-	u-ku-tu-Bón-a u-tu-ntu 'To see the small things'
14	Bu-	-Bu-	u-ku-bu-Bóna u-ubuuci 'To (it) the see honey'
15	ku-	-ku-	u-ku-kuBón-a uku-Boko 'To see(it) the hand'



17	ku-	-ku-	u-ku-kuBón-a ku-nse 'To 'see outside'
18	mu	-mu-	u-ku-mu-Bón-a mu-ganda. 'To see inside the house.'

#### APPENDIX IV:

#### TRANSCRIPTION OF SOME DATA

##### (A) ABSOLUTIVES

##### 1. INFINITIVES

##### Positive without infix in Isolation

UkuBona	'to see'
Ukulya	'to eat'
Ukulima	'to cultivate'

##### Positive without infix followed

UkuBona Bwino	'to see clearly'
Ukulya kolwe	'to eat the monkey'
Ukulyée nama	'to eat meat'
Ukulimée Bala	'to cultivate the field'

##### Positive with infix in Isolation

UkúmuBona	'to see him'
Ukúcilya	'to eat it'
Ukulilima	'to cultivate it e.g. field'

##### Positive with infix followed

UkúmuBoná yonsée mpindi	'to see him all the time'
UkúmuBoná lyonse	'to see him always'
Weéshe ukúmuBoná nakáBili	'try to see him again'

Weéshe ukúçilyá nakáBili 'try to eat it again'  
Ukuliliméé Bala 'to cultivate the field'

### Negative without infix in Isolation

UkuBulóó kúBona 'not to see'  
UkuBulóó kulya 'not to eat'  
UkuBulóó kulima 'not to cultivate'

### Negative Without Infix Followed

UkuBulóó kúBona kúuBíipile 'not to see is bad'  
UkuBulóó kúBona kolwe 'not to see the monkey'  
UkuBulóó kúBona Bwino 'not to see well'  
UkuBulóó kulya kúuBíipile 'not to eat is bad'  
UkuBulóó kulya kolwe 'not to eat the monkey'

### Negative With Infix in Isolation

UkuBulóó kúBaBona 'not to see them'  
UkuBulóó kulilima 'not to cultivate it'  
UkuBulóó kúfilya 'not to eat them'

### Negative with infix followed

UkuBulóó kúBaBona Bonse 'not to see all of them'  
UkuBulóó kúfilya nakáBili 'not to eat them again'  
UkuBulóó kúçilyéé mpindí yonse 'not to eat it all the time'  
UkuBulóó kúmuBona kolwe 'not to see the monkey'

## **2. INDICATIVES**

### PRESENT HABITUAL

#### Positive without infix in Isolation

NdaBona 'I see'  
Ndálya 'I eat'  
Balalima 'They cultivate'  
BaláBona 'They see'  
Balálya 'They eat'

#### Positive without infix followed

NdaBona Bwino 'I see clearly'  
NdaBona kolwe 'I see the monkey'  
Ndalya Bwino 'They eat the monkey'  
Balaliméé Bala 'They cultivate the field'  
Balalima makosa 'They cultivate hard'

#### Positive with infix in Isolation

BalámuBona 'They see him'  
Balácilya 'They eat it'  
Balalilima 'They cultivate it'

Positive with infix followed

BalámuBoná kolwe	'They see (him) the monkey'
BalámuBona Bwino	'They see him clearly'
BalámuBoná lyoonse	'They see him always'
Balamulyá kolwe	'They eat (him) the monkey'
Balabalya Baákolwe	'They eat (them) the monkeys'
Balaliliméé Bala	'They cultivate the field'

Negative without infix in Isolation

NshiBonapo	'I don't see'
TabaBonapo	'They don't see'
TaBalimapo	'They don't cultivate'
TaBalyaapo	'They don't eat'

Negative without infix followed

NshiBonapó kolwe	'I don't see a monkey'
TaBaBonapo Bwino	'They don't see clearly'
TaBaBonapó Buúpe	'They don't see Bupe'
TaBalimapo Bwino	'They don't cultivate well'
Tamulimapwéé Bala	'You don't cultivate the field'
TaBalyapwéé nshima	'They don't eat nshima'

Negative without infix in Isolation

TatuBáBonapo	'We don't see them'
TaBacílyaapo	'They don't eat it'
TaBalilimapo	'They don't cultivate it'

Negative with Infix followed

TaBalílimapwéé Bala	'They don't cultivate the field'
TaBalílimapo Bwino	'They don't cultivate it well'
TaBalílimapó yonséé mpindi	'They don't cultivate it all the time'
TaBamúBonapo Bwino	'They don't see him well'
TaBamúBonapó kolwe	'They don't see (him) the monkey'
TaBacílyapo Bwino	'They don't eat it well'
TaBamúlyapó kolwe	'They don't eat (him) the monkey'

PRESENT PROGRESSIVE

Positive without Infix in Isolation

BalúkuBona	'They are seeing'
Balúkulya	'They are eating'
Balukulima	'They are cultivating'
Balúkupama	'They are beating'

Positive without Infix followed



BalúkuBoneé nkálamba	'They are seeing an angel'
Balúkulyeé nshima	'They are eating nshima'
Balukulimeé Bala	'They are cultivating the field'
BalúkuBoná kolwe	'They are seeing the monkey'
Balúkulya kolwe	'They are eating the monkey'
Balúkulya Bwino	'They are eating well'

### Positive with Infix in Isolation

BalukuBaBona	'They are seeing them'
Balukúciya	'They are eating it'
Balukulilima	'They are cultivating it'

### Positive with Infix followed

BalukuBaBona Bwino	'They are seeing them well'
Balukúfiya nakáBili	'They are eating them again'
Balukúmupamá nee makosa	'They are beating him hard'
Balukulilimá nee se	'They are cultivating with a hoe'
BalukúmuBoná kolwe	'They are seeing (him) the monkey'
Balukúciya Bwino	'They are eating it well'

### Negative without Infix in Isolation

TatulúkuBonapo	'We are not seeing'
Tatulúkulyáapo	'We are not eating'
Tatulúkuliapo	'We are not cultivating'

### Negative without Infix Followed

TatulúkuBonapo inkálamba	'We are not seeing an angel'
TatulúkuBonapo Bwino	'We are not seeing well'
TatulúkuBonapo kolwe	'We are not seeing the monkey'
Tatulúkulyáapo Bwino	'We are not eating well'
Tatulúkuliapo Bwino	'We are not cultivating well'
Tatulúkulyáapo kolwe	'We are not eating a monkey'

### Negative with Infix in Isolation

TatulukuBaBonapo	'We are not seeing them'
Tabalúkuliapo	'They are not cultivating it'
Tabalúkucíyapo	'We are not eating it'

### Negative with Infix followed

TaBalúkuiBonapwée nkálamba	'We are not seeing the angel'
Tatulúkuliimapwée Bala	'We are not cultivating the field'
Tatulúkumúlyaapo kolwe	'We are not eating the monkey'

### PRESENT PERFECT TENSE

#### Positive without Infix in Isolation

Baliliile	'They have eaten'
Balilimine	'They have cultivated'
BaliBweene	'They have seen'

Positive without Infix followed

BaliBweene Bwino	'They have seen well'
BaliBweene nakaBili	'They have seen again'
BaliBweene kolwe	'They have seen a monkey'
Baliliile Bwino	'They have eaten well'
Baliliile kolwe	'They have eaten the monkey'

Positive with Infix in Isolation

MulimuBweene	'You have seen him'
Balililimine	'They have cultivated it'
Balifiliile	'They have eaten them'

Positive with Infix followed

MuliiBweene inkalamBa	'You have seen the angel'
MulimuBweene kolwe	'You have seen the monkey'
MulimuBweene nakaBili	'You have seen him again'
MulimuBweene Bwino	'You have seen him well'
Balimuliile kolwe	'They have eaten (him) the monkey'
Baliciliile nakaBili	'They have eaten it again'
Baliciliile Bwino	'They have eaten it well'

Negative without Infix in Isolation

TaBaBweenepo	'They haven't seen'
BaBalifilepo	'They have not eaten'
TaBaliminepo	'They have not cultivate'

Negative without Infix followed

TaBaBweenepo kolwe	'They haven't seen a monkey'
TaBaBweenepo Bwino	'They haven't seen well/clearly'
Tabaliminepo nakaBili	'They haven't cultivated again'

Negative with Infix in Isolation

TaBamuBweenepo	'They have not seen him'
TaBaciliilepo	'They have not eaten it'
TaBaliliminepo	'They have not cultivated'

Negative with Infix followed

TaBamuBweenepo Buupe	'They have not seen Buupe'
TaBamuliilepo kolwe	'They have not eaten the monkey'
TaBaliliminepo Bwino	'They have not cultivated well'
TaBaliliminepo nakaBili	'They have not cultivated it again'

POST-HODIERNAL FUTURE SIMPLE TENSE

Positive without Infix in Isolation

TukaBona	'We will see'
Bakalya	'They will eat'

Bakalima	'They will cultivate'
Bakaya	'They will go'

**Positive without Infix Followed**

Bakálya kolwe	'They will eat a money'
BakaBoná nakáBili	'They will see again'
Bakaliméé Bala	'They will cultivate the field'
BakaBona Bwino	

**Positive with Infix in Isolation**

TukámuBoná	'We will see him'
Mukalilima	'You will cultivate it'
Bakácilya	'They will eat it'

**Positive with Infix followed**

TukámuBoná Búupe	'We will see (him) Buupe'
Mukaliliméé Bala	'You will cultivate the field'
Mukalilima makosa	'You will cultivate hard'
Mukalilima Bwino	'You will cultivate well'
BakámuBona Bwino	'They will see him well'

**Negative without Infix in Isolation**

TaBakáBonapo	'They won't see'
TaBakályaapo	'They won't eat'
Tabakálimapo	'They won't cultivate'

**Negative without Infix followed**

TaBakályaapó kolwe	'They won't eat a monkey'
TaBakályaapo Bwino	'They won't eat well'
TaBakáBonapó kolwe	'They won't see a monkey'

**Negative with Infix in Isolation**

TaBakámuBonapo	'They won't see him'
TaBakácilyapo	'They won't eat it'
TaBakálilimapo	'They won't cultivate it'

**Negative with Infix followed**

TaBakámuBonapó kolwe	'They won't see the monkey'
TaBakácilyapo Bwino	'They won't eat it'
TaBakálilimapó nakaBili	'They won't cultivate it again'

**HODIERNAL FUTURE SIMPLE**

**Positive without Infix in Isolation**

BáákuBona	'They will see'
Báákulya	'They will eat'
Baakulima	'They will cultivate'

**Positive without Infix followed**

BaakuBónée nkálamba	'They will see an angel'
Baakulyée nama	'They will eat meat'
Baakulimée Bala	'They will cultivate the farm'

**Positive with Infix in Isolation**

BaakuBaBona	'They will see them'
Baakucilya	'They will eat it'
Bakulilima	'They will cultivate it'

**Positive with Infix followed**

BaakuBaBonáBaáataata	'They will see my father'
Baakuliyée saBi	'They will eat fish'
Baakulilimée Bala	'They will cultivate the field'

**Negative without infix in Isolation**

Teeti BaBónepo	'They won't see'
Teeti Balyéepo	'They won't eat'
Teeti Balímepo	'They won't cultivate'

**Negative without Infix followed**

Teeti BaBónepwée nkálamba	'They won't see an angel'
Teeti Balyéepwée nama	'They won't eat meat'
Teeti Balímepwée Bala	'They won't cultivate the field'

**Negative with Infix in Isolation**

Teeti BamúBonepo	'They won't see him'
Teeti Bacilyeepo	'They won't eat it'
Teeti Balílimepo	'They won't cultivate it'

**Negative with Infix followed**

Teeti BamúBonepó Búupe	'They won't see Búupe'
Teeti Balílyeepwée saBi	'They won't eat the fish'
Teeti Balílimepwée Bala	'They won't cultivate the farm'

**PRE-HODIERNAL PAST SIMPLE**

**Positive without Infix**

BaaliBweene	'They saw'
Baaliiliile	'They ate'
Baaliile	'They went'
Baalilimine	'They cultivated'

**Positive without Infix followed**

BaaliBweenée nkálamba	'They saw an angel'
-----------------------	---------------------

Balilileé nama	'They ate an animal'
Baalilimineé cisompe	'They cultivated the field'
Baaliile nakaBili	'They went again'

### Positive with Infix in Isolation

BaalímuBweene	'They saw him'
Baalíciliile	'They ate it'
Baalililimine	'They cultivated it'

### Positive with Infix followed

BaalímuBweene Búupe	'They saw (him) Búupe'
Baalímuliile kolwe	'They ate teh monkey'
Baalícilimineé cisompe	'They cultivated the field'

### Negative without Infix in Isolation

TaBaaBweenepo	'They didn't see'
TaBaaliilepo	'They didn't eat'
Tawaliminepo	'You didn't cultivate'

### Negative with Infix in isolation

TaBaamuBweenepo	'They didn't see him'
TaBaaciliilepo	'They didn't eat it'
TaBaaliliminepo	'They didn't cultivate it'

### Negative with Infix followed

TaBaamuBweenepo Bwino	'They didn't see him well'
TaBaamuliilepo kolwe	'They didn't eat the monkey'
TaBaaciliminepweé cisompe	'They didn't cultivate the field'

## 3. THE SUBJUNCTIVE AND IMPERATIVE

### Subiunctive Present

<u>POSITIVE</u>		<u>NEGATIVE</u>	
úlye	'eat'	wiilya	'don't eat'
uBone	'see'	wiiBóna	'don't see'
ulíme	'cultivate'	wiilima	'don't cultivate'
uBone Bwino	'see clearly'	wiiBóna Bwino	'don't see clearly'
uBone kolwe	'see a monkey'	wiiBóna kolwe	'don't see a monkey'
úlye kolwe	'eat a monkey'	wiilya kolwe	'don't eat a monkey'
úlye Bwino	'eat well'	wiilya Bwino	'don't eat well'
uBaBone	'see them'	wiiBáBona	'don't see them'
ucílye	'eat it'	wiicílye	'don't eat it'
ucílime	'cultivate it'	wiilima	'don't cultivate it'

### Subiunctive Future/Imperative Future

ukálye	'You should eat'	wiikálya	'You shouldn't eat'
ukaBone	'You should see'	wiikáBona	'You shouldn't see'

### Subjunctive Future/Imperative Future

ukálye	'You should eat'	wiikálya	'You shouldn't eat'
ukáBone	'You should see'	wiikáBona	'You shouldn't see'
ukálime		wiikálima	'You shouldn't cultivate'
mukáBone Bwino	'You should see clearly'	mwiikáBona Bwino	'You shouldn't see clearly'
mukaBone Bwino	'you should see clearly'	'you shouldn't see clearly'	
mukáBoné kolwe	'you should see a monkey'	mwiikáBona kolwe	'You shouldn't see a monkey'
mukálye kolwe	'You should eat a monkey'	mwiikálya kolwe	'you shouldn't eat a monkey'
Bakácilye	'you should eat it'	Beekácilya	'they shouldn't eat it'
Bakálilime	'they should cultivate'	Beekálilima	'they shouldn't cultivate it'

### Imperative

Bóna	'see'	wiiBóna	'don't see'
lima	cultivate	wiilima	'don't cultivate'
Bóna kolwe	'see a monkey'	wiiBóna kolwe	'don't see a monkey'
lyáa	'eat'	wiilya	'don't eat'
Bóna nakaBili	'see again'	wiiBóna nakaBili	'don't see again'
Bóna Bwino	'see clearly'	wiiBóna Bwino	'don't see again'

### (B) RELATIVES

#### PRESENT HABITUAL TENSE

##### Positive without Infix In Isolation

Kalúbwaana uulya	'The boy who eats'
Umwaálalume uuBóna	'they man who sees'
Umwaálalume uulima	'The man who cultivates'

##### Positive without Infix followed

Kalumbwaana uulyée mbwa áafwa	'The boy who eats dogs has died'
Umwaálalume uuBonée nkálamba	'The man who sees angels'
Kalumbwaana uuBóna Bwiino	'The boy who sees clearly'
Kalumbwaana uuBóna kolwe	'The boy who sees a monkey'
ABantu aBalima Baaisa	'The people who cultivate have come'

##### Positive with Infix in Isolation

Kashiimbi úucílya	'The girl who eats it'
Kalumbwaana úutúBóna	'The boy who sees us'
Umwánakashi uulilima	'The woman who cultivates it'
Báatata áBo tuBóna	'My father whom we see'

##### Positive with Infix followed

Umwaálalume úutúBóna Bwino	'The man who sees us well'
Kalumbwaana úucílya Bwino	'The boy who eats it well'
Kalumbwaana úufílya lyooóse	'The boy who eats them well'
Kashiimbi uulilima aisa	'The girl who cultivates it has come'

ABantu áBacílya nakáBili 'The people who eat it again'

**Negative without Infix in Isolation**

Kalúmbwana úutalyapo	'the boy who doesn't eat'
Umwáálalume úutaBonapo	'The man who doesn't eat'
Kashíimbi úutalimapo	'the girl who doesn't cultivate'
IBala íli taBalimapo	'The garden which they don't cultivate'

**Negative without Infix followed**

Umwáálalume úutalyapo tuute ni John	'The boy who doesn't eat cassava is John'
ABáálalume áBataBonapo ni Báátaata	'The man who doesn't see is my father'
Kalúmbwaana úutaBonapó kolwe	'The boy who doesn't see a monkey'
Tuute úu tatúlyapo tulapoosa	'The cassava which we don't eat is thrown away'
Umwáálalume úu taBaBonapoðaisa	'the man whom they don't see has come'

**Negative with Infix in Isolation**

Kalúmbwaana úutacílyapo	'The boy who doesn't eat it'
Inama íi talyapo	'The meat which he doesn't eat'
IBala íli tatulimapo	'The garden which we don't cultivate'
Kalúmbwaana úu tatuBonapo	'The boy who we don't see'
Kalúmbwaana úutatuBonapo	'The boy who doesn't see us'

**Negative with Infix followed**

Kalúmbwaana úutacílyapo áonda	'The boy who doesn't eat it is thin'
Kalúmbwaana úutalílimapo múByanji	'The boy who doesn't cultivate it is my friend'
Kalúmbwaana úutamúBonapó kolwe	'The boy who doesn't see the monkey'
Kashíimbi úutalílimapo Bwino	'The girl who doesn't cultivate it well'

**PRESENT PROGRESSIVE**

**Positive without Infix In Isolation**

Umwáálalume úulúkuBona	'The man who is seeing'
ABantu áBalúkulya	'The people who are eating'
AmataBa áo Balúkulya	'The maize which they are eating'
IBala íli Balúkulima	'The farm which they are cultivating'
Kalúmbwaana úulúkulima	'The boy who is cultivating'
Kashíimbi úulúkuya	'The girl who is going'

**Positive without Infix followed**

**Positive without Infix followed**

ABáálalume áBalúkuBona Báákafúndisha  
Umwaáalalume úulúkulya ni kapokola  
ABáánakashi áBo BalúkuBona Báátata  
Kalúmbwaana úulúkuBona Bwino  
Kashíimbi úo mulúkuBona Bwino

'The men who are seeing  
the teaching'  
'The men who are eating  
a monkey'  
'The women whom my  
father is seeing'  
'The boy who is seeing  
clearly'  
'The girl whom you are  
seeing clearly'

**Positive with Infix in Isolation**

Umwaáalalume úulúkutúBona  
Kalúmbwana úulúkucílya  
Kashíimbi úulúkulílima

'The man who is seeing  
us'  
'The boy who is eating  
it'  
'The girl who is  
cultivating it'

**Positive with Infix followed**

Umwaáalalume úulúkutúBona ni kafúndisha  
Kalúmbwana úulúkucílya Bwino  
ABáálalume áBalúkulílima niBa mwínsho

'The man who is seeing  
us is a teacher'  
'The boy who is eating  
it well'  
'The man who is  
cultivating it is my  
uncle'

**Negative without Infix in Isolation**

Umwaáalalume úutalúkuBonapo  
Umwaáalalume úu tamulúkuBónapo  
Kalúmbwana úutalúkulyáapo  
Umwaáalalume úutalúkulímapo  
IBala íli tamulúkulímapo

'The man who is not  
seeing'  
'The man whom you are  
not seeing'  
'The boy who is  
not eating'  
'The man who is not  
cultivating'  
'The farm which you are  
not cultivating'

**Negative without Infix followed**

ABáálalume áBatalúkuBónapó kolwe  
Umwaáalume úutamulúkuBónapo Bwino  
Umwaáalalume úutalúkulímapo  
  
ABáálalume áBa taBalúkulímapo ni Ba  
Fóloko

'The men who are not  
seeing a monkey'  
'The man whom you are  
not seeing well'  
'The man who is not  
cultivating'  
  
'the man who is not  
cultivating is Foloko'



### Negative with Infix in Isolation

Umwáálalume úutalúkutuBonapo	'The man who is not seeing us'
Kalumbwaana úutalúkucílyapo	'The boy who is not eating it'
Umwáálalume úutalúkulílimapo	'The man who is not cultivating it'

### Negative with Infix followed

Umwáálalume úutalúkutuBonapo in kaBwálala	'The man who is not seeing us is a thief'
Kashíimbi úutalúkumuBonapó kolwe	'The girl who is not seeing a monkey'
Kalumbwaana úutalúkucílyapo Bwino	'The boy who is not eating it well'
Kalúmwana úutalúkulílimaponi Búupe	'The boy who is not cultivating it is Búupe'

### PRESENT PERFECT TENSE

#### Positive without Infix in Isolation

Umwáálalume úwaaBóna	The man who has seen
Kalumbwaana úwáalya	The boy who has eaten
Umwáálalume úwaalíma	The man who has cultivated
IBala íli Baalíma	The field which has be cultivated
Umwáálalume úuBaBwéene	The man who has

#### Positive without followed

Umwáálalume úwaaBóna inkálamba	The man who has seen an angel
Kalúmbbwaana úwaalyéé nshima	The boy who has eaten nshima
Umwáálalume úwaalíma iBala	The man who has cultivated the farm

#### Positive with Infix Isolation

Umwáálalume úwaakuBona	The man who has seen you
Kalumbwaana úwaacílyeeci	The boy who has eaten it
Umwáálalume úwaacilimeeci	The man who has cultivated it

#### Positive with Infix followed

Umwáálalume úwaakuBonani shímapepo	The man who has see you is a priest
kalumbwaana úwaacílyeeci mwiiníne	The boy who has eaten

Umwáálalume úwaacíliméeci múByáanji 'The man who has  
cultivated it is  
my friend'

**Negative without Infix in Isolation**

Umwáálalume úutaBweenepo 'The man who hasn't seen'  
Kalumbwaana úutaliilepo 'The boy who hasn't eaten'  
Umwáánakashi úutaliminepo 'The woman who hasn't  
cultivated'

**Negative without Infix followed**

Umwáálalume úutaBweenepó inkálamba 'The man who hasn't seen  
an angel'  
Kalumbwaana úutaliilepo iliindaanda 'The boy who hasn't  
eaten the egg'  
Umwáánakashi úutaliminepo iBala 'The woman who hasn't  
cultivated the field.'

**Negative with Infix In Isolation**

Umwáálalume úutakúBweenepo 'The man who hasn't seen  
you'  
Kalumbwaana úutacíliilepo 'The boy who hasn't  
e a t e n  
it'  
Umwáánakashi úutacíliminepo 'The woman who hasn't  
cultivated it'

**Negative with Infix followed**

Umwáálalume úutaciBweenépo líshilu 'The man who hasn't seen  
it is mad'  
Kalumbwaana uutaciBweenépo íci ni Mark 'The boy who hasn't  
eaten it is Mark'  
Kalumbwaana úutacíliminepo íci ní Mwape 'The boy who hasn't  
it is Mwape'

**PRE-HODERNAL PAST SIMPLE**

**Positive without Infix in Isolation**

Umwáálalume úwaBwéene 'The man who saw'  
Kalumbwaana uwaaliile 'The boy who ate'  
Umwáánakashi úwalimine 'The woman who cultivated'

**Positive without infix followed**

Umwáálalume úwaaBwéene inkálamba 'The man who saw an angel'  
Kalumbwaana uwaaliile insoka 'The boy who ate a snake'  
Umwáánakashi úwaalimineé Bala 'The woman who cultivated the  
field'

**Positive with Infix in Isolation**

### Positive with Infix in Isolation

Umwáálalume úwaamúBweene  
Kalumbwaana úwaacíliile ici  
Umwáánakashi uwaacilimineeci

The man who saw him  
The boy who ate it  
The woman who cultivated it

### Positive with Infix followed

Umwáálalume uwaamúBweene áafwa  
Kashímbi úwacíliile aafunta  
Umwáánakashi úwacílimine múúkote

The man who saw him has died  
The girl who ate it is mad  
The woman who cultivated it is old.

### Negative without Infix In Isolation

Umwáálalume úutaaBweenepo  
Kalumbwana úu tatwaaBweenepo  
Kashímbi úutaaliilepo  
AmataBa áo tatwaaliilepo  
ÍlBala íli taaliminepo uyu

The man who didn't see  
The boy whom we didn't see  
The girl who didn't eat  
The maize which we didn't eat  
The field which she didn't cultivate.

### Negative without infix followed

Umwáálalume úutaBweenepó inkálamba  
Kashímbi úutaaliiliépó ísaBi  
AmataBa áo tawaaliiliépó mailo  
ÍlBala íli taaliminepó uyu

The man who didn't see the angel  
The girl who didn't eat fish  
The maize which we didn't eat  
The field which this woman person was not cultivating

### Negative with Infix Isolation

Umwáálalume úutaacituBonapo  
Kalumbwaana úutaacicyapo ici  
Umwáánakashi úutaacilimenepo

The man who didn't see us  
The boy who didn't eat it  
The woman who didn't cultivate it

Umwáánakashi úutaaciliminepo

The woman who didn't cultivate it

AmataBa áo tawaaliilepo mailo

The maize which we didn't eat.

ÍlBala íli taaliminepo

The field which she didn't cultivate last year

### Negative with Infix followed

Umwáálalume úutaacitúBonapo pa stesheni

The man who didn't see us at the station

Kalumbwaana útaaciliilepó ici mailo

The boy who didn't eat it yesterday.

Umwáánakashi úutaaliminepó mailo

The woman who didn't cultivate yesterday

Umwáánakashi úutaaliminepó mailo

The woman who didn't cultivate yesterday

Umwa'ánakashi útaaliminepó mailo

cultivate today.  
'The woman who didn't  
cultivate yesterday'

# **PRE-HODIERNAL PAST PROGRESSIVE**

## **Positive without Infix in Isolation**

Umwa'alalume úwaalúkuBona  
Kalumbwaana úwaalúkulya  
Kalumbwaana úwaalúkulya luno  
lúceelo  
Kalumbwaana úwalúkuBona  
Kalumbwaana úwalúkulima  
l'ibala íli walúkulima

'The man who was seeing'  
'The boy who was eating'  
'The boy who was eating  
this morning.'  
'The boy whom you were seeing'  
'The boy who was cultivating'  
'The field which you were  
cultivating'

## **Positive without Infix Followed**

Umwa'alalume úwaalúkuBona  
Bákafundisha  
Kalumbwaana uwaalukulya tuute

'The man who was seeing the  
teacher'  
'The boy who was eating  
cassava'

Kalumbwaanaúu mwaBonoo lúceelo  
Kalumbwaana úwaalúkuliméé Bala

'The boy whom you were seeing  
this morning.'  
'The boy who was cultivating  
the field'  
'The field which you were  
cultivating yesterday.'

l'ibala íli mwaalúkulima' mailo

## **Positive with Infix Isolated**

Umwa'alalume úwaalúkutuBona  
Kalumbwaana úwaalúkucilya  
Umwa'ánakashi úwaalúkucilima

'The man who was seeing us'  
'The boy who was eating it'  
'The woman who was  
cultivating it.'

## **Positive with Infix followed**

Umwa'alalume úwaalúkutuBona mailo  
Kalumbwaana úwaacíliiléeci mailo  
Umwa'ánakashi úwaalúkuciliméeci ulúceelo

'The man who was seeing  
us yesterday'  
'The boy who was eating  
it yesterday'  
'The woman who was  
cultivating it in the  
morning.'

## **Negative without Infix in Isolation**

Umwa'alalume útaalúkuBónapo  
Kalumbwaana útalúkulyáapo  
Kalumbwaanaúu tamwalúkuBónapo

'The man who was not  
seeing'  
'The boy who was not  
eating'  
'The boy whom you were  
not seeing'

Kalúmbwaana úutaalúkúlímápo  
líBala íli tamwaalúkúlímápo

'The boy who was not  
cultivating'  
'The field which you were  
not cultivating'

**Negative without Infix followed**

Umwaálalume úutaalúkuBonápweé nkálamba  
Kalúmbwaana úutaalúkulyáápo tuute  
Umwaálalume úutaalúkúlímápo'íiBala

'The man who was not  
seeing an angel'  
'The boy who was not  
eating cassava'  
'The man who was not  
cultivating the field'

**Negative with Infix in Isolation**

Umwaálalume úutaalúkumuBonapo  
Kalúmbwaana úutaalúkucílyapo  
Umwaálalume úutaalúkúlímápo

'The man who was not  
seeing him'  
'The boy who was not  
eating it'  
'The man who was not  
cultivating it'

**Negative with Infix followed**

Umwaálalume úutaalúkumuBonapo ááfwa  
Kalúmbwaana úutaalúkucílyapo ici cúungwa  
Umwaálalume úutaalúkúlímápo ici muufila

'The man who was not  
seeing him has died'  
'The boy who was  
not eating it is a  
fool.'  
'The man who not  
cultivating it is lazy'

**POST-HODIENAL FUTURE SIMPLE**

**Positive without Infix In Isolation**

Kashúmbi úukáBona  
Umwaálalume úukalima  
Kalúmbwaana úukálya  
KashimBi úukaya

'The girl who will see'  
'The man who will cultivate'  
'They boy who will eat'  
'The girl who will go'

**Positive without Infix followed**

Kashúmbi úukáBonée nkálamba  
Umwaálalume úukalimeé Bala  
Kalúmbwaana úukalya tuute

'the girl who will see an angel'  
'The man who will cultivate the  
field'  
'The boy who will eat  
cassava'

**Positive with Infix In Isolation**

Kashúmbi úukámuBona  
Umwaálalume úukácilima  
Kalúmbwaana úukácilyeeci

'The girl who will see him'  
'The man who will cultivate it'  
'The boy who will eat it'

Positive with Infix Followed

Kashiimbi uukamuBona' mailo

'The girl who will see him tomorrow'

Kalumbwaana uukacilyeeci mailo

'The boy who will eat it tomorrow'

Negative without Infix In Isolation

Umwaalalume uutakaBonapo

'The man who won't see'

Umwaalalume uutakalimapo

'The man who won't cultivate'

Kalumbwaana uutakalyaapo

'The boy who won't eat'

Negative without Infix Followed

Kashiimbi uutakaBonapwee nkalamba

'The girl who won't see an angel'

Kalumbwaana uutakalyapo tuute

'The boy who won't eat cassava'

Negative with Infix In Isolation

Kashiimbi uutakaBaBonapo

'The girl who won't see them'

Umwaalalume uutakacilimapo

'The man who won't cultivate it' well

Kulumbwaana uutakacilyapo

'The boy who won't eat it'

Negative with Infix Followed

Kashiimbi uutakaBaBonapo nakaBili

'The girl who won't see them again'

Umwaalalume uutakacilimapo nee makosa

'The man who won't cultivate it hard'

Kalumbwaana uutakacilyaapo ici cino cingulo

'The boy who won't eat it this afternoon'

### BIBLIOGRAPHY

- Africa, H.P. (1980) "Language in Education in a Multilingual Society: A Case Study of the Roles of English in the Education System of Zambia." PhD Thesis, University of Toronto (unpublished).
- Atkinson, M., Kilby, D. and Rocal, I (1989) Foundations of General Linguistics. London: Unwin Hyman.
- Austen L.C. (1974) "Anatomy of the Tonal system of a Bantu Language" in Studies in Africa Languages, Supplement 5, pp. 21-34.
- Basboll, H. "Phonological Theory" in Newmeyer, J. ed (1988) Linguistics: The Cambridge Survey. Cambridge: University Press.
- Batibo, H.M. "Autosegmental Phonology and the Bantu Tonal Systems" in Linguistics and Language in Education. Vol 1, No.1, December 1986, University of Dar-es-salaam pp. 34-47.
- Bennett, R.P. "Identification, Classification and Bantu Linguistics" in African Languages Studies, XII, pp. 19-25.
- Bryan, M.A. (1959) The Bantu languages of Africa, London: Oxford University Press (on Behalf of the International African Institute).
- Carter, H. (1971) "Morphophonology of Zambian Tonga: Some Developments of Meeussen's system, 1" in African Language Studies XII, pp. 1-30.
- Chanda, V.M. (1987) ZLG 210 notes on Morphology. University of Zambia, Department of Literature and Languages, Lusaka.
- Chisanga, T. (1987) "An Investigation of the Form and Functions of Educated English in Zambia as a Possible Indegenized non-native Variety." PhD Thesis University of York (unpublished).
- Chishimba, M. (1984) "African Varieties of English: Text in Context". PhD Thesis, University of Illinois.
- Clements, G.N. "An Outline of Lunganda Syllable Structure," in Studies in African Languages XII.
- Clements, G.N. and J. Goldsmith eds. (1984) Autosegmental Studies in Bantu Tone. Foris publications.
- Chomsky, N. and Halle, M (1968) Sound Patterns of English. New York: Harper and Row.
- Doke, C.M. (1922) The Grammar of the Lamba Language. London: Kegan Paul, Trench, Frubner.

- Kashoki E.M. and Mann M A" General Sketch to the Bantu languages of Zambia" in Ohnannessian S. and Kashoki M.E. eds (1978) Language in Zambia, London: IAI.
- Katamba, F. (1986) "An Autosegmental Approach to Tone in Luganda", Lancaster University Linguistic Circle (unpublished).  
(1989) An Introduction to Phonology, London: Longman.
- Kaye, J. (1989) Phonology: A Cognitive View, New Jersey Lawrence Erlbaum Associates.
- Kenslowicz, M and C. Kisseberth (1979) Generative Phonology: Description and Theory, New York: Academic Press.
- Ladefoged, F. Glick, R and Cripser, C (1971) Language in Uganda. Nairobi: OUP.
- Lehman, A.D. "Languages of the Kafue Basin: Introductory Notes" in Ohnannessian, S and Kashoki, M.E. eds. (1978) Language in Zambia, London: IAI, pp. 101 - 122.
- Lisimba, M. (1981) "A. Luyana Dialectology". Unpublished PhD Thesis.
- Luchembe, C. (1974) "Rural Stagnation: A case Study of the Lamba of Ndola Rural District" in National Archives Occasional Paper, No. 2, 1974 Lusaka: National Archives of Zambia Zambia PP. 21 - 33.
- Mann, M. "Guthrie's S Linguistic Terminology and its Application to Bemba" in African Languages Studies, ix, 19 London: School of Oriental and African Studies".
- "An Outline of Bemba Grammar" in Mann, M., Kashoki, M.E and J.L Wright (1977) Language in Zambia: Grammatical Sketches, Vol 1: Bemba and Kaonde, University of Zambia, Institute of African Studies, pp.6 - 61.
- Mann, M., Kashoki E.M. and J.L Wright (1977) Language in Zambia: Grammatical Sketches, University of Zambia: Institute of African Studies.
- Miti L.M. (1979) "A preliminary Investigation into Relative Clause Formation in Nsenga". MA Thesis, University of Wisconsin.
- (1988) "Tonal Variations in Zambia Chinyanja Varieties: An Autosegmental Analysis". PhD Thesis, University of London.
- Mtenje. A. (1987) "On Tone and Transfer in Chichewa Reduplication". LASU conference, Harare, 2 - 5/9/87.
- Mwanakatwe, J.M. (1968) The Growth of Education in Zambia since Independence. London/Lusaka: Longman.
- Newmeyer, J.F. ed (1988) Linguistics: The Cambridge Survey 1 -



Linguistic Theory Foundations, Cambridge: Penguin.

Ohannessian, S. and Kashoki, E.M. (1978) Language in Zambia.  
London: IAI.

Pride, J.B. and Holmes, J. eds (1979) Sociolinguistics. London:  
Penguin.

Sekeleti, C. (1985) "The Medium of Instruction in Zambian Primary  
School", MA Thesis, University of Zambia.

Sharman, C.J. "The Tabulation of Tenses in a Bantu Language:  
Northern Rhodesia" in Africa, Vol. 26, No. 1 1956: 29 - 46.

- "Nominal and Pronominal Prefixes in Bemba" in African Language  
Studies, iv, 1963: 98 - 127.

Sharma, C.J and A.T. Meeussen "The Representation of Structural  
Tonal Behaviour of the Verb in Bemba" in Africa, Vol.  
XXV, 4, 1955.

Siachitema A.K.M. (1981) "English in Three Neighbourhoods of  
Lusaka: Use and Attitude", PhD Thesis, University of  
Edinburgh.

Simukoko Y.T. (1981) "Some Aspects of the English of Bantu in  
Urban Schools", PhD Thesis, University of Edinburgh.

Sunday Times of Zambia, 1/11/92.

Tiersma, P. "Recent Phonological Theory: Review of Daniel  
Dinsin's Current Approach to Phonology" in Lingua Vol. 54,  
No 2/3 June, 1981: 227-248.

Vail L.H. (1972) "Aspects of the Tumbuka Verb." PhD Thesis,  
University of Wisconsin.

Van Sambeek J. (1955) A Bemba Grammar, London: Longman.