

*AN ANALYSIS OF THE APPLIED, CAUSATIVE AND PASSIVE
VERB EXTENSIONS IN TONGA*

BY

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DEDICATION

This dissertation is dedicated to my son Musilekwa who had to learn to do without a mother's care from a very tender age while I was undertaking this programme and my daughter Monde for holding on and enduring with a difficult pregnancy and for spending long hours away from home with me as early as she was one month old, when I was doing the corrections to this thesis.

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I Mildred Modern Nkolola, declare that this thesis:

- (a) represents my work;
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- (c) does not incorporate any published work or material from another thesis.

Signed: Mildred Nkolola
Date: 30/10/97

APPROVAL

This thesis of **Mildred Modern Nkolola** is approved as fulfilling the requirements for the award of the degree of Doctor of Philosophy in Linguistics Science by the University of Zambia.

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ABSTRACT

The aim of this study is to present an analysis of the morphology, syntax, semantics and phonology of the applied, causative and passive verb extensions in Tonga.

The syntactic and semantic analysis is undertaken in the context of Government-Binding Theory whereas the phonological analysis employs Underspecification theory and Feature Geometry.

The need for such a study arose out of our realisation that there was no available study on any aspect of Tonga that dealt with the four levels of linguistic analysis namely-phonology, morphology, syntax and semantics in the context of a linguistic theory. This is because the available studies on Tonga have concentrated on phonology at the expense of other aspects of linguistic levels of analysis and that the few grammars that purport to discuss all aspects of Tonga do this from merely a taxonomic point of view.

It was hoped that by undertaking such a study we would contribute to the general theory of grammar as the approaches the study employs were mainly developed by observing non-Bantu languages. Since Tonga is one of the regional official languages that are taught and examined at primary and secondary school levels in Zambia a study such as ours could be used

by both teachers and writers of Tonga teaching materials although this would require that the work is recast and revised to make it more accessible to people in these categories.

Even if the researcher is a native speaker of the language investigated she collected the bulk of the data from various kinds of texts on Tonga such as novels, readers and grammars. Also she validated her data using other speakers of the language.

A major contribution of our study to contemporary linguistic theory is our argument that morphology is best dealt with in the lexicon and our illustration on how the verb extensions under study in Tonga and Bantu in general can be generated in the lexicon.

By and large our work has shown that although the theoretical models we employ can be applied to the analysis of verb extensions under study in Tonga, certain aspects of these models would need to be revised without shaking the foundations of the theories.

Chapter one is the introduction and outlines the statement of the problem, rationale, objectives, methodology, theoretical framework of the study, literature review and discusses some aspects of Tonga verbal morphology.

Chapter two presents and discusses various arguments on the generation of verb extensions. In the discussion it is assumed and argued that derivation and compounding are entirely dealt with in the lexicon, while inflection is handled both by syntax and the lexicon.

Chapter three gives an account of the thematic roles of applied, causative and passive verb arguments and the argument structure of applied, causative and passive sentences. It is shown that, whereas the argument associated with the applied extension can have several thematic roles, the argument associated with the causative extension and the argument associated with the passive verb has always one thematic role. Similarly, it is revealed that, whereas the argument associated with the applied extension can occupy different positions in a sentence depending on its theta-role, the argument associated with the causative extension and the argument associated with the passive extension is always the external argument, occupying, that is, the sentence-initial position.

Chapter four outlines the phonological processes that affect the applied, causative and passive verbs. It is noticed that these are in two categories. There are those that apply to the verb extensions and those that apply to some other elements in the extended verb due to the presence of the extension.

The examples given in this study, are numbered separately for each chapter. Notes are given at the end of each chapter. We have adopted two categories of numbering for this study. The appendices are numbered in Roman numerals while the main work is numbered in Arabic numerals.

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LIST OF ABBREVIATIONS

NM	=	Negative Marker
SM	=	Subject Marker
OM	=	Object Marker
Ext or EXT	=	Extension
ECP	=	Empty Category Principle
S	=	Sentence
NP	=	Noun Phrase
INFL	=	Inflection
VP	=	Verb Phrase
V	=	Verb
appl or APPL	=	Applied
IPA	=	International Phonetic Alphabet
caus or CAUS	=	Causative
pass or PASS	=	Passive
PP	=	Prepositional Phrase
N	=	Noun
P	=	Preposition
AGR	=	Agreement
LOC	=	Locative
BEN	=	Benefactive
POSS	=	Possessive
TM	=	Tense Marker

PAT	=	Patient
INST	=	Instrument
GEN	=	Genitive Phrase
GB	=	Government-Binding Theory
LFG	=	Lexico-Functional Grammar
GPSG	=	Generalised Phrase structure Grammar
SOV	=	Subject Object verb
SVO	=	Subject Verb Object
UT	=	Underspecification Theory
FG	=	Feature Geometry
TGG	=	Transformational Generative grammar
TG	=	Transformational Grammar
UG	=	Universal Grammar
RUT	=	Radical Underspecification Theory
CUT	=	Contrastive Underspecification Theory
syll	=	syllabic
cont	=	continuant
lary	=	laryngeal
cor	=	coronal
lab	=	labial
dors	=	dorsal
ant	=	anterior
son	=	sonorant
cons	=	consonant

nas	=	nasal
lat	=	lateral
RR	=	Redundancy Rule
HH	=	Height Harmony
NH	=	Nasal Harmony
CVC	=	consonant Vowel consonant
OOP	=	Obligatory Opposite Principle
F	=	Feature
PF	=	Phonetic Form
LF	=	Logical Form
HDPSG	=	Head-Driven Phrase-Structure Grammar
PERF	=	Perfective
A	=	Adjective
Obj or OBJ	=	Object
Subj or SUBJ	=	Subject

TABLE OF CONTENTS

TITLE OF DISSERTATION.....	i
DEDICATION.....	ii
COPYRIGHT.....	iii
DECLARATION.....	iv
APPROVAL.....	v
ABSTRACT.....	vi
ACKNOWLEDGEMENTS.....	viii
LIST OF ABBREVIATIONS.....	xi
TABLE OF CONTENTS.....	xiv
CHAPTER ONE: INTRODUCTION.....	1-50
1.0 General	1
1.1 Statement of the Problem.....	3
1.2 Rationale.....	4
1.3 Objectives.....	5
1.4 Methodology.....	6
1.4.1 Data Collection and Analysis.....	6
1.4.2. Theoretical Framework.....	8
1.4.2.1 Government-Binding Theory.....	8
1.4.2.1.0 Introduction.....	8
1.4.2.1.1 X -Theory.....	11
1.4.2.1.2 Theta-Theory.....	12

1.4.2.1.3	Projection Principle.....	14
1.4.2.1.4	Move-Alpha.....	16
1.4.2.1.5	Bounding Theory and Subjacency.....	16
1.4.2.1.6	Trace Theory, Empty Categories Principle and Empty Categories.....	18
1.4.2.2	Conclusion.....	19
1.5	Literature Review.....	19
1.6	Some Aspects of Tonga Verbal Morphology.....	38
1.7	Scope and Limitations of the Study.....	45
	ENDNOTES.....	47

CHAPTER TWO: GENERATING VERB EXTENSIONS.....51-70

2.0	General.....	51
2.1	Where is Morphology.....	51
2.2	The Organisation of the Lexicon.....	53
	2.2.0 General.....	53
	2.2.1 The Contents of the Lexicon.....	54
	2.2.2 A Model of the Lexicon.....	56
2.3	Deriving Verb Extensions.....	58
	ENDNOTES.....	70

CHAPTER THREE: SYNTAX AND SEMANTICS.....71-170

3.0	General.....	71
3.1	Arguments and Theta-roles.....	77

3.1.0	General.....	77
3.1.1	The Applied Extension.....	78
3.1.2	The Causative Extension.....	101
3.1.3	The Passive Extension.....	118
3.2	Object Marking.....	135
3.2.0	General.....	135
3.2.1	Object-Marking with Monotransitive Verbs.....	135
3.2.2	Object-Marking with Ditransitive Verbs.....	139
3.2.3	Object-Marking with Passive Constructions.....	147
3.3	Applicativisation, Causativisation, Passivisation and the Order of Arguments.....	150
3.4	Binding.....	156
3.5	Summary.....	163
	ENDNOTES.....	168

CHAPTER FOUR: FEATURE GEOMETRY171-222

4.1	Introduction.....	171
4.1.0	General.....	171
4.1.1	Theoretical Considerations and Tonga Underlying Segments.....	171
4.2	Rules.....	184
4.2.0	General.....	184
4.2.1	Harmony.....	184
4.2.1.0	General.....	184

4.2.1.1	Height Harmony.....	184
4.2.1.2	Nasal Harmony.....	190
4.2.2	Vowel Gliding.....	195
4.2.3	Nasal Palatalisation.....	202
4.2.4	Spirantisation.....	205
4.2.5	Summary.....	219
	ENDNOTES.....	221
	CHAPTER FIVE: CONCLUSION.....	223-228
	BIBLIOGRAPHY.....	229-245
	APPENDICES	xx
	APPENDIX A: MAPS.....	xx
	Appendix A1: Map of Languages of Zambia.....	xx
	Appendix A2: Map of Zambia's Official Languages.....	xxi
	Appendix A3: Map of Tonga Dialect Clusters.....	xxii
	APPENDIX B: SAMPLE DATA.....	xxiii
	Appendix B1: Applied Sentences.....	xxiii
	Appendix B2: Causative Sentences.....	xxviii
	Appendix B3: Passive Sentences.....	lix
	APPENDIX C: GLOSSARY OF TERMS.....	lxxvj
	APPENDIX D: AUTHOR INDEX.....	lxxxii
	APPENDIX E: SUBJECT INDEX.....	lxxxvj

CHAPTER ONE

INTRODUCTION

1.0. General

In Bantu languages a verb radical may be extended to express some meaning or to signal some grammatical relation (Guthrie 1967:14 and Meeussen 1965:15). The elements by which a simplex verb radical can thus be extended are known as verb extensions (Guthrie 1967:14). Some examples of verb extensions in Tonga are given below (the underlined elements in the examples are the verb extensions).

- (1) a. ku - cit - a (kucita) 'to do'
b. ku - cit - il - a (kucitila) 'to do for'
- (2) a. ku - bon - a (kubona) 'to see'
b. ku - bon - an - a (kubonana) 'to see each other'
- (3) a. ku - lim - (kulima) 'to plough'
b. ku - lim - i - a (kulimya) 'to cause to plough' [1]
- (4) a. ku - lum - a (kuluma) 'to bite'
b. ku - lum - u - a (kulumwa) 'to be bitten' [2]
- (5) a. ku - aang - a (kwaanga) 'to tie' [3]
b. ku - aang - ulul - a (kwaangulula) 'to untie'

This study explores the semantics, syntax and phonology of three of the verb extensions in Tonga, namely the applied, causative and passive. In the examples above, these extensions are respectively illustrated in (1b), (3b) and (4b).

The theoretical framework our study is mainly based on is the Government-Binding Theory (GB) for syntax and semantics (see, for instance, Chomsky 1981, Sells 1985, Riemsdijk and Williams 1986, Horrocks 1987 and Haegeman 1995) and Underspecification Theory and Feature Geometry for phonology (see, for example, Archangeli 1984, Archangeli and Pulleyblanc 1986 McCarthy 1988, Durand 1990 and Kenstowicz 1995).

Tonga (M 64 in Guthrie 1948) is natively spoken in the Southern Province of the Republic of Zambia (see map in Appendix A1), where it is one of the semi-official languages used in the media [4]. It is taught as a school subject at primary and secondary level in the province [5]. Tonga has several geographical dialect clusters [6]. Although the exact number of clusters and the dialects within each cluster is not known, two major ones, Valley Tonga and Plateau Tonga, have been identified. The former is spoken in the Zambezi Valley, which includes areas such as Gwembe, Sinazongwe and Siavonga, while the latter is spoken in the plateau area which includes Choma, Kalomo, Mazabuka, Monze and Pemba Districts (see the map in Appendix A3) [7]. The target of the present study is the Plateau Tonga as spoken in the Monze District, which is the standard dialect for official use [8].

1.1. Statement of the Problem

Most studies on Tonga have concentrated on phonology at the expense of other aspects of linguistic analysis. These studies include, *inter alia*, an account of the tonal phenomena of Plateau Tonga within an accentual theory (Meeussen 1963), an analysis and use of Meeussen's (1963) work on Plateau Tonga for the purpose of teaching (Carter 1971), a study of the spoken performance of Tonga children in English stress and intonation (Mudzi 1979), an illustration of how the accent system of Tonga can be accounted for within the theory of Autosegmental Phonology (Goldsmith 1983), an attempt at establishing the underlying forms of plosives and continuants using the framework of Generative Phonology (Hachipola 1987), a reconstruction of an inventory of Proto-Tonga consonant and vowel phonemes and a presentation on how eight related lects, namely Plateau Tonga, Valley Tonga, Toka, Ila, Lenje, Soli, Subiya and Totela have adopted their phonological systems from proto-forms (Hachipola 1991).

The few grammars that purport to discuss all aspects of Tonga, such as those of Collins (1962), Hopgood (1953) and O'Brien (1992), do this from merely a taxonomic point of view. For instance, Collins' (1962) phonological analysis of the verb extensions only contains an inventory of the shapes of the extensions and the verb roots which the extensions occur with without providing any explanation as to what phonological environment determines the occurrence of a particular shape. The overall picture that emerges is that there is as yet no available study of the language dealing with the four traditional levels of linguistic analysis, namely phonology, morphology, syntax and semantics, in such a way as to achieve both observational adequacy, by predicting which sentences are (un) grammatical, and descriptive adequacy, by predicting which sentences are (un)grammatical in a way that accounts for a Tonga

native speaker's intuitions (Radford 1988:28). The present study aims to partially remedy this deficit by offering a systematic observationally and descriptively adequate account of the applied, causative and passive verbal extensions in Tonga.

1.2. **Rationale**

As has been stated earlier, Tonga is one of the regional official languages in Zambia. This being the case, the language, in conformity with the government's language policy, is taught and examined at primary and secondary school levels. Since, as pointed out earlier, most of the existing publications on Tonga leave much to be desired on the subject matter of our thesis, it is hoped that certain aspects of the findings of the present study will be used by both teachers of Tonga and writers of Tonga teaching materials after the thesis has been recast to make it more accessible to persons in these categories. It is also hoped that the revelations of this study will stimulate other researchers to carry out similar systematic and detailed projects on the language.

Apart from the above-mentioned and other practical purposes, the study is also intended as a contribution to theoretical linguistics inasmuch as the theoretical tenets the study employs were mainly developed by observing non-African languages. As a matter of fact, it is well known that a theory may have to be revised when a new body of data is made available. For example, non-linear phonology was developed when linguists dealing with tonal languages observed that some tonal phenomena could not be adequately handled within the framework of linear phonology (see, for example Kisserberth & Kenstowicz 1979). Even if our study of Tonga applied, causative and passive extensions does not reveal any shortcoming of the theoretical models used, they will have served the purpose of demonstrating the explanatory power of the

models, all the more so because it is applied to Bantu verb forms, which, as is well-known, are extremely complex. That verb forms in Tonga, like other Bantu languages, are extremely complex ^{as} can be seen in (6b), a morphological segmentation of (6a):

- (6) a. titwakamubelekela 'we did not work for him' [9]
- b. ti - tu - aka - mu - belek - il - a
- | | | | | | | | |
|----|----|----|----|------|-----|--------|--|
| | | | | | | | |
| NM | SM | TM | OM | Root | Ext | Ending | |

We see that the single Tonga form in (6a) made of seven morphemes is rendered in English by six words. Since the metalanguage of the thesis is English and, consequently, the Tonga examples are translated into English, the study has also contrastive value as a by-product. The choice of the applied, causative and passive verb extensions as the focus of the study has been motivated by the fact that they are the most frequent and productive in Tonga [10].

1.3. Objectives

As already stated, this thesis is an analysis of the applied, causative and passive verbal extensions in Tonga. The specific objectives of the study are as follows:

- (a) morphology: to show how verbal extensions in Bantu in general and the three Tonga extensions under study can be 'derived' within the lexicon;

- (b) syntax: to account for the argument structure of the applied, causative and passive verbs in Tonga;
- (c) semantics: to discuss the thematic roles of the arguments of the three verbal extensions; and
- (d) phonology: to account for morphophonological phenomena which each of the three extensions undergoes and those that neighbouring morphemes undergo as a result of the presence of any one of the three extensions.

By virtue of this, the study can be said to be a presentation of the grammar of the applied, causative and passive verbs in Tonga.

1.4 Methodology

1.4.1 Data Collection and Analysis

It is generally accepted that the data of linguistic enquiry should ideally be collected from a native speaker. Although this researcher is a native speaker of Tonga, she collected the bulk of the data (which is provided in Appendix B) from various kinds of written texts (e.g. novels) and validated it using other speakers of the language to avoid falling into an unconscious bias consisting in looking for data which suits one's objectives. The importance of native speaker intuitions is well-known among linguists. On this Atkinson et al (1982:38) point out that if

the linguist is a native speaker of the language he is investigating, he will be able to distinguish between well-formed and ill-formed strings of words...

Atkinson et al (ibid) observe that a linguist who is a native speaker of a language under investigation

is entitled to invent sentences and non-sentences to formulate and test his hypotheses.

They add that such abilities of a native speaker of a language are what are known as linguistic intuitions; they say that linguistic intuitions

form an essential part of the database of a Chomskyan approach to linguistics which will contain not only utterances but judgements about such utterances.

Similarly, Horrocks (1987:11) observes that

there are many phenomena which all native speakers are aware of but which would never become known to the linguist no matter how many utterances he collected.

Data collection and analysis were carried out in phases as follows. Firstly, the researcher collected a substantial amount of data from written sources such as novels, dictionaries and newspapers in Tonga. Secondly, using her knowledge of the language as a native speaker, she checked the data collected, eliminating those that were dubious. The third phase consisted in sorting out the material and classifying it under three headings; applied, causative and passive extensions. The fourth was a preliminary analysis in which the researcher simply noted in words, for each type of extension, various meanings as well as phonological and syntactic phenomena. After this preliminary analysis, the researcher used her status as a native speaker of Tonga to invent sentences covering semantic, phonological and syntactic aspects not contained

in the data from other sources. When no more new information was forthcoming from the data collection, the researcher moved on to the final analysis. The analysis dealt successively with morphology, semantics/syntax and phonology (a sample of the data that was analysed is given in Appendix B).

1.4.2 Theoretical Framework

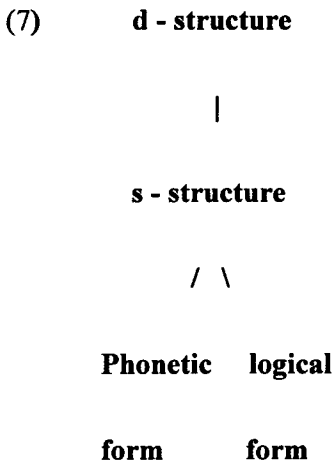
Any descriptive and analytic study is executed using either one model, or in an eclectic case, a combination of models. As already said above the present study employs the Government-Binding Theory (GB), in the semantic and syntactic analysis of the extensions, as developed by and from Chomsky (1981) and as expounded by Horrocks (1987), Sells (1985), Riemsdijk and Williams (1986), Haegeman (1995) and others. The phonological analysis is undertaken on the basis of Underspecification Theory and Feature Geometry as presented by Archangeli and Pulleyblanc (1984 and 1986), Steriade (1987), McCarthy (1988), Mester and Ito (1989), Durand (1990), Myers (1995) and others (for details on Underspecification Theory and Feature Geometry refer to 4.1.1 below). As for morphology, the subject matter of the next chapter, we have developed a model in which the lexicon contains not only lexemes and morphemes but also word-formation rules and morphophonological rules.

1.4.2.1 Government - Binding Theory

1.4.2.1.0 Introduction

Government Binding is one of the lexicalist approaches to the analysis of language [11]. However, the theory is distinguished from other lexicalist approaches in that it makes use of

transformational operations [12]. The theory posits four structural levels; namely d-structure, s-structure, phonetic form (PF) and logical form (LF) which Sells (1985:19) outlines as follows:



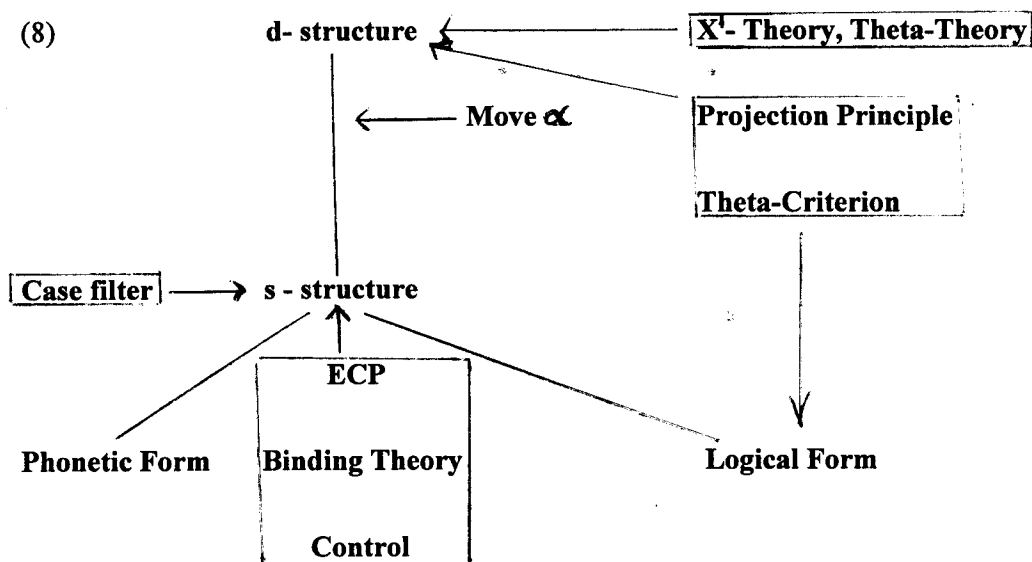
The d-structure and s-structure play roles similar but not identical to the Transformational Grammar (TG) notions of deep and surface structures. The LF is the level at the meaning end while the PF is the level representing the actual string that is the output of the grammar at the 'sound' end (Sells 1985:20). According to Horrocks (1987:152), in GB,

Chomsky's goal of developing a system of interacting general theories and principles that determine in large measure the conditions of well-formedness for syntactic representations at all levels is now well on the way of being accomplished.

He further observes that

the essential point is that a theory of this sort represents a significant advance over the purely descriptive work of early transformational grammar and in particular the theory now has a degree of 'deductive structure' in the sense that changes made in any one area have repercussions in the others because the subtheories of universal grammar interact and complex sets of grammatical properties follow from this interaction. (Horrocks 1987:152)

An outline of the interaction of the theories and principles in GB is represented as follows by Sells. (1985:24)



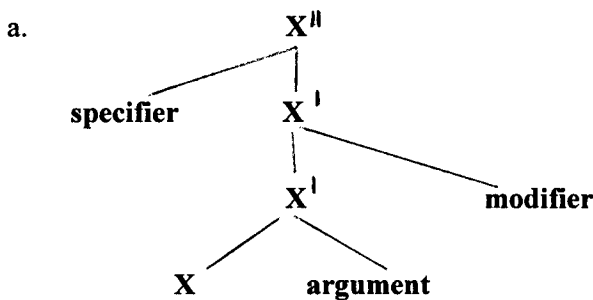
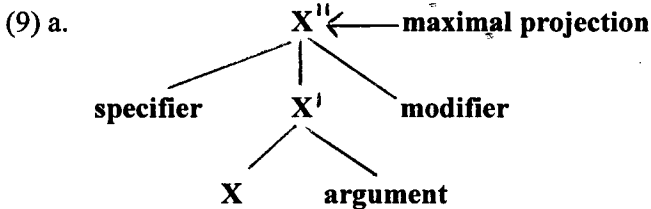
In the rest of this section we present relevant tenets of the theories and principles.

1.4.2.1.1 X¹-Theory

This theory deals with issues relating to phrases in language. According to Horrocks (1987:101) the theory does this by providing

principles for the projection of phrasal categories from lexical categories and imposes conditions on the hierarchical organisation of categories in the form of general schemata.

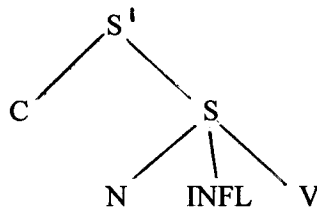
It is believed that most phrasal constituents have 'heads' upon which the other elements of the constituents under consideration are dependent. These heads give phrases their essential character. On the basis of the above the following scheme, referred to as the X¹ - Scheme, has been proposed in the X¹ - Theory to account for phrasal structures. For example Sells (1985:28) assumes the schema in (9a) while others (such as Haegeman (1995) assume the schema in (9b):



In this scheme X¹ is the highest order of any phrase while X¹ is the phrasal category containing X the lexical head. On the other hand X¹ is the phrasal category containing X¹ and optionally

specification (determiner) and modification (modifier). X^I and X^{II} are said to be projections of X the lexical head the ultimate projection X^{II} being referred to as the maximal projection. However, as pointed out by Horrocks (1987:65), the exact number of bar levels that must be supposed is still a matter of controversy as is the issue of whether the same number of phrasal projections are required for each lexical category. Most linguists have adopted either two or three levels of lexical representation. Specifiers include determiners and complementisers, among others. It is worth noting that ordinarily clauses are X^I - and not X^{II} -entities as shown below.

(10)



where C stands for “complementiser”, which is optional and INFL, for “inflection”, which contains any agreement element and any auxiliary verb. However, there exists other views on the status of clauses (see, for instance, Radford 1988: 515-520, Haegeman 1995: 611-613).

1.4.2.1.2 Theta-Theory

This theory is concerned with the assignment of semantic roles to sentential arguments. The main principle that guides the Theta-Theory in this function is the theta-criterion, which says that

(11) Theta-Criterion

(a) Each argument bears one and only one theta-role,

(b) Each theta-role is assigned to one and only one argument.

Sells (1985:36) argues that although each theta-role is assigned a head within its domain, the nature of the external theta-role is determined not just by the verb but by the whole verb phrase. Because of this, it is taken to be compositional.

1.4.2.1.3. Projection Principle

According to Sells (1985:33) the Projection Principle says that

representations at each syntactic level are projected from the lexicon. The reason is that they observe the subcategorisation properties of lexical items.

The principle determines the relationship between the d- and s-structure and LF of a language. For example the principle will, in this context, state that if there is an NP position in a certain structural arrangement at one level in a language that position must be present at all levels although that position may be empty in the sense that it does not dominate any lexical item (this is the case with passive sentences as can be seen in our discussion in Chapter Three).

According to Sells (1985:33), it is because of this that the Projection Principle rules out certain transformations that were advocated in TG. He cites an example of a TG transformation that takes a deep structure subject and makes it into a surface structure object as one that is ruled out in GB. He says that the idea of the Projection Principle is that if the object exists at one level, it must exist at all levels because the verb subcategorises for it (Sells 1985:34). If the subject position is empty in the deep structure, after movement it is the s-structure object that is occupied by an empty category. The empty category will need to be there to satisfy thematic requirements. Because of this Sells (1985:34) says that

the conception of syntactic structure that comes out of the projection principle is that some position will exist in the syntactic structure just in case some lexical item requires it to exist and that in such cases the lexical item is said to 'licence' the category in the structure.

The projection principle has been developed into the Extended Projection Principle. According to the Extended Projection Principle all clauses must have subjects (Sells 1985:34).

In reference to the theta-criterion, Riemsdijk and Williams (1986:252) point out that the Projection Principle states that

the theta-criterion holds at D-structure, S-structure and LF.

They conclude that the above has two consequences. Firstly it means that

traces must exist in order for theta-role assignment at s-structure to match theta-role assignment at d-structure even when the NP has been moved between d-structure and s-structure. Secondly, the principle imposes strong restrictions on the relation between d-structure and s-structure such as its prohibition of a transformational operation that exchanges two NPs leaving no traces. (Riemsdijk and Williams 1986:252)

This is prohibited because the theta-role assignments would be different in the d- and s-structures.

1.4.2.1.4. Move-Alpha

Move-Alpha is a transformational operation which relates the d- and s-structures in GB. Sells (1985:21) states that

alpha is understood to be a variable over syntactic categories and that the fundamental idea in Move-Alpha is that a structure may be altered in any way by 'moving anything anywhere' while independent universal principles will dictate just what can move and where it can move to, allowing the transformation itself to be stated in a maximally general way.

When movement has taken place it will leave behind an empty category referred to as a trace which is co-indexed with the NP that has moved in order to indicate that movement has taken place [14]. The pair comprising the item that has moved and its trace are known as a chain. The position from which movement has taken place is referred to as the extraction site while the position to which movement has taken place is called the landing site. Riemsdijk and Williams (1986:142 and 253) declare that in GB, movement must always be to a c-commanding position and that movement from $\bar{\mathcal{O}}$ (non-theta position) to a \mathcal{O} (theta) position and vice versa is prohibited as this would result in the theta-role assignments being different in the d- and s-structure [15].

1.4.2.1.5 Bounding Theory and Subjacency

The Bounding theory according to Horrocks (1987:128)

is concerned with the limitations to be placed on the displacement of constituents by the transformational rule schema move-alpha and that its chief principle is subjacency.

Subjacency is a condition which restricts the application of move-alpha and hence the movement of constituents in a given sentence (Crystal 1991:333). According to Sells (1985:48)

subjacency provides such restrictions by requiring that each application of move-alpha does not operate over too large a distance, though applications of move-alpha may iterate, so that the movement is a series of smaller hops.

However, even in such circumstances, the subjacency condition says that any single application of move-alpha should not cross more than one bounding node or barrier. Bounding nodes and barriers have usually been taken to be noun phrase (NP) and sentence nodes. Sells (1985:57) notes that there are two types of movement allowed within the subjacency condition. The first one involves movement to an \bar{A} (non-argument) position. He says that this

movement is from a position that is assigned both a theta-role and case and that the movement creates an adjoined position which is an \bar{A} and lacks a theta-role and case. The resulting chain, alpha and e (empty category) receive exactly one theta-role and one case, both assigned to the empty category created by movement.

An example of this kind of movement would be wh-movement. The other kind of movement that Sells (1985:57) notes is movement to an A (argument) position which is forced by the case filter and therefore only affects noun phrases [16]. Sells (1985:57) says that this movement involves

movement from a position that is assigned a theta-role but no Case, the NP must move to get Case and so must move to a position that has Case but no theta-role and the only possible position is the subject position, which is an A-position. The resulting chain α and e) receives exactly one theta-role and one Case. The theta-role is assigned to the empty category created by movement while Case is assigned to α .

1.4.2.1.6. The Trace Theory, Empty Category Principle and Empty Categories

Sells (1985:42) says that the projection principle, which states that once some syntactic position exists it must always have existed and must continue to exist within the context of a derivation, necessitates the existence of traces and empty categories. The Trace Theory and the Empty Category Principle regulate the occurrence and existence of such traces and empty categories. According to Riemsdijk and Williams (1986:139), traces can be defined as

a syntactic categories (such as NPs) that have been stripped of phonological content and internal structure by the rule Move-Alpha and have only retained an index that is identical to the index of the material that has moved out of the trace position and that this index is necessary to keep track of what category pertains to a trace especially if more than one movement has occurred in the same clause.

1.4.2.2 Conclusion

Currently there are several competing theories in the analysis of language. Among them are the Generalised Phrase-Structure Grammar (GPSG) (see for details Sells 1985, Riemsdijk and Williams 1986 and Horrocks 1987), Head-Driven Phrase-Structure Grammar (HDPSG) (see for details Borsley 1993) and Lexical-Functional Grammar (LFG) (see for details Sells 1985 Riemsdijk and Williams 1986 and Horrocks 1987). However, we have opted to use only GB. In this discussion of the various theories and principles of GB given above, we have endeavoured to show how various aspects of language interact and can be viewed as one entity. GB attempts and, to a large extent, succeeds to show why these various aspects of language should not be considered in isolation and demonstrates how they interact and influence each other. It is for this reason that we have discussed the semantics and syntax of the extensions under investigation under one chapter (Chapter Three). In this respect, we can only concur with Horrocks (1987:152) who says that unlike most other linguistic theories, GB has a degree of 'deductive structures' in the sense that changes made in one area have repercussions in other areas. This comes about because its subtheories of universal grammar interact, and complex sets of grammatical properties follow from this interaction.

1.5. Literature Review

The applied, causative, passive and other types of verbs in Bantu have been studied in numerous languages. It is not the intention here to discuss all the studies available on these verbs. In fact it would be impossible to do so since, among other reasons, a complete bibliography on these studies is yet to be compiled. Instead the literature review will confine itself to the studies that are available on the extensions in Tonga and those that are available on the extensions in

other Bantu languages that are of direct relevance to the present study. The work of Guthrie (1967) on this subject is also discussed. The inclusion of Guthrie's work in our literature review stems from the exceptional value of his studies on Bantu languages.

In looking at Bantu verb extensions, Guthrie (1967:216) traces the historical development of the verb extensions and postulates an inventory of the reconstructed Bantu verb extensions. He comes up with

- (a) $-*ic-$ | $-*jc-$ | $-*ik-$ | $-*iki-$ | $-*i-$,
- (b) $-*id-$ and
- (c) $-*u-$ | $-*ib-$

as the reconstructed forms of the causative, directive (our applied) and passive extensions, respectively. He refers to the applied extension as the directive and states that the extension has the meaning of 'on behalf of' 'in the direction of' and 'by means of'. Although the forms of the verb extensions he presents are reconstructed, his work is of value in a study of verb extensions as it presents one of the few systematic attempts at analysing their occurrence across several Bantu languages. However, we shall in this study show that there is a lot more concerning these extensions in the areas of semantics and phonology than Guthrie (1967) looked at. For example we shall show that the theta-roles of the applied extension are not limited to the three that Guthrie (*ibid*) has identified.

In dealing with the Bantu language Rwanda, Coupez (1961:91-6) has made a distinction between radical complements and verb extension complements. The former include among others direct

and indirect object noun phrases which simplex (i.e. underived) verbs subcategorise for. According to Coupez's distinction, the Tonga words muntu 'somebody' and cintu 'something' in (13a) below are complements of the radical -lomb- 'ask for' of the infinitive kulomba 'to ask for'. In (13b) muntu umwi 'somebody else' is the complement of the applied extension -el- of the infinitive kulombela 'to ask for' (benefactive) and cintu 'something' is the complement of the radical -lomb- 'ask for'.

- (13) a. kulomba (ku - lomb - a) muntu cintu
 (lit. to-ask-somebody something)
 'to ask for something from somebody'.
- b. kulombela (ku - lomb - il- a) muntu umwi cintu
 (lit. to-ask-for-somebody else something)
 'to ask for something for somebody else from somebody' [17]

Although Coupez's arguments are based on Rwanda, they are applicable and relevant to the study of the syntax of verb extensions in Tonga.

Jones (1971) and Kunene (1987) have applied Transformational Generative Grammar to the analysis of the causative and benefactive (our applied) verb extensions in Swahili and Swati respectively. In her work, Jones (1971) has attempted to show that a deep structure representation of the causative forms that treats the causative suffix as a higher verb highlights some facts that are usually obscured by mere subcategorisation rules, as is evidenced in the study by Scotton (1967). She states that most of the forms and patterns of the causative extension

observed by Scotton (1967) can be explained as resulting from factors such as lexicalisation, specialisation, suppletion and semantic anomalies. She argues that some derived stems have become lexicalised and function like underived radicals. An example is *-funik-* (Swahili for 'covered') which, though stativised in form, takes an object, as can be seen in (14)

(14) a - li - ya - funik - a (aliyafunika) mayai kwa kitambaa

'he covered the eggs with a cloth'

On specialisation, Jones (1971:42) observes that some extensions have narrowed down the semantic area covered by the radical, thereby taking on a specialised meaning. She gives an example of the direct causative of *-on-* 'see', *-ony-* 'cause to see' which is only used in the abstract sense of 'to warn'. Concerning suppletion, Jones (1971) states that an extension may not bear the semantic interpretation which equals the sum of its component parts. This can be seen in the verbal form *-onyesh-* 'cause to see' which can morphologically be analysed as being made up of the radical *-ony-* 'warn' and the causative extension *-esh-* although the meaning of the radical is not reflected in the causative form. Regarding semantic anomalies, she argues that some verb extensions cannot apply to all verbs. She illustrates this with the reversive extension which cannot apply to all verbs.

For her part, Kunene (1987) analyses the syntax of the benefactive (our applied extension) in Swati in the context of Traditional Grammar(s) and Transformational Generative Grammar (TG) so as to evaluate which of the two approaches is descriptively more appropriate for the analysis

of the benefactive extension. Using TG, Kunene (1987) assumes that a sentence with an applied verb is derived from an embedded sentence. On account of this, she treats the applied extension as an abstract verb, BENEFACTIVE, according to the Generative Semantics treatment of CAUSE (for details see Fodor 1977). Kunene (1987) concludes that a Transformational Grammar analysis of the benefactive extension is descriptively more adequate because it captures the intuitions of the native speaker. In doing this the Transformational Generative Grammar analysis defines the domain of verbs and conditions under which the benefactive rule applies (Kunene 1987:23). The analysis also indicates that there is a correlation between the number of object nouns a verb with the benefactive extension may have and the type of the basic verb used.

Jones (1971) and Kunene (1987) have shown that Transformational Generative Grammar can explain the various phonological, morphological, syntactic and semantic aspects of the causative and benefactive extensions better than Traditional Grammar (s). While drawing a lot of insight from these works it has been observed that 'derivation' cannot be dealt with transformationally owing to, among others, too many exceptions (see for example Chomsky 1970 and Jacobsen 1978:406-413).

Tsonope (1987) has examined diagrammatic iconicity in Setswana causative expressions. He argues that there is a correspondence between the linguistic form and the semantic context in causative expressions. He comes up with several types of the causative which include the

periphrastic, analytic, agglutinative and synthetic which are exemplified in English in (15a) to (15d), respectively.

- (15) a. 'cause to become white' (periphrastic)
 b. 'make white' (analytic)
 c. 'whiten' (agglutinative)
 d. 'bleach' (synthetic)

He dismisses the idea that there is perfect synonymy between these various structural forms of the causative expression, as argued by Generative Semantics and Relational Grammar. He states that the linguistic form diagrams or reflects certain inherent relations that hold between the causer and the causee of the action of the verb. He goes on to say that in the periphrastic form, for example, the causer is less directly involved with the causee, most likely, the two are not in the same place or present at the same time (Tsonope 1987:8). He gives examples of the English periphrastic and synthetic causative expressions as 'cause to die' and 'kill'. In the former, the cause and the result of the death may not necessarily be at the same place and there may not be any physical contact between the causer and the causee. In the latter case, however, the causer and the causee of the death are very likely placed at the same time and place where the action occurred and close proximity between the two is implied (Tsonope 1987:5). Although Tsonope's (1987) work is not on Tonga we have drawn some useful ideas from it. Our analysis of the causative extension in Tonga has revealed that what Tsonope (1987) says about the

applied to the same verb root, causativisation precedes applicativisation and passivisation. On the other hand, applicativisation has precedence over passivisation (see Chapter Two for details).

Hyman has given a summary of Bemba underlying segments. He posits seven underlying vowel phonemes /i/, /u/, /e/, /o/, /a/, /i/ and /u/. He says that /i/ and /u/ are reflexes of the historical ‘superclosed’ vowels of the Proto-Bantu which, though phonetically identical with the other non-diacritic counterparts in present-day Bemba, are distinguished from them for two reasons. Firstly, the ‘superclosed’ vowels do not undergo height harmony. Secondly, they trigger consonant mutation (Hyman 1991:3).

Although Hyman (1991) has presented substantiated arguments on the effects of diacritic /i/ and /u/, it is evident that the two categories of vowels do not display any phonetic differences. The difference between them is in their effects. The non-diacritic /i/ is subject to vowel harmony and gliding while the diacritic /i/ is subject to vowel harmony and gliding and induces consonant mutation or spirantisation.

In his classification of Bemba verbals, Givon (1969:154) considers the causative a supplement or an addendum to the various verbals. He treats the causative as a complementising verb which can be taken only by human agents. He notes that the morphology of the causative suffix in Bemba is -i- or -y- although on the surface it is realised as such only following very few final consonants. He indicates that in many instances the suffix is -enshya or -inshya and that in some transitive verbs the causative can also be marked by the suffix -ika or -eka. However,

Givon (1969) does not provide details on the verb roots that each of these causative extension shapes occurs with. By this omission he fails for example to show that these shapes are determined by certain phonological processes such as vowel harmony and gliding. Furthermore, Givon has not analysed the shapes of the extension in a systematic manner. This can be seen from the fact that he treats the verb ending as though it is part of the verb extension.

Givon's arguments on the realisation of the causative extension are unsatisfactory. His assertion that the causative can be taken only by human agents is not true. The Bemba counterexamples in (21), in which the agents in the performance of the action of the verb are not human, prove this.

- (21) a. bamung'wing'wi baalimulwalika
 'the mosquitoes caused him to get sick'
- b. icipuupu_eecaaponeshendeke
 'it was the storm that caused the plane to crash'

In response to Guthrie's (1970) account of the functions of the verb extension -il-, Chanda (1985) has described the phonological variation and has thrown some light on the functions of the verb extension -il- in Bemba. In his work, Chanda has shown that in Bemba the phonological variation of this extension is determined by the processes of vowel harmony, nasal harmony, metathesis and imbrication. He has argued that Guthrie's account of the functions of the extension is not adequate. While Guthrie has mentioned three functions of the extension, Chanda has shown that the extension is used to signal at least seven grammatical relations, namely, the benefactive, locative, possessive, goal, causative, instrumental and manner. Chanda

has shown in particular that what Guthrie calls the 'directive' -il-, must be included in a wider concept of locative.

Although Chanda's work is not on Tonga, we have found his arguments and revelations on the functions of the -il- verb extension in Bemba to be relevant and applicable to Tonga as well. His work is therefore of significant importance to this study.

Horton (1949), Mwisiya (1977) and Trithart (1983) have analysed, among others, the applied, causative and passive verb extensions in Luvala, Lozi and Nyanja, respectively. Horton (1949:87-96) gives an inventory on the realisations of extensions. He stated that while the applied extension is realised as -ila, -ela, -ina or -ena, the passive is realised as -wa, and that in most cases an intervocalic -i- or -u- is used with the passive, thus making it seem as if the passive is realised as -iwa, -uwa or -uw-. Regarding the causative, he says that it is realised as -isa or -esa. He points out that the realisations of the verb extensions vary according to the verb the extensions are attached to.

According to Mwisiya (1977:110-2), the applied, causative and passive verb extensions in Lozi are realised as

- (a) -ela / -eza / -leza,
- (b) -isa / -za, and
- (c) -iwa and -wa, respectively.

He says that the choice of the extension shape to use is dependent on the shape of the verb endings.

The analyses of the applied, causative and passive verb extensions by Horton (1949) and Mwisija (1977) are mainly concerned with providing the various realisations of the verb extensions. None of the two attempts a deeper analysis of the morphophonological process that bring about the different realisations of the extensions. It is evident that Horton's and Mwisija's data on the shapes of the extensions are wrong in that they do not separate the verb extensions from the verb endings. Horton's list of the extensions should therefore have been as follows: -il- , -el-, -in- and -en- for the applied ; -iw- and -uw- for the passive; and -is- and -es- for the causative. Mwisija's should have been -el- , -ez- , -lez- for the applied, -is- , -z- for the causative, -iw- and -w- for the passive. Nevertheless the two studies are relevant to our study: one reason for this is that the lexical forms of the applied, causative and passive extensions in the languages they deal with are similar to those in Tonga:

The most extensive study that has so far been undertaken on any verb extension in general and a Zambian language in particular is the one by Trithart (1983). In this study Trithart presents an account of the many uses of the applied verb extension in Bantu. She links this account to current linguistic views on transitivity and direct object relation. Trithart adopts the historical comparative approach in an effort to reconstruct the uses of the extension in the Proto-Niger-Kordofanian language family. When she analyses the uses of the extension, she restricts herself to Nyanja. She comes up with the conclusion that at the moment the applied extension has the

benefactive, malefactive, instrumental, locative, adverb of manner, recipient, purpose, cause and possessive functions. Some of the examples of the verbal forms on the benefactive, malefactive and recipient functions of the extension in Nyanja that she gives are presented in (22), (23) and (24) (Trithart 1983:262-4).

(22) **benefactive**

- | | | | |
|----|------------------|------|--------------------------|
| a. | - kwat - | ---> | - kwat - <u>ir</u> - |
| | ‘marry’ | | ‘marry’ |
| b. | - lem - | ---> | - lem - <u>er</u> - |
| | ‘be heavy/tired’ | | ‘be rich’ |
| c. | - sek - | ---> | - sek - <u>er</u> - |
| | ‘laugh’ | | ‘laugh’ |
| d. | - kond - w - | ---> | - kond - w - <u>er</u> - |
| | ‘be happy’ | | ‘be happy’ |

(23) **malefactive**

- | | | | |
|----|-----------|------|----------------------|
| a. | - mwal - | ---> | - mwal - <u>ir</u> - |
| | ‘go away’ | | ‘die’ |
| b. | - pan - | ---> | - pan - <u>ir</u> - |

‘fix between two bamboos as a load’	‘to fix between two bamboos as a prisoner’s head’
--	--

(24) **recipient**

- | | | | |
|----|----------------|------|---------------------------|
| a. | - kumb - uk - | ---> | - kumb - uk - <u>ir</u> |
| | ‘remember’ | | ‘remember’ |
| b. | - land - | ---> | - land - <u>ir</u> - |
| | ‘take/steal’ | | ‘receive’ |
| c. | - bal - | ---> | - bal - <u>ir</u> - |
| | ‘bear a child’ | | ‘produce’ |
| d. | - king - am - | ---> | - cing - am - <u>ir</u> - |
| | ‘lean over’ | | ‘meet’ |

It soon becomes evident from Trithart’s translations of the verbal forms above that her differentiation of the verb roots from their extended forms need further clarification. This arises from the fact that the translations she gives do not indicate any applied meaning but show that they have the same or different meaning as their non-extended forms. Moreover, she does not use these verbal forms in any Nyanja sentences so as to show why she has categorised them as such. As a result, we are unable to properly judge whether her categorisation of these verbal forms as extended forms is correct. Indeed, we have in our study shown that what Trithart (1983) calls the malefactive use of the applied extension should not be regarded as such but that

we can account for this use of the applied extension within the concept of the benefactive and that the malefactivity of some extended verbs is not inherent in the applied extension but in the nature of the meaning of the roots which can have negative implications in some instances.

Although Trithart (1983) has concluded that the applied extension plays the benefactive, malefactive, locative, instrumental, adverb of manner, recipient, purpose, cause and possessive semantic roles at the moment, she proposes the growth of these semantic uses of the extension from the earliest benefactive function. The shortcomings mentioned above notwithstanding, Trithart's work has provided us with valuable insights into the functions of the extension.

Among the studies that are available on the applied, causative and passive verb extensions in Tonga are those of Hopgood (1953), Collins (1962) and O'Brien (1992). Hopgood (1953) refers to the verb extensions as derivatives, where the term 'derivatives' is used to mean a verb which has been altered by the addition of a suffix or an infix to give a shade of meaning different from that of the verb root. He also refers to the applied extension as the relative or objective extension. His inventory of the realisations of the extensions in Tonga is similar to the one given by Collins (1962), as discussed below.

Collins (1962) has attempted an extensive analysis of many features of the language including the applied, causative and passive verb extensions. He has grouped the causative extension under 'verbals' and considers it as a prepositional verb suffix which he claims is used to express the preposition 'with' in phrases. He notes that the causative extension can be used in the sense

of 'causing something' (Collins 1962:58). According to Collins, the causative extension in Tonga can be realised as -zya, -sya, -isya, -uzya or -y- depending on the verb root to which the causative extension is added.

Collins' view of the passive extension is that it is derived from the active verb by putting -w- before the final vowel. However, he acknowledges the existence of exceptions to this rule, depending on the verb root to which the passive extension is added. He states that the extension can also be realised as -igwa, -egwa, -oogwa and -ugwa, without explaining the determining factor(s). [21]

Collins considers the applied extension a dative suffix that is used in the verb to express the preposition 'to', 'at' and 'for'. He therefore treats the extension as a prepositional suffix. He observes that the verbs with this extension are formed using the suffixes -ila, -ela, -wela, -wida, -ida, -eda, -ina or -ena. He notes that the choice from these suffixes is dependent on individual verbs.

Another attempt at analysing the applied, causative and passive verb extensions in Tonga is that of O'Brien (1992). O'Brien views the extensions as particles that are added to the verb root before the final vowel in order to change the meaning of the verb to a greater or lesser extent (O'Brien 1992:74). O'Brien then gives an inventory of the shapes of the verb extension in Tonga. Commenting on the passive, he states that -w- is infixes before the final vowel -a. O'Brien identifies what he has termed the other realisations of the passive extension. He gives the following rules:

- (25) a. verbal roots ending in - ay - will have - igw -;
- b. verbal roots ending in - w - will have - egw-;
- c. verbal roots of one syllable will have their own particular passive shapes such as those ending in -pa which change to -pegwa and those ending in - wa which change to - ugwa.

Our analysis of the passive extension in this study has revealed that the categories of the passive extension Collins (1962) and O'Brien (1992) identify can underlyingly be derived from -u- and -igu- (details given in Chapter Two and Four). Therefore what they have referred to as the various shapes of the passive should in fact be regarded as the surface realisations of two underlying shapes of the passive extension.

O'Brien (1992:78) holds that the causative extension changes the reference from one of 'doing something' to 'making someone do something' and that it also has the meaning of 'to have something done' and 'doing something with something'. Although O'Brien does not elaborate on these functions, we have confirmed that they do exist in Tonga. His inventory on the realisation of the causative is as follows:

- (25) a. - em - becomes - emy -;
- b. - b - becomes - by -;
- c. - n - becomes - ny -;
- d. - n - in reciprocally extended radicals becomes - y -;

- e. - l - becomes - zy -;
- f. - k -, - y - and - w - become - sy -;
- g. - t - becomes - ty -; while
- h. verbals with di-syllabic radicals which have the second syllable ending in - n - form the causative - zy -.

O'Brien (1992:84-85) says that the applied extension is a prepositional extension whose function is to set up a relationship between various nominal groups. He suggests that -il- is sometimes regarded as the basic shape of the applied extension and that it is chosen to represent the whole group of verbs which function in the applied sense. He shows that the extension is realised in different ways depending on the verb stems it is attached to, as exemplified in (27)

- (27)
- a. verbs ending in -na and -ina will have the extension realised as -in-;
 - b. verbs ending in -ema will have the verb extension realised as -en-;
 - c. verbs ending in -ola or -ula will have the extension realised as -wed- or -wid-, respectively;
 - d. monosyllabic verbs ending in -bba and -fwa will have their own prepositional forms such as -id-.

The analysis of the three extensions by Hogood (1953), Collins (1962) and O'Brien (1992) is based on the structuralist or taxonomic models which simply list or describe what is observed

offering no or little explanation. None of them goes into a deeper analysis of a systematic explanation for the differences in the realisations of the extensions. They do not explore the possibility of morphophonological processes being the cause of these differences. Moreover, they do not analyse the extensions in a systematic manner and as a result treat the verb ending, and in some cases the last consonant of the verb root, as though they are part of the verb extension, when in fact they are not. To compound the situation, they look at the verb extensions as if they are elements which are just inserted in a verbal rather than treating them as verb extensions. As a result of not following any explanatory linguistic theory, Hopgood (1953), Collins (1962) and O'Brien (1992) have not been able to bring out the fact that the extensions take varying shapes due to some morphophonological processes. In fact, their rules on the occurrence and realisations of the verbs extensions cannot be generalised and are sometimes not true.

A further shortcoming of the work of Hopgood (1953), Collins (1962) and O'Brien (1992) is that they do not undertake an extensive and intense study of the functions of the extensions. They have omitted many other functions and aspects of the extensions. Thus, their work is deficient in scope.

1.6. Some Aspects of Tonga Verbal Morphology

In this section we briefly discuss the structure of the verb form in Tonga so as to show how the three extensions under study fit in the verbal morphology. Like other Bantu languages, Tonga is characterised by the agglutinative nature of the verb form. Thus we find that affixes are added to the verb radical to indicate the subject, object, tense, aspect, negation, mood and other

grammatical and lexical constituents. Tonga verb constituents include the preprefix, prefix, postprefix, tense and aspect marker, object marker, root, extension and ending in this order of occurrence. We briefly discuss these below [22].

a. **Preprefix**

This morpheme precedes the prefix. In most cases it denotes negation, and is therefore the negative marker, in non-relative forms, as can be seen in (33)

- (33) a. tulayanda (tu - la - yand-a)
 ‘we want’
- b. tatuyandi (ta - tu - yand - i)
 ‘we do not want’

In the two verbals tu is the prefix meaning ‘we’ while the suffix |i| in (35b) is part of the negative morpheme since it constitutes a change from the positive form -a. In this example, the negative morpheme is a discontinuous one, ta- ... -i.

b. **Prefix**

Verbal prefixes are verbal constituents which precede the verbal and designate or refer to the subject, as subject markers. They vary according to the classes to which the nouns referred to belong. [23] In (34) ba is a prefix for a class 2 noun.

- (34) baleenda (ba - la- eend - a)
 ‘they are walking’

As can be seen in (35) below, other constituents may occur between the prefix and radical. [24]

(35) tulikkele (tu - li - kkal - ile)

 ‘we are seated’

(tu- and -kkal- are the prefix and the radical, respectively)

c. **Postprefix**

This is a morpheme which immediately follows the prefix and denotes negation. As a general rule, in relative forms negation is characterised by a postprefix together with a special ending (-i) used in all negative forms. This is illustrated in (36) below.

(36) a. bantu babeleka (ba - belek -a)

 ‘people who work’

 b. bantu babaleki (ba - ta - belek -i)

 ‘people who do not work’

d. **Tense Marker**

This generally denotes tenses and aspects in conjunction with the ending. In fact the tense marker and the verb ending make up what marks for tense. The tense marker is said to be a discontinuous morpheme: it is made of the verbal ending (e.g. -a and -i in (36) above and in many cases a morpheme that precedes the root. However, following a long-established tradition in Bantu linguistics, we shall use the term ‘tense-marker’ to refer only to the part of the tense-marker which precedes the root. What is called the tense marker can indicate tense, mood,

aspect and polarity. As it denotes several things, the tense marker is a cumulative morph. There are tense markers for different tenses in Tonga but the element before the root may be null (O). Consider for example -aka- and -la- which denote past tense and present continuous tense in (37a) and (37b), respectively [25].

- (37) a. twakalima (tu-aka-lim-a)
 ‘we cultivated’
- b. tulalima (tu-la-lim-a)
 ‘we are cultivating’

Object-Markers

Object-markers can refer to an object noun phrase and correspond to the English object pronouns such as me, you, him, her, them, etc. Like prefixes, object-markers may vary according to the classes to which the object nouns referred to belong. (38a) and (38b) are examples of noun classes 1 and 2 object-markers, the object-markers are underlined.

- (38) a. twakamubelekela (tu - aka - a - belek - il - a)
 ‘we worked for him’
- b. twakababelekela (tu - aka - a - belek - il - a)
 ‘we worked for them’

f. **Root or Radical**

The root or radical is the nucleus of the verb. It is the main element in the verb form. Verb forms are constructed by adding affixes and extensions to roots. Roots can be extended by adding extensions to the root and by reduplicating the root, as can be seen in (39b) and (39c), respectively.

- (39)
- a. kulila (ku - lil - a)
‘to cry’
 - b. kulilila (ku - lil - il - a)
‘to cry for’
 - c. kulilalila (ku - lil - a - lil - a)
‘to cry often’

g. **Extensions**

These are morphemes which are attached to a verb root to add semantic information to the verb. The semantic information added depends on the particular verb extension that is attached to the verb root and sometimes, on the meaning of the primitive root. Verb extensions come after the verb root in the verb structure. Tonga verb extensions can be put into three categories. The first is of those that, in principle, can occur with any verb root. The second is that of those that can occur with a great number of roots. The third category contains those that occur with a limited number of roots. Of the verb extensions that are being analysed in this study, the applied extension is the only one that belongs to the first category while the passive and causative extensions fall under the second category. Thus the passive and the causative

extensions can only be added to the radicals of transitive verbs or extended verbs that have been transitivised. The applied, causative and passive extensions are illustrated in (40), (41) and (42) respectively [26].

- (40) a. kulima (ku - lim - a)
 'to cultivate'
- b. kulimina (ku - lim - il - a) (applied)
 'to cultivate for'
- (41) a. kulima (ku - lim - a)
 'to cultivate'
- b. kulimya (ku - lim - i - a) (causative)
 'to cause/make to cultivate'
- (42) a. kulima (ku - lim - a)
 'to cultivate'
- b. kulimwa (ku - lim - u - a) (passive)
 'to be cultivated'

In this study we use the terms applied verb, causative verb, passive verb, applied sentence, causative sentence, passive sentence, applicativisation, causativisation and passivisation to mean the following:

- (i) **applied verb**: a verb that has been extended with the applied extension;
- (ii) **causative verb**: a verb that has been extended with a causative extension;
- (iii) **passive verb**: a verb that has been extended with a passive extension;
- (iv) **applied sentence**: a sentence that has a noun phrase that is signalled by the applied extension;
- (v) **causative sentence**: a sentence that has a noun phrase that is signalled by the causative extension;
- (vi) **passive sentence**: a sentence that has a noun phrase that is signalled by a passive extension;
- (vii) **applicativisation**: the formation of applied verbs and applied sentences and all related phenomena;
- (viii) **causativisation**: the formation of causative verbs and causative sentences and all related phenomena;
- (ix) **passivisation**: the formation of passive verbs and passive sentences and all related phenomena.
- (h). **Endings**

As has been said in (d) above, endings characterise among others tense, mood and aspect. The endings found in Tonga verbals are -a, -e and -i. The -e and -i forms occur with verbals in some

past tense and verbals in the negative form respectively. But -a is found with verbals in the past or present tenses. This can be noticed in (43)

- (43)
- a. balikkele (ba-li-kkel-e)
‘they had sat’
 - b. tababooli (ta - ba - bool - i)
‘they do not come or they are not coming’
 - c. bakaboolā (ba - aka - bool - ā)
‘they came’
 - d. baboolā (ba - a- bool - ā)
‘they have come’

1.7 Scope and Limitations of the study

The examples given in this study are not marked for tone. One reason for this is that our study is restricted to the analysis of salient segmental aspects of the extensions. Another reason for not doing so is that, as a general rule, in Tonga there is considerable tonal variation, in the surface tonal pattern of a given morpheme depending on both the underlying tonal pattern of some neighbouring morpheme and the syntactic environment (see, for example, Meeussen 1963). This means that if we were to provide the tonal markings of verb extensions in our morphological analyses, we would have to explain for each case why

there is a difference between the underlying tonal pattern of the extension and its surface tonal pattern, a matter beyond the scope of our study.

Non-fiction is the sphere of our study as the utterances we consider in our analysis are those found in normal and real world situations. What this means in practical terms is that some of the examples that we will regard as semantically unacceptable could be acceptable in some fictional context. Likewise, in our judgement on whether or not some utterance is semantically or/and syntactically acceptable we will not take into consideration any pragmatic factor, although it is well known that pragmatic considerations may render acceptable many of the utterances which are otherwise unacceptable. In other words. We will follow those linguists, such as Noam Chomsky, whose linguistic analyses are not pragmatics-based.

We do not use 'oral' texts since our data is all from written texts. However, we do not feel that our analysis is inadequate in any way as our findings would not be affected and change even if we were to use data from 'oral' texts as well. Our feeling is based on the fact that, while in languages with a long history of writing such as English or French, there may be considerable discrepancy on certain points between written language and spoken language, this is not the case for languages, such as Tonga and Bantu in general, where writing is a relatively new phenomena, in these languages the tendency is to write as one speaks.

ENDNOTES

1. Causative -i- ---> -y- .
2. Passive -u- ---> -w- .
3. The prefix vowel -u- ----> -w- .
4. Although we have used the word 'Tonga' consistently in our thesis to refer to the language there is a tendency nowadays to make a distinction between the words 'Tonga' and 'Chitonga' where the former is used with reference to the people who speak the language while the latter is used to refer to the language.
5. The other regional official languages are Bemba, Kaonde, Lozi, Lunda, Luvale and Nyanja while English is constitutionally the only official national language (see the map in Appendix A2).
6. We have opted for the term dialect clusters as opposed to dialects because within these dialects further sub-dialects have been identified. As an example Plateau Tonga consists of the Mazabuka, Monze, Pemba and Choma sub-dialects.
7. Some of the notable differences in these sub-dialects are in the area of phonetics, as can be seen in the examples given below:

Valley Tonga**Example**

kunyaala [xu̯a:la]

'to remain'

Plateau Tonga**Example**

kuhyaala [xuhja:la]

'to remain'

kuzyala [kuzala]

'to give birth'

kuvwa [xuvwa]

'to hear'

kuhyala [kuhjala]

'to give birth'

kumvwa [xuhvwa]

'to hear'

8. Note that in this study we are using the current Tonga official orthography which is the same as the IPA except in the following:

bb as IPA b

b as IPA β

c as IPA ʒ, but comes more voice

hh as IPA h̥

kk as IPA k

k as IPA ʔ

ng' as IPA ŋ

sy as IPA ʃ

9. In the combination of morphemes in (6b) to form (6a) the morphophonological processes of gliding and vowel harmony take place.
10. We were forced to make a choice because it is not possible within the scope of our study to deal with all extensions. It was realised that a work of this nature could adequately deal with a maximum of three extensions. We did not choose to analyse two extensions as they would have been too few to test the general applicability of the

theoretical model we are using for the analysis of the verb extensions. The focus of the study was motivated by the fact that the applied, causative and passive verb extensions are the most frequent and productive in Tonga.

11. The others are GPSG and LFG.
12. The transformational operations are not an important aspect of GB (Sells 1985:19)
13. This example is extracted from Sells (1985:36).
14. Refer to section 1.4.2.1.6. for details on the Trace Theory.
15. Refer to Sells (1985) and Horrocks (1987) for details on C-Command.
16. Refer to Sells (1985) and Horrocks (1987) for details on the case filter.
17. The sentences are Tonga translations of the Rwanda sentences that Coupez uses.
18. The phonological process of vowel harmony has taken place in some of the verb forms in (17) and (18). This leads to the change from /i/ to /e/ of the applicative and perfective extensions initial vowels in these verb forms.
19. Hyman's perfective suffix, -il-e, is in fact the perfective ending -ile. The causative moves between the /e/ and the /-il-/ of the ending by imbrication.
20. In this study, we have also referred to consonant mutation as spirantisation.
21. In fact we have established in our study that verb roots ending in the semi-vowels /w/ and /y/ take the passive form -igu- from which Collins' -oogwa is derived.
22. We have adapted the definitions and functions of verb constituents from Chanda (1992:52-63).
23. For a full list of Tonga noun classes prefixes see Collins (1962:11-21)

24. In (35) -li- is a tense marker used in certain forms of state. The morpheme cannot be used with state verbs as can be seen in *tulilimine (tu-li-lim-ile) (which is supposed to mean 'we are cultivating'). The correct rendering of 'we are cultivating' is tulalima (tu-la-lim-a) (in this example the /l/ in the perfective extension -ile changes to the nasal /n/ as a result of the process of nasal harmony).
25. The tense marker is also referred to as the tense sign. We therefore use the two terms interchangeably in this study.
26. The causative and passive extensions surface as -y- and -w-, respectively (for details see Chapter Four below).

CHAPTER TWO

GENERATING VERB EXTENSIONS

2.0. General

There has been general agreement among linguists that the word has “universal intuitive recognition by native speakers” (Crystal 1991:379; see also Fromkin and Rodman 1988:122). Traditional Grammar, nowadays discredited, gave the study of the word so central a role that the term ‘grammar’ came to refer exclusively to morphology, defined as the internal structure and formation of words, and syntax, the study of how words combine into sentences. In contrast to Traditional Grammar, it is felt necessary in contemporary linguistics to ask “where is morphology?” (Anderson 1982). Such a question is relevant to the present study since the study is concerned with the extensions of one of the most morphologically complex class of words in Tonga and generally in Bantu, namely the verb. In what follows in this chapter, we first answer this question (2.1.), then posit a model of the lexicon (2.2) and, finally, use this model to generate the three extensions as well as, by implication, the other verb extensions. (2.3).

2.1. Where is Morphology?

The rules of syntax do not only involve the syntactic categories such as N (=noun), V (=verb), A (=adjective), and P (=preposition), etc, but also morphosyntactic categories, such as TENSE and NUMBER. Morphosyntactic categories are so called because they are relevant both to some syntactic rules (e.g. agreement) and to the surface structure of words in the sense of inflection.

While attempts that have been made to reduce derivation and compounding to syntax have been proved to be untenable (see, for example, Chomsky 1970, Anderson 1988, Spencer 1993), it is

tempting to believe that because categories such as TENSE and NUMBER that are responsible for inflectional processes are also involved in syntactic rules (e.g., AGREEMENT), inflectional morphology at least can be handled entirely by syntax. However, while the morphosyntactic formatives such as PAST are generated by phrase-structure rules, they are not 'spelt out' by phrase-structure rules but by what have been called 'readjustment rules' (Crystal 1991:289). Whether or not inflection is entirely done by syntax depends on what is meant by 'syntax' that is the scope of syntax. Consider, for instance, the case where the syntactic component in some grammatical theory is thus structured:

(1) **Syntax**

- a. Base Component
 - (i) Categorial component (=phrase-structure rules)
 - (ii) Lexical component (comprising, among others rules of derivation, compounding and inflection as well as the so-called (readjustment rules))
- b. Transformational Component.

If 'syntax' is used in the sense of (1), morphology is entirely dealt with by syntax. On the other hand, in Traditional Grammar, morphology and syntax are distinct components or modules of 'grammar', the former dealing with the internal structure of words and word formation and the latter only with ways in which words combine to form sentences. In a model like (1), 'syntax' is used in a broader sense.

According to Spencer (1994:811-817), there are essentially three ways of thinking of morphology, namely:

- (a) morphology by itself: morphology is an autonomous module some of whose principles are entirely independent of other modules (syntax, phonology, semantics);
- (b) morphology as a set of interface phenomena: morphology is a ragbag of idiosyncratic phenomena --- whose main interest for linguistics lies in the way it relates to 'genuinely' linguistic levels of representation;
- (c) reductionism: although there are interesting phenomena in morphology, such as affix order or stem allomorphy, these are reducible to principles of other modules (syntax, phonology, semantics). This affix order can be dealt with by syntax ('syntax-all-the-way-down' approach) and allomorphy by phonology.

In this study, we have adopted the morphology-by-itself approach. However, we assume that the morphology of a language is part of its lexicon but inflection is partly dealt with by syntax.

2.2. The Organisation of the Lexicon

2.2.0. General

We assume that (a) derivation and compounding are entirely dealt with in the lexicon, and (b) inflection is handled both by syntax and by the lexicon. Syntax handles inflection in that some phrase-structure rules generate morphosyntactic categories, such as NUMBER and PERSON, involved in inflection. On the other hand, the lexicon deals with inflection by virtue of containing inflectional rules as well as 'readjustment rules' giving phonological shapes to abstract morphosyntactic formatives such as P (=past tense). This section discusses the possible contents of the lexicon (2.2.1) and posits the model of the lexicon assumed in the present study (2.2.2)

2.2.1. The Contents of the Lexicon

In contemporary linguistic theory, there is no general consensus regarding what the lexicon of a natural language should contain. According to Radford (1988:337), the lexicon contains

a list of all the words in a language together with a specification of their idiosyncratic syntactic, phonological and morphological properties.

We assume that by 'words' Radford means 'lexemes' and not word forms. The same view is expressed by Stump (1991:680) when he writes that

affixes are not listed as independent units in the lexicon, but instead exist only as the mark of rules that introduce them. Thus for morphological purposes, the lexicon lists only lexemes.

The type of lexicon proposed by Radford (1988:337) and Stump (1991:680) may be referred to as a word-based lexicon, in contrast with a morpheme-based lexicon proposed by, for example, Schane (1973:41) who says:

the lexicon of a language is a list of its morphemes. For each morpheme information is given about its meaning, syntactic properties, exceptional behaviour (if any) and pronunciation [1].

Between these opposing views there is the view that the lexicon contains both the lexemes and the morphemes of a language. Thus, according to Allan (1986:225), the lexicon of a language contains.

- (a) all inflectional morphemes;
- (b) all derivational morphemes;
- (c) all lexical stems and roots; and

- (d) all lexemes (as wholes).

Our own view is that the lexicon of a natural language contains the elements enumerated in (2):

(2) **Contents of the Lexicon**

- a. list of:
- (i) all inflectional affixes,
 - (ii) all derivational affixes,
 - (iii) all roots and stems,
 - (iv) all lexemes, and
- b. rules.

As shown in (2), the difference between our view and Allan's is twofold. First, in (2a iii) we have 'roots and stems' while Allan talks of lexical roots and stems. The use of 'lexical' implies that some roots and stems are non lexical. Indeed in the absence of Allan's definition of what he means by 'lexical', we assume that Allan's expression 'lexical stems and roots' refers to the stems and roots of the so-called 'lexical words' as opposed to 'grammatical words' such as prepositions and conjunctions, which may be made up of one morpheme. However, in Bantu some of the so-called grammatical words are made up of a concordial prefix plus a stem or root. An example are genitive pronouns. These are a type of word forms which render the English preposition 'of' which is a head of a prepositional phrase. A genitive pronoun in Tonga and many other Bantu languages is made up of a concordial prefix plus /-a/, which must be considered a root. We illustrate this in the Tonga examples below (the genitive pronoun is in every case underlined):

- (3) a. mubwa wa (u-a) mwami
 (lit. the-dog-of the chief)
 'the chief's dog'

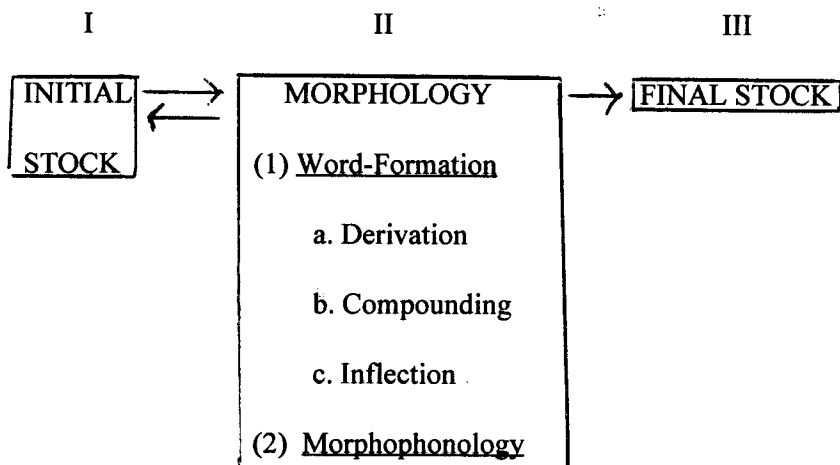
- b. babwa **ba** (ba-a) mwami
 (lit. the-dogs-of the chief)
 ‘the chief’s dogs)
- c. minzi **ya** (i - a) mwami
 (lit. the-villages-of the chief)
 ‘the chief’s villages’

If roots and stems of nouns, verbs and other ‘lexical words’ are listed in the lexicon, there is no reason why stems or roots of ‘grammatical words’ such as the /-a/ in (3) should be excluded from the lexicon and listed elsewhere. The second difference between our view and Allan’s is that (2) says that the lexicon contains rules in addition to lists of morphemes, stems and lexemes. In contrast, Allan has no provision for rules. The type of rules we have in mind include word-formation rules. We shall expand on this in the following section where we propose a model for the lexicon.

2.2.2. **A Model of the Lexicon**

In the present study, we assume the following version of lexical morphology and phonology.

(4) **Organisation of the Lexicon**



The **Initial Stock** contains:

- a. all roots;
- b. all derivational affixes;
- c. all inflectional affixes;
- d. all monomorphemic lexemes.

It is more or less equivalent to what Katamba (1989:264) refers to as underived lexical items since these are monomorphemic items to which no word-formation rules have been applied in their production.

Like in the **Final Stock**, each item in the **Initial Stock** is given in the form of a phonological shape followed by its morphological status and characteristics as well as any other grammatically and/or semantically relevant pieces of information.

The second component, **Morphology**, is made up of (a) word-formation rules (WFRs) of derivation (DWFRs), compounding (CWFRs) and Inflection (IWFRs), and (b) morphophonological rules (MPRs). The outputs of DWFRs can be extended radicals including the applied verbs, causative verbs and passive verbs, which are the subject matter of the present study. Morphophonological rules (MPRs) account for any morphophonological phenomena arising from WFRs. All the other phonological rules, such as the rules of allophony, are not dealt with here but outside the lexicon. If our model was incorporated into some version of Government-Binding (GB) theory all phonological rules other than MPRs rules would be dealt with in the phonetic form (PF). The double arrows linking morphology and the **Initial Stock** indicate that morphological and morphophonological rules and the **Initial Stock** interact.

The last lexical component, the **Final Stock**, is a list of all items in the **Initial Stock** plus all the outputs of morphology. This means that the **Final Stock** comprises the following:

- a. all roots;
- b. all derivational affixes;
- c. all inflectional affixes;
- d. all monomorphemic lexemes;
- e. all (derived and compound) stems;
- f. all lexemes; and
- g. all fully inflected words (i.e. all word forms).

A lexicon containing all of the items above is called a **mental lexicon** or **theoretical lexicon**. A **practical lexicon**, that is, a lexicon presented in a printed material, should not include all fully inflected words but only those fully inflected words which are idiosyncratic in some way(s), since for regular word-forms, a learner, for instance, would simply apply spell-out rules of word formation.

2.3 Deriving Verb Extensions

The verb extensions under study assume different shapes in Tonga. The applied extension has four shapes, -il-, -el-, -in- and -en- as illustrated in (5) below (the extensions are underlined)

- (5) a. ku-tumbuk-a ---> ku-tumbuk-il-a ---> kutumbukila
 'to give birth' 'to give birth for'
- b. ku-sol-a ---> ku-sol-il-a ---> kusolela
 'to try' 'to try for'

- | | | | | | |
|----|----------------|------|----------------------|------|--------------------|
| c. | ku-lim-a | ---> | ku-lim- <u>il</u> -a | ---> | kulim <u>ina</u> |
| | | | | | |
| | 'to cultivate' | | | | 'to cultivate for' |
| d. | ku-bon-a | ---> | ku-bon- <u>il</u> -a | ---> | kubon <u>ena</u> |
| | | | | | |
| | 'to see' | | | | 'to see for' |

As can be seen from (5) the -in- and -en- shapes occur with verb roots that end in nasal consonants while -il- and -el- occur with verb roots that end in non-nasal consonants.

The distribution of the four shapes of the applied extension shows that a single shape -il- must be posited and that two rules account for the various shapes. These are height harmony and nasal harmony which are dealt with in (4.2.1.1) and (4.2.1.2) below, respectively.

The causative extension has four shapes namely -i-, -is-, -isi- and -ik- which are realised as -y-/, -is-/-es-/, -isy-/-esy-/ and -ik-/-ek-/, respectively. These are illustrated in (6)

- | | | | | | | |
|-----|----|----------------|------|-----------------------------------|------|-------------------------|
| (6) | a. | ku-lim-a | ---> | ku-lim- <u>i</u> -a | ---> | kulimya |
| | | | | | | |
| | | 'to cultivate' | | | | 'to cause to cultivate' |
| | b. | ku-kuw-a | ---> | ku-kuw- <u>is</u> - <u>igu</u> -a | ---> | kukuw <u>isigwa</u> |
| | | | | | | |
| | | 'to bark' | | | | 'to cause to be barked' |
| | c. | ku-yoy-a | ---> | ku-yoy- <u>is</u> - <u>igu</u> -a | ---> | kuyoy <u>esegwa</u> |
| | | | | | | |
| | | 'to breathe' | | | | 'to be made to breathe' |
| | d. | ku-yaay-a | ---> | ku-yaay- <u>isi</u> -a | ---> | kuyaay <u>isya</u> |
| | | | | | | |
| | | 'to melt' | | | | 'to cause to melt' |
| | e. | ku-low-a | ---> | ku-low- <u>isi</u> -a | ---> | kulow <u>esya</u> |
| | | | | | | |
| | | 'to bewitch' | | | | 'to cause to bewitch' |

- f. ku-on-a ---> ku-on-ik-a ---> kooneka
 'to sleep' 'to cause to sleep'
- g. ku-yaam-a ---> ku-yaam-ik-a ---> ku-yaamika
 'to lean' 'to cause to lean'

The causative -i- is the most productive. It occurs with verb radicals that end in /b/, /p/, /t/, /d/, /s/, /ʃ/, /z/, /m/, /n/, /ʎ/, /k/, /l/ and /g/. (7) illustrates this:

- (7) a. ku-nabb-a ---> ku-nabb-i-a ---> kunabbya
 'to beat' 'to cause to beat'
- b. ku-kop-a ---> ku-kop-i-a ---> kukopya
 'to stir' 'to cause to stir'
- c. ku-jat-a ---> ku-jat-i-a ---> kujatya
 'to hold' 'to cause to hold'
- d. ku-sis-a ---> ku-sis-i-a ---> kuisiya
 'to hide' 'to cause to hide'
- e. ku-lub-a ---> ku-lub-i-a ---> kulubya
 'to forget' 'to cause to forget'
- f. ku-wez-a ---> ku-wez-i-a ---> kuwezya
 'to hunt' 'to cause to hunt'
- g. ku-sim-a ---> ku-sim-i-a ---> kusimya
 'to mature' 'to cause to mature'
- h. ku-bon-a ---> ku-bon-i-a ---> kubonya
 'to see' 'to cause to see'
- i. ku-yand-a ---> ku-yand-i-a ---> kuyanzya

	'to want'				'to cause to want'
j.	ku-yak-a	--->	ku-yak- <u>i</u> -a	--->	kuyasya
	'to build'				'to cause to build'
k.	ku-sikk-a	--->	ku-sikk- <u>i</u> -a	--->	kusisya
	'to put on fire'				'to cause to put on fire'
l.	ku-solol-a	--->	ku-solol- <u>i</u> -a	--->	kusolozya
	'to lead'				'to cause to lead'
m.	ku-neng-a	--->	ku-neng- <u>i</u> -a	--->	kunenzya
	'to cut'				'to cause to cut'

As can be seen (8) below, the *-ik-* causative shape occurs with some simple activity verb roots that end in consonants that are nasals (for details on the categorisation of verbs refer to Quirk et al 1973:46-7). However, it has been noticed that these verb roots alternate this shape of the causative extension with the *-i-* shape.

(8)	a.	ku-yaam-a	--->	ku-yaam- <u>ik</u> -a	--->	kuyaamika
		'to lean'				'to cause to lean'
	b.	ku-nan-a	--->	ku-nan- <u>ik</u> -a	--->	kunanika
		'to oil'				'to cause to oil'
	c.	ku-im-a	--->	ku-im- <u>ik</u> -a	--->	kwimika
		'to stand'				'to cause to stand'
	d.	ku-on-a	--->	ku-on- <u>ik</u> -a	--->	kooneka
		'to sleep'				'to cause to sleep'

e.	ku-en-a	--->	ku-en- <u>ik</u> -a	--->	kwen <u>eka</u>
	'to sneer'				'to cause to sneer'

We have established that the -isi- causative shape occurs with verb roots that end in the glides /w/ and /y/ as exemplified by (9).

(9)	a.	ku-kweny-a	--->	ku-kweny- <u>isi</u> -a	--->	kukweny <u>esya</u>
		'to scratch'				'to cause to scratch'
	b.	ku-tekuny-a	--->	ku-tekuny- <u>isi</u> -a	--->	kutekuny <u>isya</u>
		'to tickle'				'to cause to tickle'
	c.	ku-low-a	--->	ku-low- <u>isi</u> -a	--->	kulow <u>esya</u>
		'to bewitch'				'to cause to bewitch'
	d.	ku-luw-a	--->	ku-luw- <u>isi</u> -a	--->	kuluw <u>isya</u>
		'to dodge'				'to cause to dodge'

There are some verb roots in Tonga that take different²² causative shapes depending on the syntactic environment in which they exist. For example some verb roots that take the -i-, -ik- and -isi- causative shapes may require the -is- causative shape when they are used with the combination of the passive and applied extensions. The -is- causative shape, therefore, occurs with extended roots only. The table in (10) shows some of these roots.

Causative Shape	Causative Without Other Extensions	Causative With The Passive	Causative With The Applied
	Shape Example	Shape Example	Shape Example
-i-)	ku-lim-y-a 'to cause to cultivate'	ku-lim-is-igw-a 'to cause to be cultivated with'	ku-lim-is-il-a 'to cause to cultivate for'
	ku-bon-y-a 'to cause to see'	ku-bon-es-egw-a 'to cause to be seen'	ku-bon-es-el-a 'to cause to be seen for'
-ik-	ku-sam-ik-a 'to cause to dress'	ku-sam-is-igw-a 'to cause to be dressed'	ku-sam-ik-il-a 'to cause to dress for'
	ku-on-ek-a 'to cause to sleep'	ku-on-es-egw-a 'to cause to be put to sleep'	ku-on-es-el-a 'to cause to sleep for'
-isi-)	ku-luw-is-y-a 'to cause to dodge'	ku-luw-is-igw-a 'to cause to be dodged'	ku-luw-is-il-a 'to cause to be dodged for'
	ku-yoy-es-y-a 'to cause to breathe'	ku-yoy-es-egw-a 'to cause to be breathed on'	ku-yoy-es-el-a 'to cause to breathe for'

Four phonological rules, namely, height harmony, gliding, palatalisation and spirantisation, account for the various realisations of the causative shapes $-i-$, $-ik-$, $-is-$ and $-isi-$. We discuss these rules in (4.2.1.1), (4.2.2), (4.2.3) and (4.2.4) below.

The passive extension has the $-u-$ and $-igu-$ shapes which are realised as $/-w-/$; $/-igw/$ and $/-egw-/$, respectively. (11) demonstrates the occurrence of these shapes.

- (11)
- | | | | | | |
|----|--------------|------|----------------------|------|-------------------|
| a. | ku-kun-a | ---> | ku-kun- <u>u</u> -a | ---> | kukun <u>wa</u> |
| | ‘to pour’ | | | | ‘to be poured’ |
| b. | ku-bikk-a | ---> | ku-bikk- <u>u</u> -a | ---> | kubikk <u>wa</u> |
| | ‘to put’ | | | | ‘to be put’ |
| c. | ku-kop-a | ---> | ku-kop- <u>u</u> -a | ---> | kukop <u>wa</u> |
| | ‘to stir’ | | | | ‘to be stirred’ |
| d. | ku-leb-a | ---> | ku-leb- <u>u</u> -a | ---> | kuleb <u>wa</u> |
| | ‘to trip’ | | | | ‘to be tripped’ |
| e. | ku-mak-a | ---> | ku-mak- <u>u</u> -a | ---> | kumak <u>wa</u> |
| | ‘to squeeze’ | | | | ‘to be squeezed’ |
| f. | ku-ting-a | ---> | ku-ting- <u>u</u> -a | ---> | kuting <u>wa</u> |
| | ‘to choke’ | | | | ‘to be choked’ |
| g. | ku-lek-a | ---> | ku-lek- <u>u</u> -a | ---> | kulek <u>wa</u> |
| | ‘to discard’ | | | | ‘to be discarded’ |
| h. | ku-yak-a | ---> | ku-yak- <u>u</u> -a | ---> | kuyak <u>wa</u> |
| | ‘to build’ | | | | ‘to be built’ |
| i. | ku-teng-a | ---> | ku-teng- <u>u</u> -a | ---> | kuteng <u>wa</u> |

	'to belittle'				'to be belittled'
j.	ku-l ^l -a	--->	ku-l ^l - <u>u</u> -a	--->	kulel <u>wa</u>
	'to preside over'				'to be presided over'
k.	ku-k ^w -a	--->	ku-k ^w - <u>igu</u> -a	--->	kukuw <u>igwa</u>
	'to bark'				'to be barked'
l.	ku-l ^w -a	--->	ku-l ^w - <u>igu</u> -a	--->	kuluw <u>igwa</u>
	'to dodge'				'to be dodged'
m	ku-n ^u -a	--->	ku-n ^u - <u>igu</u> -a	--->	kunyw <u>igwa</u>
	'to drink'				'to be drank'
n	ku-t ^u -a	--->	ku-t ^u - <u>igu</u> -a	--->	kutw <u>igwa</u>
	'to pound'				'to be pounded'
o	ku-l ⁱ -a	--->	ku-l ⁱ - <u>igu</u> -a	--->	kul <u>igwa</u>
	'to eat'				'to be eaten'
p	ku-cenjel-a	--->	ku-cenjel- <u>igu</u> -a	--->	kucenje <u>zegwa</u>
	'to be clever'				'to be made clever'
q	ku-umun-a	--->	ku-umun- <u>igu</u> -a	--->	kuumuz <u>igwa</u>
	'to be quiet'				'to be quietened'
r	ku-lok-a	--->	ku-lok- <u>igu</u> -a	--->	kulose <u>gwa</u>
	'to drop'				'to be dropped'
s.	ku-low-a	--->	ku-low- <u>igu</u> -a	--->	kuLOW <u>egwa</u>
	'to bewitch'				'to be bewitched'
t.	ku-yeey-a	--->	ku-yeey- <u>igu</u> -a	--->	kuyee <u>yegwa</u>
	'to remember'				'to be remembered'

u.	ku-eend-a	--->	ku-eend- <u>igu</u> -a	--->	kweenzegwa
	'to move'				'to be moved'

The -u- passive is the most general and productive of the two shapes since the -igu- passive shape generally occurs with consonant + vowel (CV) verb roots, verb roots ending in /w/ and /y/ and a limited number of verb roots ending in /l/, /ʃ/, /d/ and /n/. It has not been possible to find any general rule with regard to root components or semantics that determine the occurrence of the -igu- passive shape as some verb roots ending in /l/, /ʃ/, /d/ and /n/ sometimes occur with the -u- passive shape. However, it might be possible to explain the occurrence of the extension with CV roots on the basis of the syllable structure of Tonga which, in some instances, can trigger or block a rule. An example of this is the repetitive extensions in Bemba -anw- and -aly- which when attached to CV verb radicals ending in -nw- and -ly- are realised as -anwanw- and -alyaly- as can be seen below.

(12)	a.	uku-nw-a	--->	uku- <u>nw-anwanw</u> -a	--->	ukunwanwanwa
		'to drink'				'to drink often'
	b.	uku-ly-a	--->	uku- <u>ly-alyaly</u> -a	--->	ukulyalyalya
		'to eat'				'to eat often'

Two rules account for the realisation of the -u- and -igu- passive shapes as -w-; -igw- and -egw- respectively. These are gliding and height harmony.

Using the apparatus assumed in (1), all extended verb radicals in Tonga are derived by the following rule:

(13) **DWER for Extended Verbs**

$$V1 \text{ ----> } V2 [V1 \ x] \text{ EXT } y] V2,$$

where V = 'verb radical' as a category, x is some lexical verb radical (from the **Initial Stock**), i.e. some exponent of V, (See 2.2.2. above), EXT = 'verb extension', as a category and y some exponent of EXT (also from the Initial Stock). In Tonga for example the extended verb radicals /limin/ (-lim-il-), /limw/ (-lim-u-) and /limy/ (-lim-i-) are derived as follows:

(14) a. **Applicativisation**

$$V \text{ ----> } V_{\text{appl}} [V \ \text{lim}] \text{ appl } i]] V_{\text{appl}}$$
b. **Causativisation**

$$V \text{ ----> } V_{\text{caus}} [V \ \text{lim}] \text{ caus } i]] V_{\text{caus}}$$
c. **Passivisation**

$$V \text{ ---> } V_{\text{pass}} [V \ \text{lim}] \text{ pass } u]] V_{\text{pass}}$$

In (13), EXT stands for the categorial symbol of any verb extension. Thus appl = applied extension, given as /il/ in the **Final Stock**; caus = causative extension and pass = passive extension given in the **Initial Stock** as /i/, /is/, etc., and /u/ and /igu/, respectively. Before applying morphophonological rules, all the categorial symbols inside the brackets are removed as are all internal brackets so as to have [limil], [limu] and [limi]. The removal of internal brackets is in accordance with the Bracket Erasure Convention (BEC) adopted in Lexical Phonology (Durand 1990:175 and Katamba 1989:264).

(15) **Bracket Erasure Convention (BEC)**

Erase the internal brackets at the end of each level.

According to Katamba (1989:264)

the brackets get automatically erased so that subsequent rules at later levels are debarred from referring to that grammatical information and that the convention also means that in order for a rule to apply, it is not necessary to delve into derivational history.

It is not enough to account for the derivation of particular extended verb radicals. One has to go further to account for the fact that in Tonga a verb form may have more than one extension, as shown in (16):

- (16) a. mutinta wakakuwisigwa (u-aka-kuw-is-igu-a) mubwa a coolwe (CAUS + PASS)
 (lit. Mutinta-she-was-caused-to-be-barked-at by the dog by Coolwe)
 ‘Mutinta was caused to be barked at by the dog by Coolwe’
- b. mutinta wakalimisigilwa (u-aka-lim-is-igu-il-a) muunda a coolwe [2]
 (CAUS + PASS + APPL)
 (lit. Mutinta-she-was-caused-or-made-to-be-cultivated-for-the-benefit-of
 the field by Coolwe)
 ‘Mutinta was made to have the field cultivated for her benefit by Coolwe’
- c. mutinta wakakuwisigilwa (u-aka-kuw-is-igu-il-a) a mubwa a coolwe [3]
 (CAUS + PASS + APPL)
 (lit. Mutinta-she-was-caused-to-be-barked-at-for-the-benefit-of the dog
 by Coolwe)
 ‘Mutinta was made or caused to have the dog bark for her benefit by Coolwe’

To account for combinations of verb extensions, the rule schema in (13) must represent recursive rules, so that (16a), (16b) and (16c), for example, are accounted for by (17a), (17b) and (17c), respectively.

- (17) a. V--->V caus + pass [V kuw] caus is] pass igu]] V caus + pass
 b. V--->V caus + pass + appl [V lim] caus is] pass igu] appl il]]]]
 V caus + pass + appl
 c. V--->V caus + pass + appl [V kuw] caus is] pass igu] appl il]]]]
 V caus + pass + appl

As observed by Durand (1990:171) and discussed by Hyman (1991) the recursiveness of WFRs does not mean that any sequence is permitted. For example, it can be noticed from (16) and (17) above that causativisation has precedence over applicativisation and passivisation while passivisation precedes applicativisation. On the other hand, the recursiveness of WFRs does not mean that there is no limit on the possible morphological complexity of a word. It has been observed that in Tonga the most productive verbs can only take a maximum of three verb extensions, as illustrated in (16) above. We shall therefore confine ourselves to the sequence of the three extensions under study.

ENDNOTES

1. It is difficult to realise a pure morpheme-based lexicon for Semitic languages or for English words such as **song** derived from **sung** (verb) by ablaut. See discussion by Anderson (1988:157-162)
2. The passive vowel u- moves to the position between the applied extension -il - and the verb ending - a by 'imbrication'
3. Ibid.

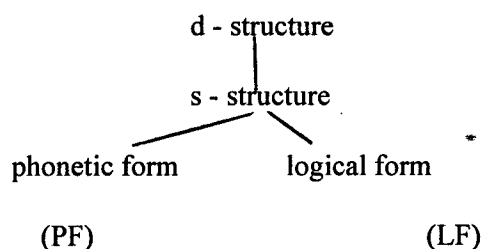
CHAPTER THREE

SYNTAX AND SEMANTICS

3.0 General

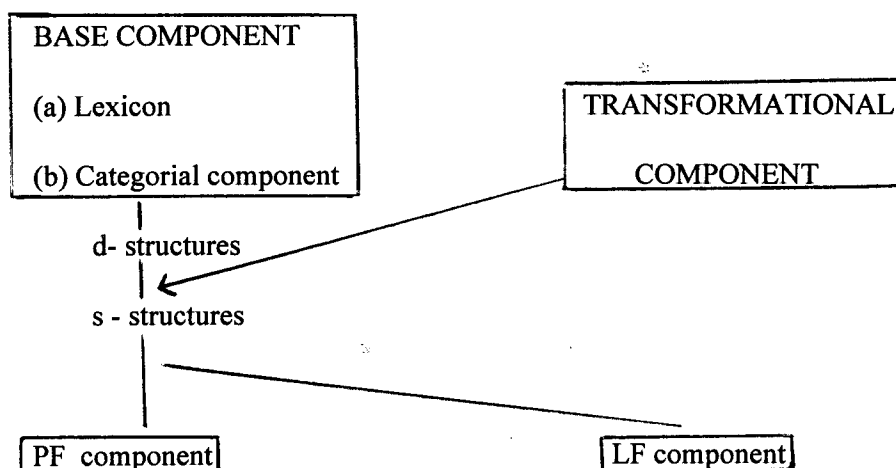
As stated in the introduction (Chapter One), for the treatment of syntax and semantics we have adopted in this study a version of Government-Binding (GB) Theory. We assume the following standard GB levels of analysis.

(1) Levels of Linguistic Analysis



For convenience purposes, we repeat in detail in (2) the diagram already presented in (1).

(2) Components of grammar



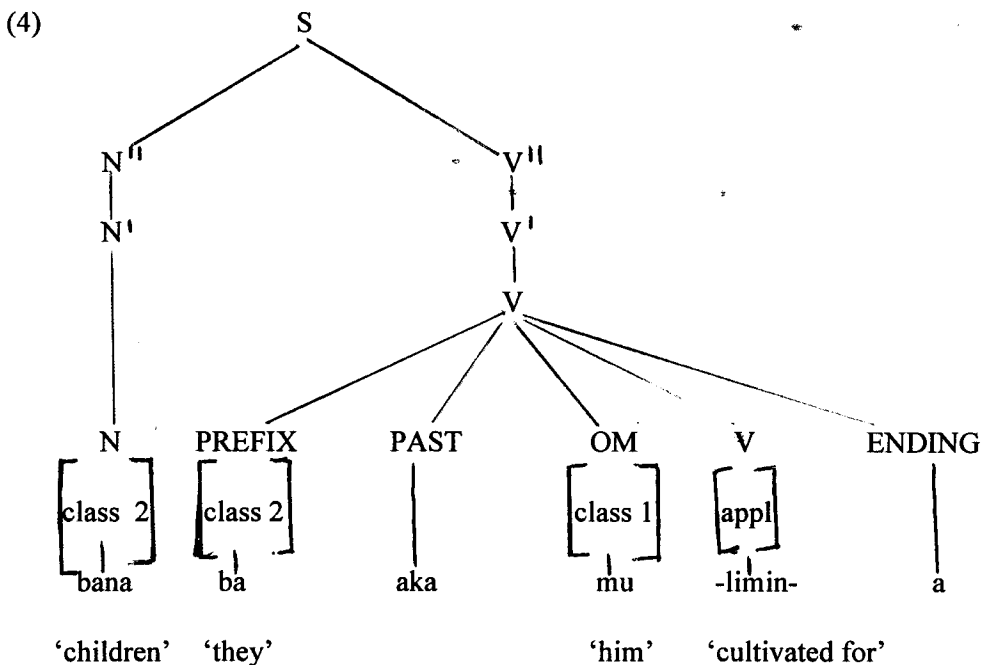
In this chapter, we deal with some aspects of the syntax and semantics of the three verb extensions. Owing to the interplay between syntax and semantics, they will not always be separated, though in such cases it will be apparent which is syntax and which is semantics. The syntax and semantics will be considered under the following headings: Arguments and Theta-roles (3.1), Object Marking (3.2), Applicativisation, Causativisation, Passivisation and the Order of Arguments (3.3), Binding (3.4) and Summary (3.5). Before we do this, however, it is useful to show in general terms what kinds of morphosyntactic transformations are needed to yield (surface) verb forms in Tonga.

Following the standard practice in GB, we assume on the syntactic level that no constituent with lexical material is deleted or created. Therefore the only possible transformation is movement (move-alpha) of a constituent with lexical material either into an empty position (NP-movement) or into a position already occupied by another constituent with lexical material) in such a way as to be adjoined to it either in a simple way (see for example quantifier raising) or as Chomsky-adjunction (for details and examples with respect to English, see Sells 1985:46-47).

The categorial component does not involve only 'pure' syntactic categories (syntactic phrase variables, such as NP, VP and PP, and syntactic categorial variables, such as N, V, and P) but also morphosyntactic categories such as TENSE (e.g. PAST). Consider the Tonga sentence

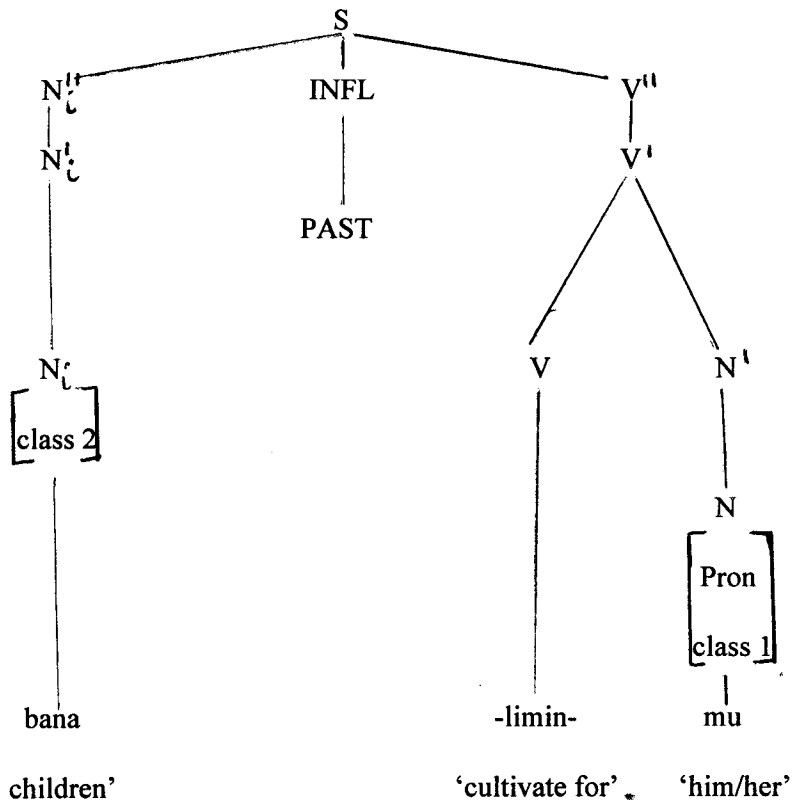
- (3) bana bakamulimjina (ba-aka-mu-limjil-a)
 (lit. the-children-they-cultivated-for him)
 'the children cultivated for him'

in which bakamulimina, 'they cultivated for him/her', is made of ba-, a class 2 prefix in agreement with the subject (bana 'children'), -aka- is the so-called tense sign, -mu- is the object marker ('him/her' in class 1), -limin- is the applied root (made of -lim- 'cultivate' and -il- - (the applied extension changed to -in- by the nasal harmony rule) and -a, a verb ending. We shall come back to the status of the 'tense-sign' and the 'verb ending', which was discussed in Chapter One. The fact that 'cultivated for him/her' in (3) is felt by a native speaker of Tonga as one word and that the word is a verb form is captured by the structure in (4) [1].



Now compare (4) with the structure in (5), which in some version of GB may be regarded as at least partly representing the d-structure of (3).

(5)



When we examine (4) and (5), we notice a number of differences. Firstly, all the features of INFL in (5) are part of the surface verb form in (4) (PREFIX is represented by the class 2 verb prefix in agreement with bana, 'children', a class 2 noun, and PAST is represented by -aka- and -a. The class 2 prefix and PAST have been Chomsky-adjoined as left-hand sisters to V. Secondly, the pronoun mu in (5) has been moved to the left of V and has also been Chomsky-adjoined to it. The latter change means that mu is also part of the surface verb form in (4). Thirdly, the surface structure in (4) comprises an 'ending', an element which is not in (5). Where does the 'ending' come from? Let us consider the verb forms in (6), in which the so-called tense-sign and verb ending are underlined:

(6) a. tulalima (tu-la-lim-a)

‘we cultivate / we are cultivating’

b. tatulimi (ta-tu-lim-i)

‘we do not cultivate/we are not cultivating

c. tulime (tu-lim-e)

‘we should cultivate’

d. lima (lim - a)

‘cultivate’ - singular

We make two observations regarding the occurrence of ‘tense-signs’ and ‘verb endings’ as exemplified in (6). The first observation is that although all of the verb forms in (6) are in the present tense, only (6a) has the tense-sign -la-. The absence of -la- in (6b) - (6d) shows that the occurrence of a particular tense-sign does not depend only on tense (in terms of present, past and future), but also on polarity (cf. (6a) and (6b)), mood (cf. (6a), an indicative, versus (6c), a subjunctive, and (6d), an imperative)). The second observation is that the verb ending also depends on tense, mood and polarity [2]. We conclude that ‘tense-sign’ is a misnomer, it does not only refer to time, and in fact the tense-signs (which can be zero morphemes) and endings constitute discontinuous morphemes [3]. However, despite the fact that the term ‘tense-sign’ does not only refer to time, it may be used to refer to each of such discontinuous morphemes or only to the pre-radical element of it. On the use of the term ‘tense sign’, Guthrie (1967:14) has this to say:

commutable series of elements occurring jointly before and after the radical or simply in the latter position, are termed 'tense signs'. That part of a tense sign occurring finally is termed a 'suffix'. This definition means that among the tense signs will be found elements characteristic of forms known as 'conditional' or subjunctive in conventional grammatical description. The term 'tense' therefore is not limited to a reference to time.

In light of the foregoing, the terms PAST and ENDING used in (4) above must be regarded as mere conventions to refer to 'tense sign' and 'suffix' as defined by Guthrie.

The above discussion on the sentences in (4) and (5) was meant to show the kinds of transformations needed to yield a verb form in Tonga. We are now in a position to state that the necessary transformations are morphosyntactic. For instance, the element PREFIX will surface as a verb prefix (in agreement with some constituent, generally the head of subject NP) and will therefore be Chomsky-adjoined as a left-hand sister to V (see (4) above). Similarly, the element of TENSE (in this case PAST) will surface as 'tense sign' (possibly zero) and 'ending', both being Chomsky-adjoined as left-hand and right-hand sisters to V, respectively. The postverbal object pronouns are also Chomsky-adjoined as left sisters to V as illustrated in (4). Such postverbal pronouns are important to the present study inasmuch as they are arguments of the extended radicals being investigated.

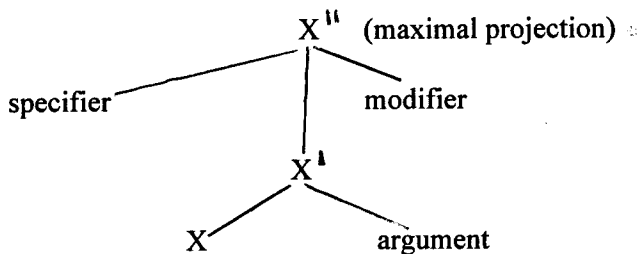
3.1. Arguments and Theta-roles

3.1.0 General

The Base Component of GB is made up of the lexicon and the categorial component (refer to 3.0. above) the latter being constrained by X^1 - Theory (see, for example Horrocks 1987:97) and Theta-Theory (Sells 1985:24). We assume (see Chapter Two) that the lexicon comprises among others derivational rules whose outputs are the extended radicals, including the applied verb (such as -limin- 'cultivate for' from -lim- 'cultivate'), the causative verb (such as -limi- 'cause to cultivate') and the passive verb (such as -limu- 'be cultivated'), the other elements found in the lexicon being roots, inflectional affixes, stems, lexemes, compounding word formation rules and inflectional word formation rules. Such extended radicals are among the terminals and are immediately dominated by the preterminal symbol V (=verb), in this case by V_{appl} , V_{caus} , V_{pass} , etc.

We assume for Tonga the same X^1 - scheme proposed for English by GB (Sells 1985:28):

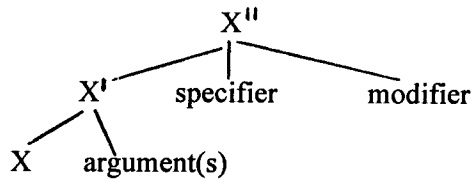
(7) X^1 - Scheme



In this study X is V (=verb) since we are dealing with verbs (i.e. extended verb radicals). It should be noted that there may be some instances when the Tonga phrasal structure may not

directly fit into this scheme. We might modify the X^1 - Scheme in (7) in a way that reflects the surface canonical word order in Tonga. Unlike in English, it is a general rule that elements which can be specifiers in Tonga follow the head:

(8)



Nevertheless this should not present any problem in the study of verb extensions [4].

3.1.1. The Applied Extension

When a verb is applicativised (see Chapter Two, 2.3), all the original arguments (i.e arguments of the simplex verb) are retained together with their respective theta-roles. In addition, applicativisation brings in a new argument. Consider, for instance, (9) and (10) (the extensions associated with the theta-roles and the arguments, as is the case for all the examples that are given in this chapter, are underlined).

- (9) a. mulombwana wakabeleka (u-aka-belek-a)
 (lit. the-man-he-worked)
 'the man worked'
- b. mulombwana wakabelekelea (u-aka-belek-il-a) mukaintu
 (lit. the-man-he-worked-for-the woman)
 'the man worked for the woman'
- c. *mulombwana wakabelekelea (u-aka-belek-il-a)
 (lit the-man-he-worked for)

‘the man worked for’

- (10) a. coolwe wasowa (u-a-sow-a) mpesulo
 (lit. coolwe-he-has-lost-the pencil)
 ‘Coolwe has lost the pencil’
- b. coolwe wasowela (u-a-sow-il-a) mutinta mpesulo
 (lit. coolwe-he-has-lost-of-mutinta-the pencil)
 ‘Coolwe has lost the pencil of Mutinta’
- c. *coolwe wasowela (u-a-sow-il-a) mpensulo
 (lit. coolwe-he-has-lost-the pencil)
 ‘Coolwe has lost the pencil of’

In (9) and (10) the simplex radicals are -belek- ‘work’ and -sow- ‘lose’ respectively. The former, -belek- ‘work’, is a one-place predicate, the argument being an external argument (subject), while -sow- ‘lose’ is a two-place predicate, the two arguments being an agentive external argument and a theme internal argument. We see that in (9b) and (10b) new arguments have emerged in addition to the arguments associated with the simplex radical. It is important to note that not only have -belekel- and -sowel- retained the number of arguments of -belek- and -sow-, respectively, but also the theta-roles of these arguments. The fact that applied verbs retain all the arguments of the simplex verbs together with their theta-roles will be referred to as Argument Inheritance and we shall refer to the fact that applicativisation brings in a new argument as Argument Increment.

(11) **Argument Inheritance Principle**

An applied verb retains all the arguments and theta-roles associated with the simplex verb radical.

(12) **Argument Increment Principle**

The number of arguments of an applied verb is equal to the number of arguments of the simplex radical plus one

From these two principles, (11) and (12), we conclude that in a sentence whose verb is an applied verb one argument is associated with the applied extension while the other argument(s) is/are associated with the base (simplex radical). The necessity for the application of the principle in (12) can be noticed in the sentences in (9c) and (10c), above, which are ungrammatical due to the fact that the arguments associated with the extension are missing.

As already seen in the Literature Review, in his grammar of Rwanda, Coupez (1961:92-96) has referred to internal arguments associated with the simplex radical as radical complements ('complements du radical') and those associated with extensions as suffix complements ('complement du suffixe'). This is not surprising since in examples such as (9b) and (10b) the applied extension plays the role of a preposition in English, as shown in the glosses.

One striking feature of the applied extension is the multiplicity of its uses. The main functions of the applied extension and the particular semantic properties of the accompanying arguments is

to signal the theta-roles listed in (13) through (20) with examples (the applied extensions and their arguments concerned are underlined).

(13) **Benefactive**

- a. mulombwana wakabeleka (u-aka-belek-a)
 (lit. the man-he-worked)
 ‘the man worked’
- b. mulombwana wakabelekela (u-aka-belek-il-a) mukaintu
 (lit. the man-he-worked-for the woman)
 ‘the man worked for the woman’

(14) **Possessive**

- a. coolwe wasowa (u-a-sow-a) mpensulo
 (lit. coolwe-he-has-lost the pencil)
 ‘Coolwe has lost the pencil’
- b. coolwe wasowela (u-a-sow-il-a) mutinta mpensulo
 (lit. coolwe-he-has-lost-of- mutinta pencil)
 ‘Coolwe has lost the pencil of Mutinta’

(15) **Purpose**

- a. mulombwana wakabeleka (u-aka-belek-a)
 (lit. the man-he-worked)
 ‘the man worked’
- b. mulombwana wakabelekela (u-aka-belek-il-a) mali
 (lit. the man-he-worked for-money)
 ‘the man worked for money’

16) **Location**

- a. bana bakalya (ba-aka-li-a) nyama
(lit. the children-they-ate meat)
'the children ate the meat'
- b. bana bakalijila (ba-aka-li-il-a) nyama mung'anda [5]
(lit. the children-they-ate-the-meat in the house)
'the children ate the meat in the house'

(17) **Goal**

- a. mutinta bakamutuma (ba-aka-mu-tum-a)
(lit. mutinta-they-sent her)
'Mutinta was sent'
- b. mutinta bakamutumina (ba-aka-ma-tum-il-a) kulusaka
(lit. mutinta-they-had-her-sent to lusaka)
'Mutinta was sent to Lusaka'

(18) **Source**

- a. coolwe wakazwa (u-aka-zu-a)
(lit. coolwe-he-came out)
'Coolwe came out'
- b. coolwe wakazwila (u-aka-zu-il-a) kuchoma
(lit. coolwe-he-came-from choma)
'Coolwe came from Choma'

(19) **Passage**

- a. *babbi bakanjila (ba-aka-njil-a)

(lit. the thieves-they-entered)

'the thieves entered'

- b. babbi bakanjilila (ba-aka-njil-il-a) a mulyango

(lit. the thieves-they-entered-through the door)

'the thieves entered through the door'

(20) **Reason**

- a. wakafwa (u-aka-fu-a)

(lit. he/she-died)

'he/she died'

- b. wakafwila (u-aka-fu-il-a) bubbi

(lit. he/she-died-for stealing)

'he/she died because of stealing'

- c. wakazapula (u-aka-zapul-a) bbuku

(lit. he/she-tore-the-book)

'he/she tore the book'

- d. wakazapulila (u-aka-zapul-il-a) kunyema bbuku

(lit he/she-tore-the-book-out of being angry)

'he/she tore the book out of anger'

Besides signalling the theta-roles listed and exemplified in (13) through (20), the applied extension is also found in a few other types of constructions, one of which will be discussed later. For the time being, we shall confine our discussion to the theta-roles in (13) through (20).

Of the eight theta-roles in (13)-(20), two are non-adverbial while all the other six are adverbial:

(a) **non-adverbials**

- (i) benefactive

(ii) possessive

(b) **adverbials**

(i) place (1) locative

(2) goal

(3) source

(4) passage

(ii) non-place (1) purpose

(2) reason

In fact, even the other minor uses of the applied extension are adverbial. However, despite the predominance of adverbial functions, the benefactive theta-role is the most familiar and important because it is the most frequent. The high frequency and hence familiarity of the benefactive theta-role has led some writers and Bantuists to tend to ignore all the other theta-roles signalled by the applied extension or to refer to the applied extension as the 'benefactive extension' (see for example Kunene 1987, who has referred to the applied extension under a general term of the 'benefactive extension'). It seems reasonable to assume that the high frequency of the benefactive theta-role is due to the fact that, unlike the other theta-roles in (13)-(20), the benefactive theta-role is always associated with, that is, only signalled by the applied extension. For instance, while (14b) above (repeated as (21a) below) in which the applied extension signals possession, can be paraphrased as (21b), it is extremely difficult, if not impossible, to express the benefactive theta-role by other means than the applied extension [6].

(21) a. coolwe wasowela (u-a-sow-il-a) mutinta mpensulo

(lit. coolwe-he-has-lost-of- mutinta the pencil)

‘Coolwe has lost the pencil of Mutinta’

b. coolwe wasowa (u-a-sow-a) mpensulo yakwa mutinta

(lit. coolwe-he-has-lost-the pencil-of mutinta.

‘Coolwe has lost the pencil of Mutinta’

In (21b) instead of the applied extension, yakwa, a genitive pronoun meaning ‘of’ or ‘belonging to’ is used. The fact that yakwa ‘of’ performs the same function as the applied extension can be noticed in the ungrammatical sentence at (22) in which both the applied extension and yakwa have been used.

(22) *coolwe wasowela (u-a-sow-il-a) mpensulo yakwa mutinta.

(lit. coolwe-he-has-lost-for-pencil-of mutinta)

‘Coolwe has lost for the pencil of Mutinta’

Not only does the applied extension signal several types of theta-roles, as shown in (13) through (20), but the same applied verb depending on the semantics of the verb root and that of the head nouns of the arguments may express several theta-roles, as illustrated in (23) below.

(23) a. mulombwana wakabeleka (u-aka-belek-a)

(lit. the man-he-worked)

‘the man worked’

b. mulombwana wakabelekela (u-aka-belek-il-a) mukaintu (BENEFACTIVE)

(lit. the man-he-worked-for-the woman)

‘the man worked for the woman’

- c. mulomwana wakabelekelela (u-aka-belek-il-a) mali (PURPOSE)
 (lit. the man-he-worked-for money)
 ‘the man worked for money’
- d. mulombwana wakabelekelela (u-aka-belek-il-a) mung’anda (LOCATION)
 (lit. the man-he-worked-in the house)
 ‘the man worked in the house’
- e. mulombwana wakabelekelela (u-ak-belek-il-a) bucete (REASON)
 (lit. the man-he-worked-because of poverty)
 ‘the man worked because of poverty’

Further, the same arguments may be thematically ambiguous. Thus the argument underlined in (24) can express either the benefactive theta-role or the purpose theta-role.

- (24) mulombwana wakabelekelela (u-aka-belek-il-a) mukaintu
 (lit. the man-he-worked-for the woman)
- (i) ‘the man worked for the woman’ (BENEFACTIVE)
- (ii) ‘the man worked in order to get the woman (PURPOSE).

From the examples in (23) and especially the one in (24) one may infer that applicativisation in Tonga ‘violates’ the first clause of the theta-criterion:

- (25) **Theta - Criterion**
- a. Each argument bears one and only one theta-role.
- b. Each theta-role is assigned to one and only one argument

If we were given only the type of examples in (23), and not (24), the Theta-Criterion would be salvaged as follows: the applied verb, -belekel-, in this case, is thematically ambiguous (in that the internal argument associated with the applied extension can be BENEFACTIVE, PURPOSE, etc.) and what theta-role is expressed entirely depends on the semantic nature of the head of the argument, NP. What semantic feature(s) of the internal argument determine(s) what thematic interpretation is an empirical question. For instance, if the internal argument associated with the applied verb is a locative phrase whose head has a locative prefix as in mung'anda 'in house' in (23) where mu- is a locative prefix), the theta-role is PLACE (simple LOCATION in 23d). Similarly, because of the meaning of mali 'money', (23c) cannot be interpreted as 'the man worked for the benefit of money' (BENEFACTIVE).

To sum up our discussion of (23), these examples do not violate clause (25a) of the Theta-Criterion since in each case in (23) and (24), each argument bears one and only one theta-role and each theta-role is assigned to one and only one argument. Note that the theta-criterion does not say, or imply, that a predicate cannot be thematically polysemous.

The example in (24) is a case which apparently 'violates' the first clause of the Theta-Criterion since the same argument, mukaintu 'woman', bears two theta-roles (BENEFACTIVE and PURPOSE). However the examples in (24) do not 'violate' the first clause of the Theta-Criterion because at any time both the addresser and the addressee will choose not both theta-roles but either the benefactive theta-role or the purpose theta-role, though not necessarily the same theta-role. Which theta-role is chosen depends on the context of communication. A

sentence 'violates' the first clause of the theta-criterion if and only if a given argument bears more than one theta-role at the same time and in the same context of communication.

So far the discussion concerning the theta-criterion has shown two things. Firstly, an applied verb may be thematically polysemous in the sense that not all arguments associated with the applied extension have the same theta-role but this (as can be seen in 23) does not 'violate' the first clause of the Theta-Criterion since in a given sentence the internal argument (associated with the applied extension) has one and only one theta-role. Secondly, cases like (24) where the same internal argument of the same applied verb is thematically ambiguous do not 'violate' the first clause of the theta-criterion either since in a given context of communication, the internal argument concerned will bear one and only one theta-role. This follows from the fact that language use is always in a given context of communication. Therefore, we see that as far as applied verbs are concerned, for Tonga the formulation of the theta-criterion should be revised as follows:

(26) **Theta-Criterion Revised**

- a. In a given context of communication, each argument bears one and only one theta-role.
- b. each theta-role is assigned to one and only one argument.

We have identified the lexical meaning of a particular argument and the context of communication as two variables in the thematic interpretation of internal arguments associated with, or signalled by, the applied extension. In some cases it is, however, the meaning of the simplex radical which is the determining factor, as shown in (27).

- (27) a. wakazwija (u-aka-zu-il-a) kumutendere (SOURCE)
 (lit. he-came-from mutendere)
 ‘he came from Mutendere’
- b. wakanjilija (u-aka-njil-il-a) kumutendere (PASSAGE)
 (lit. he-entered-through mutendere)
 ‘he entered (e.g. Lusaka) through Mutendere’

The argument kumutendere, is a SOURCE in (27a) but a PASSAGE in (27b) on the strength of the meaning of the base -zu- ‘come from’ in (27a) and the base -njil- ‘enter’ in (27b), respectively. We now turn to an idiosyncratic feature of place arguments signalled by the applied extension. Consider the sentences in (28a) and (28b), with and without the applied extension, respectively.

- (28) a. bakalya (ba-aka-li-a) nsima anze (LOCATION)
 (lit. they-ate-nsima outside)
 ‘they ate nsima outside’
- b. bakalija (ba-aka-li-il-a) nsima anze (LOCATION)
 (lit. they-ate-nsima outside)
 ‘they ate nsima outside’

Although the English glosses in (28a) and (28b) are identical, the Tonga sentences in (28a) and (28b) are somehow different. The difference is either in terms of the presence of old/new information or in terms of the presence or absence of emphasis.

The concepts of old and new information with reference to the applied extension are discussed by Chanda (1985), who argues that the semantic interpretation of sentences such as those in (28a) and (28b) differs. He states that our understanding of (28a) is simply that someone ate nsima outside while (28b) is more complex and introduces two situations. Not only does (28b) reveal that someone ate nsima but also makes a firm statement of the fact that that eating took place outside. According to Chanda (1985:31), in (28b) the fact that someone ate is old information while the fact that the eating took place outside is the new information that (28b), unlike (28a), introduces by the use of the applied extension. Thus, whereas everything is new information in (28a) only the locative argument, anze 'outside', is new information in (28b). According to this interpretation of the difference between (28a) and (28b), we can in logical terms say that in (28b), unlike in (28a), the speaker is making a conjunction of two propositions, p and q (where p = they ate nsima and q = the eating of the nsima took place outside).

The fact that (28a) and (28b), which have the same English glosses, should not be understood to have exactly the same meaning can be noticed from the fact that as an answer to the question in (29a), (28a), repeated here as (29b), is more appropriate than (28b), repeated here as (29c):

(29) a. hena bakacitanzi (ba-aka-cit-a-nzi)?

(lit. question-did-they-do-what?)

'what did they do?'

b. bakalya (ba-aka-li-a) nsima anze

(lit. they-ate-nsima-outside)

'they ate nsima outside'

- c. bakaliija (ba-aka-li-ij-a) nsima anze
 (lit. they-ate-nsima-outside)
 ‘they ate the nsima outside’

Similarly only (29c), and not (29b), can answer the questions in (30a) and (30b):

- (30) a. hena bakalya (ba-aka-li-ij-a) kuli?
 (lit. question-did-they-eat-from-where?)
 ‘where did they eat from?’
- b. hena bakaliija (ba-aka-li-ij-a) nsima kuli?
 (lit. question-did-they-eat-the-nsima-from-where?)
 ‘where did they eat the nsima from?’

From the arguments above we can conclude that statements like (29c) can only answer questions specifically asking for the location (where the activity denoted by the verb took place) while statements like (29b) answer questions specifically or mainly asking for information on what activity took place. However, (as noted by Chanda 1985:31), in questions specifically asking for the location, the verb does not always occur with the applied extension, -ij-. This can be noticed in (31a) which can be answered by (31b).

- (31) a. hena bakalya (ba-aka-li-a) nsima kuli?
 (lit. question-did-they-eat-the-nsima-where?)
 ‘where did they eat the nsima from?’
- b. bakalya (ba-aka-li-a) nsima anze
 (lit. they-ate-nsima-outside)

‘they ate nsima outside’.

Note that in English to emphasise the fact the eating of the nsima took place outside, stress (represented by capitalisation in (32) would be used):

(32) they ate nsima OUTSIDE

However, in some cases the presence or absence of the applied extension with place arguments cannot be interpreted in terms of old/new information or absence/presence of emphasis. One such case is illustrated in (33b).

- (33) a. bakaleta (ba-aka-let-a) mapopwe mumootoka
 b. bakaletela (ba-aka-let-il-a) mapopwe mumootoka

The sentence in (33a) has two possible readings: either

- a. ‘they brought the maize using the car
 as a means of transport’
 or
 b. ‘they brought the maize into the car (from somewhere)’

In contrast to (33a), (33b) has only the former reading of (33a). The following example also shows that the absence/ presence of the applied extension with place arguments is not always linked to the dichotomy old/new information or absence/presence of emphasis;

- (34) a. babbi bakanjila (ba-aka-njil-a) a cipulo (GOAL)
 (lit. the thieves-they-entered the hole)
 ‘the thieves entered the hole’

b. babbi bakanjijila (ba-aka-njil-il-a) a cipulo (PASSAGE)

(lit. the thieves-they-entered-through the hole)

‘the thieves entered through the hole’

There seems to be no rule which would predict which verbs require applicativisation to express a PASSAGE theta-role and cannot be applicativised to express a GOAL. In other words this is an idiosyncratic feature of certain movement verbs. Compare, for instance, (34) with (35) where the verb root is -tjj- ‘to run’:

(35) a. bakatija (ba-aka-tij-a) a cipulo (SOURCE)

(lit. they-ran-on-the hole)

‘they ran from the hole’

b. (i) bakatijila (ba-aka-tij-il-a) mucipulo (GOAL)

(lit. they-ran-appl-on-the hole)

‘they ran into the hole’

(ii) bakatijila (ba-aka-tij-il-a) a cipulo (GOAL OR PASSAGE)

(lit. they-ran-appl-on-the hole)

‘they ran through the hole’

We notice that while in (34a) the absence of the applied extension signals GOAL and the presence of the applied extension in (34b) signals PASSAGE only, in (35) the absence signals SOURCE, and not GOAL, while the presence signals either GOAL or PASSAGE (depending on the context of communication).

As pointed out earlier on, the applied extension is mostly used to signal the benefactive, possessive, location, goal, source, passage, purpose and reason theta-roles. Out of all these the benefactive theta-role is the only one which is always signalled by the applied extension. The instrumental theta-role may also be signalled by the applied extension as shown in (36e)

- (36) a. mupika
 ‘pot’
- b. kujika (ku-jik-a)
 ‘to cook’
- c. kujika (ku-jik-a) nsima
 ‘to cook nsima’
- d. *mupika wakujika (u-a-ku-jik-il-a) nsima
 (lit. the pot-of/for-cooking nsima)
- e. mupika wakujikila (u-a-ku-jik-il-a) nsima (INSTRUMENT)
 (lit. the pot-of-cooking-in nsima)
 ‘the pot for cooking nsima in’

In (36e) wa literally translates as ‘of’. The marking of instrumental arguments with the applied extension is mainly found with sentences that have fronted instrument arguments. [7] When the instrumental argument is placed before the verb as in English constructions of the type.

‘a knife for cutting meat with’

the English for in such constructions is rendered in Tonga by a genitive pronoun which is a word literally meaning 'of' and surfaces as 'wa', 'ca', 'ya', etc. depending on the noun class of the instrumental argument in the sentence. This can be seen in (36e) above and (37a and b) below:

- (37) a. cipeni ca kutendela (ci-a-ku-tend-il-a) cisyu
 (lit. the knife-of-cutting-with relish)
 'the knife for cutting relish with'
- b. mpensulo ya kulembela (i-a-ku-lemb-il-a) magwalo
 (lit. the pencil-of-writing-with letters)
 'the pencil for writing letters with'

We can also notice from the above that instrumentals with the applied extension are only found in constructions of the form NP + Genitive phrase in which the genitive pronoun is followed by an agentive infinitive and that in such constructions the constituent associated with the applied extension, which is the instrumental noun phrase, does not follow but precedes the applied verb. We shall argue below that at d-structure they do follow the applied verb. When the instrumental noun phrase is not fronted or does not precede the verb, it cannot be signalled by the applied extension but by the instrumental preposition a 'with'. (38), (39) and (40) illustrate this.

- (38) a. mutinta wakalemba (u-aka-lemb-a)
 (lit. mutinta-she-wrote)
 'Mutinta wrote'
- b. *mutinta wakalembela (u-aka-lemb-il-a) lugwalo (a) mpensulo
 (lit. mutinta-she-wrote with a letter with a pencil.)

- c. mutinta wakalemba (u-aka-lemb-a) lugwalo a mpensulo
(lit. mutinta-she-wrote a letter with a pencil)
'Mutinta wrote a letter with a pencil'
- (39) a. mutinta wakatenda (u-aka-tend-a)
(lit. mutinta-she-cut)
'Mutinta cut'
- b. *mutinta wakatendela (u-aka-tend-il-a) cisya (a) cipeni
(lit. mutinta-she-cut-with-relish-with a knife)
- c. mutinta wakatenda (u-aka-tend-a) cisyu a cipeni
(lit. mutinta-she-cut-relish-with a knife)
'Mutinta cut relish with a knife'
- (40) a. mudaala wakafweba (u-aka-fweb-a)
(lit. the old-man-he smoked)
'the old man smoked'
- b. *mudaala wakafwebela (u-aka-fweb-il-a) tombwe (a) mpaipi
(lit. the old man-he-smoked-with-tobacco with a pipe)
- c. mudaala wakafweba (u-aka-fweb-a) tombwe a mpaipi
(lit. the old man-he-smoked-tobacco with a pipe)
'the old man smoked tobacco with a pipe)

What we have seen so far on the applied extension may be summed up as follows:

- a. Among the arguments of the applied verb a distinction must be made between

- (i) arguments associated with the base, and these are always retained when a verb is applicativised, under the Argument Inheritance Principle, presented at (11) above; and
 - (ii) arguments associated with the applied extension under the Argument Increment Principle at (12) above;
- b. the applied extension is associated with several theta-roles (thematic multiplicity) and a given applied verb may be thematically polysemous (thematic polysemy) and even thematically ambiguous (thematic ambiguity);
 - c. despite (b), applicativisation in Tonga does not 'violate' the Theta-Criterion;
 - d. at s-structure, unlike at d-structure, elements associated with the applied extension are not always in the domain of the applied verb, that is in the postverbal position;
 - e. thematic interpretation or recognition of the argument associated with the applied extension depends at least on one of the following variables;
 - (i) the meaning of the argument associated with the applied extension;
 - (ii) the meaning of the base radical; and
 - (iii) the context of communication.

If we combine the first clause of (b) and (e)(ii) above, the following statement is obtained:

the applied extension is associated with several theta-roles but/and the thematic interpretation (recognition) of the theta-role associated with the applied extension may depend on the meaning of the base.

This statement calls for an answer to, or (at least) a discussion of, the following question:

which meaning(s) of the base allow (s) or is (are) associated with which theta-role(s)?

A satisfactory answer to this question would require an extensive study of verbs in Tonga, a study which we would like to carry out outside this dissertation. Nevertheless the following can already be noted:

- a. most bases allow benefactive arguments; most exceptions are to be found among stative verbs such as the English ‘love’, ‘think’, ‘resemble’. This can be noticed in (41).
- (41) a. *ndakuyandila (n-a-ku-yand-il-a)
*‘I love for you’
- b. *ndakuyeyela (n-a-ku-yey-el-a)
*‘I think for you’
- c. *ndakukozyela (n-a-ku-kozy-il-a)
*‘I resemble for you’
- b. only transitive bases allow possessive arguments since in applied verbs with possessives the possessed NP is a direct object of the base (see (14) above). Notice, however, that in Tonga, like Rwanda, (Kimenyi 1978) inalienable possession is not marked by the applied extension. In Tonga this applies to parts of the body only. In such cases the possessor argument is identified by the fact the it immediately follows the verb, as can be seen in (42) and (43).

- (42) a. mukaintu ukamuna (u-kamun-a) mwana masusu
(lit. the woman-is-combing-the child-hair)
‘the woman is combing the child’s hair’
- b. *mukaintu ukamunina (u-kamun-il-a) mwana masusu

(lit. the woman-is-combing-for-the-benefit-of-the child-hair)

'the woman is combing for the child's hair'

(43) a. musankwa watyola (u-a-tyol-a) mwana maulu

(lit. the boy-he-has-broken- the child-leg)

'the boy has broken the child's legs'

b. *musankwa watyolela (u-a-tyol-il-a) mwana maulu

(lit. the boy-he-has-broken-for-the-child-legs)

'the boy has broken for the child legs'

c. only movement verbs allow goal, source and passage arguments, as follows:

(i) goal: movement-to verbs and verbs such as -lamb- 'write' which may imply movement (e.g. a letter is written to)

(ii) source: only movement-from verbs

(iii) passage: in principle any type of movement verb.

d. most bases allow location, purpose and reason arguments.

e. bases of most action verbs allow instrumental arguments.

On statement (c) concerning movement verbs, it is worth noting that the verbs kuya, 'to go', and kuboola, 'to come', never allow applicativisation to signal goals although they are movement verbs par excellence.

That a base allows some theta-role does not entail that it allows any lexical item to assume that theta-role. This is shown in (44):

- (44) a. ndalemba (n-a-lemb-a)
 ‘I write’
- b. ndalembela (n-a-lemb-il-a) mutinta
 (i) ‘I write for mutinta’ (BENEFACTIVE)
 (ii) ‘I write to mutinta (GOAL)
- c. *ndalembela (n-a-lemb-il-a) mubwa
 (i) ‘I write for the dog’
 (ii) ‘I write to the dog’

Examples such as those in (44) illustrate the semantic restriction of applied verbs. The applied verb -lembel- in its benefactive/goal reading subcategorises for three arguments: an agent external argument which must be an entity capable of deciding to write and doing the writing; a patient argument (e.g. letter, book or report), which can be written (cf.* I wrote a bullet); and either a benefactive argument (an entity capable of directly benefiting from some writing or on behalf of which some writing can be done) or a goal argument (an entity to which some piece of writing can be sent for it to be read). The sentence in (44c) is unacceptable because the entity mubwa, ‘dog’, does not semantically/pragmatically qualify to be a beneficiary or a goal of a piece of writing. That mubwa ‘dog’ does not qualify to fill the position of a benefactive or goal argument is due to the meaning of -lemb- ‘write’. This is confirmed by such examples as (45) where it is acceptable as a benefactive argument.

- (45) a. wakajika (u-aka-jik-a)
 ‘she cooked’

- b. wakajikila (u-aka-jik-il-a) mubwa (BENEFACTIVE)
 ‘she cooked for the dog’

3.1.2. The Causative Extension

In Tonga, causativisation behaves exactly like applicativisation in terms of the number of arguments and their theta-roles. We therefore find that in both causativisation and applicativisation both the argument structure and the theta-roles of the argument of the base are retained (Argument Inheritance) and a new argument is created (Argument Increment). On the basis of this we can revise the Argument Inheritance Principle and the Argument Increment Principle formulated in (11) and (12) above as follows:

(46) Argument Inheritance Principle Revised

An applied or causative verb retains all the arguments and theta-roles associated with the simplex radical.

(47) Argument Increment Principle Revised

The number of arguments of an applied or causative verb is equal to the number of argument of the simplex radical plus one.

While in the case of the applied verb the new argument position can assume different theta-roles, the new argument brought about by causativisation is uniquely a cause argument. The cause, or causer (as we shall call it henceforth), is in general a type of agent. It is an agent the result of whose activity brings some state of affairs into being (Lyons 1977:489) (see also Sanfilippo

(1993:199). It causes some entity to do something, as in (48b), or to be something, as in (49b) (the verbs are underlined):

- (48) a. bana bakalima (ba-aka-lim-a) muunda
 (lit. the children-they-ploughed the field)
 ‘the children ploughed the field’
- b. hapunda wakalimya (u-aka-lim-i-a) bana muunda
 (lit. hapunda-he-made-cultivate-the children-the field)
 ‘Hapunda made the children cultivate the field’
- (49) a. bana bakanyema (ba-aka-nyema)
 (lit. the children-they-got angry)
 ‘the children got angry’
- b. hapunda wakanyemya (u-aka-nyem-i-a) bana
 (lit. hapunda-he-made-angry-the children)
 ‘Hapunda made the children angry’

What exactly a particular entity (e.g. Hapunda in (48) and (49) did to bring about a particular state of affairs is irrelevant here. As pointed out by Lyons (1977:490), there are cases where a situation is caused not by an agent but by another situation, as in (50).

- (50) his greed will cause him to die

Lyons (1977:491) proposes to distinguish between several types of causes such as direct as against indirect causation, coercive and non-coercive causation etc.

Just like in English, there are two morphological types of causative verbs in Tonga. These are illustrated in (51) and (52)

- (51) a. kufwa (ku-fu-a)
 'to die'
 b. kujaya (ku-jay-a)
 'to kill'
- (52) a. kulima (ku-lim-a)
 'to plough'
 b. kulimya (ku-lim-i-a)
 'to cause to cultivate'

The verb in (52b) is the causative counterpart of the verb in (52a). Likewise, (51b), paraphrasable as 'cause to die' is the causative counterpart of (51a). The difference between (51) and (52) is that in (52), but not in (51), the non-causative form and the causative form are morphologically related. (51b) and (52b) correspond to Tsonope's (1987) synthetic and analytic causatives, respectively. The present study is solely concerned with causatives of the type in (52).

Lyons (1977:491-4) makes a distinction between operative and factitive verbs. Operative verbs are those that involve the performance of an operation upon and affect a patient while factitive verbs denote a process or event whereby a cause produces an effect or result. For example, a verb such as 'kill' is both operative and factitive. Lyons presents this verb in the following schemata.

- (53) a. AFFECT (AGENT, PATIENT) (OPERATIVE)
 b. PRODUCE (CAUSE, EFFECT) (FACTITIVE)

The two schemata can be collapsed as follows:

- (54) produce (agent, effect) (operative, factitive)

On the basis of the schemata above, Tonga causative verbs can be said to be of three types, namely:

(55) operative (only)

(56) factitive (only)

(57) operative-factitive

as illustrated in (58-60),

(58) operative only

- a. mutinta wakakwezya (u-aka-kwel-j-a) cijazyo
 (lit. mutinta-she-made-to be-pulled the door)
 'Mutinta had the door pulled'

- b. mutinta wakaumya (u-aka-um-j-a) mwana
 (lit. mutinta-she-caused-to be beaten-the child)
 ‘Mutinta caused the child to be beaten’

When you have a door pulled, the door existed before the pulling. Similarly, when you have someone beaten, he existed before the beating. However, after the action both the door and the person who is beaten continue to exist. Operative-only verbs involve the carrying out of some action, which does not bring about something new, on something that is already in existence. Both the door and the child are the patients in this case.

(59) factitive only

- a. mutinta wakalembya (u-aka-lemb-j-a) lugwalo
 (lit. mutinta-she-caused-to be written-the letter)
 ‘Mutinta caused the letter to be written’
- b. mutinta wakayasya (u-aka-yak-j-a) ng’anda
 (lit. mutinta-she-made-to be built-the house)
 ‘Mutinta had the house built’

When you have a letter written, the letter did not exist before the writing and when you have a house built, the house did not previously exist. Factitive verbs result in the production of something that did not exist before.

(60) Operative-factitive

- a. mutinta wakajayisya (u-aka-jay-isi-a) coolwe

(lit. mutinta-she-caused-to be killed coolwe)

‘Mutinta caused Coolwe to get killed’

b. mutinta wakatyozya (u-aka-tyol-i-a) tebule

(lit. mutinta-she-caused-to be-broken-the table)

‘Mutinta caused the table to be broken’

When you kill or break, an action is performed upon someone/something who/that is already in existence (OPERATIVE) and this results in a change in the state of that someone/something (FACTITIVE).

Since by definition only transitive verbs can be operative and -factitive and since all causative verbs are transitive, a given underived verb may be neither operative nor factitive while the causative counterpart is operative or/and factitive. Consider the following examples in (61)

(61) a. ng’ombe zyakafwa (zi-aka-fu-a)

(lit. the cattle-they-died)

‘the cattle died’

b. mutinta wakafwisya (u-aka-fu-isi-a) ng’ombe

(lit. mutinta-she-caused-to-die-the cattle)

‘Mutinta caused the cattle to die’

The simplex verb root -fu- in (61a) is neither operative (there is no agent and no patient) nor factitive (there is an effect, death, but the cause is not expressed). In contrast, the causativised

verb root -fwisi- (-fu-isi-) in (61b) is at least factitive: in addition to the effect, death, the (direct or indirect) cause, mutinta, is expressed. Furthermore, if mutinta performed some action upon the cattle it is also operative.

Semantically, there are two types of causative constructions. These are:

- (i) those that indicate that the causer argument causes the causee argument to perform the action denoted by the verb (x causes y to do z) as in (62b)

- (62) a. coolwe wakalima (u-aka-lim-a) muunda
(lit. coolwe-he-ploughed-the-field)
'Coolwe ploughed the field'
- b. mutinta wakalimya (u-aka-lim-i-a) coolwe muunda
(lit. mutinta she caused to cultivate coolwe the field)
Mutinta caused Coolwe to cultivate the field'

- (ii) those that indicate that the causer argument causes the causee argument to be something (x causes y to be z) as in (63b)

- (63) a. coolwe wakanyema (u-aka-nyem-a)
(lit. coolwe-he-got-angry)
'Coolwe got angry'
- b. mutinta wakanyemya (u-aka-nyem-i-a) coolwe
(lit. mutinta-she-caused-to-get-angry-coolwe)
'Mutinta caused Coolwe to get angry'

In (62b) and (63b) mutinta is the causer while coolwe is the causee. However, this distinction mirrors between action simplex radicals and state simplex radicals.

As has been pointed out and can be noticed above, the new argument position brought about by causativisation can bear one and only one theta-role (causer) although there are several types of causation. This means that 'cause', 'causer' and 'causativised' are semantic notions while 'applied' is a mere cover symbol, by virtue of the fact that it covers several different types of theta-roles. We now turn to the discussion of some semantic-syntactic aspects of causativisation.

Consider the following sentences.

- (64) a. mutinta wakalima (u-aka-lim-a) muunda
 (lit. mutinta-she-cultivated-the-field)
 'Mutinta cultivated the field'
- b. muwelewele wakalimya (u-aka-lim-i-a) mutinta muunda
 (lit. muwelewele-he-caused-to-cultivate-mutinta-the-field)
 'Muwelewele caused Mutinta to cultivate the field'
- c. muwelewele wakalimya (u-aka-lim-i-a) muunda
 (lit. muwelewele-he-caused-to-be-cultivated-the-field)
 'Muwelewele caused the field to be cultivated'

Just as in applicativisation where some argument (s) is (are) associated with the base and one argument is associated with the applied extension, in causativisation one argument (the causer) is associated with the causative extension. Thus in (64 b and c), the external argument (agentive

experiencer in (66a) is ‘internalised; in other words it is ‘demoted’ to the position of an internal argument. ‘Demoted’ is taken here in the sense in which it is used in Relational Grammar (see, for instance, Kimenyi 1978). On the other hand, applicativisation does not result in the demotion of the former external argument.

The data at our disposal suggests that in causativisation we can demote any type of subject argument. Here are some examples:

(67) a. coolwe wakawa (u-aka-u-a)

|

PATIENT

(lit. coolwe-he-fell-over)

‘Coolwe fell over’

b. mutinta wakawisya (u-aka-u-isi-a) coolwe

|

|

CAUSER

PATIENT

(lit. mutinta-she-caused-to-fall-over-coolwe)

‘Mutinta caused Coolwe to fall over’

(68) a. coolwe wakanyema (u-aka-nyem-a)

|

EXPERIENCER

(lit. coolwe-he-got-angry)

‘Coolwe got angry’

- b. mutinta wakanyemya (u-aka-nyem-i-a) coolwe
 | |
 CAUSER EXPERIENCER
 (lit. mutinta-she-caused-to-get-angry-coolwe)
 ‘Mutinta caused Coolwe to get angry’

- (69) a. coolwe wakatenda (u-aka-tend-a) nyama
 |
 AGENT
 (lit. coolwe-he-cut-meat)
 ‘Coolwe cut meat’

- b. mutinta wakatenzya (u-aka-tend-i-a) coolwe nyama
 | |
 CAUSER AGENT
 (lit. mutinta-she-caused-to-cut-coolwe-meat)
 ‘Mutinta caused Coolwe to cut meat’

- (70) a. talakita lyalima (li-a-lim-a) muunda
 |
 INSTRUMENT
 (lit. the-tractor-it-has-cultivated-the-field)
 ‘the tractor has cultivated the field’

b. mutinta walimya (u-a-lim-i-a) talakita muunda

CAUSER	INSTRUMENT

(lit. mutinta-she-has-caused-to-cultivate-the-tractor-the-field)

‘Mutinta has cultivated the field with the tractor’

It is pointed out at the beginning of this section that causativisation, like applicativisation, creates one additional argument position. It is worth noting that the ‘demoted’ argument is always the first internal argument in a structured argument structure, the one occupying the first post-verbal position at s-structure (refer to Grimshaw 1992 for the concept of ‘structured argument structure’). This is readily apparent in (70b) above, in which the former instrumental subject (talakita ‘tractor’) is the first internal argument appearing before muunda ‘field’ which was the only internal argument in (70a).

Consider now the example in (71)

(71) muwelewele wakalimya (u-aka-lim-i-a) muunda

(lit. muwelewele- he-caused-to- be-cultivated-the-field)

‘Muwelewele caused the field to be cultivated’

Given the argument structure of -limi- ‘cause to cultivate’ in (65b), the argument structure in

(71) is as follows:

(72)	-limi ₃ , 'cause to cultivate'	(X	(Y	(Z)))
	CAUSER	AGENT	PATIENT	
	muwelewele	e	muunda	

where *e* means 'empty'. Therefore, (71) is to be interpreted as follows:

(73)	muwelewele caused - to cultivate	e	muunda
	CAUSER	VERB	AGENT PATIENT

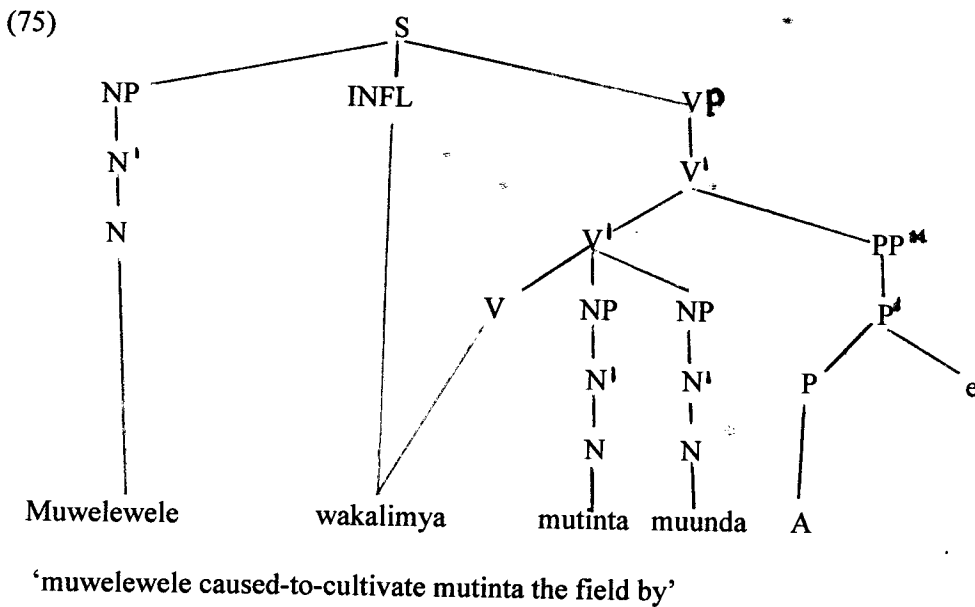
In other words, (73) means that 'muwelewele made someone cultivate the field', where someone is an unspecified argument (agent). However, it is shown in (74) that when the agent position is empty, the sentence may include an adverbial of agency similar to the English by-phrase in passives:

(74)	muwelewele	wakalimya (u-aka-lim-i-a)	mutinta	muunda	A	e
	'muwelewele caused-to-cultivate		mutinta	the field	by	e
	CAUSER		AGENT	PATIENT		AGENT

→(move alpha)

muwelewele	wakalimya (u-aka-lim-i-a)	t	muunda	A	mutinta
‘muwelewele	caused-to-cultivate	t	he field	by	mutinta
CAUSER			PATIENT		AGENT

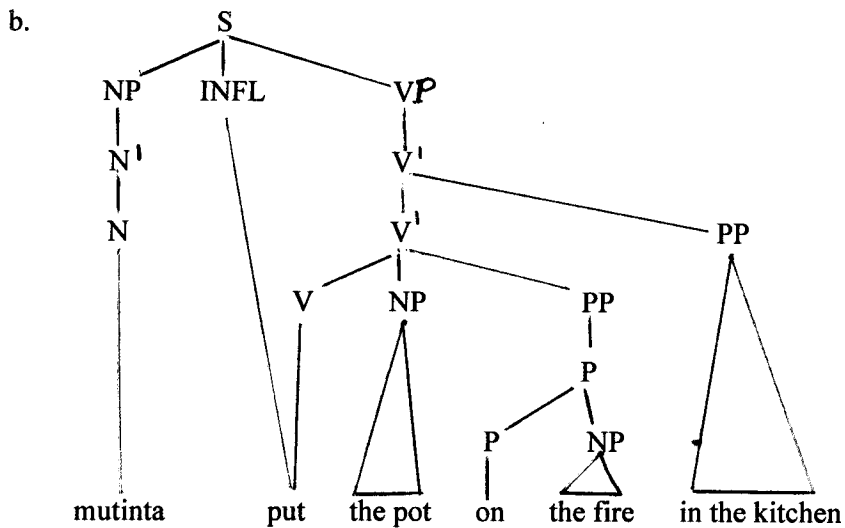
Note that there are two AGENT positions in (74) but this sentence does not ‘violate’ the theta-criterion (which says that ‘each argument bears one and only one theta-role and each theta-role is assigned to one and only one argument’). As a matter of fact, the constituent A e (by e) is not an argument of the verb in (74) as shown by the structure in (75)



What (74) means is that it is possible to have two AGENT positions with the same predicate on condition that only one is an A-position (cf O-criterion). This is also possible with other types

of theta-roles, for example location as exemplified in (76b), showing the argument structure of (76a).

(76) a. Mutinta put the pot on the fire in the kitchen



Intuitively, the entity represented by e (empty item) must be coreferential with mutinta as follows:

(77) muwelewele wakalimya e muunda a mutinta

The phenomenon of empty category with causativised verbs must be dealt with. Firstly, the position of the external argument can also be empty, as can be noticed in the example below.

(78) a. wakalimya (u-aka-lim-i-a) mutinta muunda
 (lit. he-made-to cultivate-the field- mutinta)
 'he made Mutinta cultivate the field'

b.	e	<u>wakalimya</u> (u -aka-lim-i-a)	mutinta	muunda
	e	caused-to-cultivate	mutinta	the field
	CAUSER		AGENT	PATIENT

In (78b) u is a class 1 verbal prefix, e designates an empty noun phrase whose head is in class 1. This is possible because, in Tonga and other Bantu languages the verb has a resumptive class prefix referring to the subject. In (78) the resumptive subject prefix is w- (from u). What this means is that e is not entirely 'empty' but has the feature (+class 1), since the subject prefix w- from (u-) is only possible if the subject head noun is in class 1. In effect, the subject prefix in (78) is coindexed with e as follows:

(79)	e'	<u>w</u> _i <u>akalimya</u>	mutinta	muunda
	CAUSER			

Secondly, the position of the patient argument may be empty as well.

(80)	a.	muwelewele wakalimya (u-aka-lim-i-a)	mutinta
		(lit. muwelewele-he-made-to-cultivate-mutinta)	
		'Muwelewele made Mutinta cultivate'	

b.	muwelewele / e _i	<u>wakalimya</u>	mutinta	e _j
	CAUSER		AGENT	PATIENT

	'muwelewele / e _i	caused	mutinta to cultivate	e _j
	CAUSER		AGENT	PATIENT

Compare now (81a), (a repeat of (71)), and (81b) (taken from (80))

- (81) a. muwelewele wakalimya (u-aka-lim-i-a) muunda
 (lit. muwelewele-caused-to-cultivate-the-field)
 'Muwelewele had the field cultivated'
- b. muwelewele wakalimya (u-aka-lim-i-a) mutinta
 (lit. muwelewele-caused-to-cultivate-mutinta)
 'Muwelewele caused Mutinta to cultivate'

In both (81a) and (81b), there is only one internal argument. Given this fact and the argument structure of -limi-, 'cause to cultivate', in (64b), how do we know as listeners or readers that the internal argument is a patient in (81a) and an agent in (81b)? We have already answered similar questions for applied arguments. The answer to the above question is that we know what kind of entity can be an agent of cultivation and what kind of entity can be cultivated (patient). However, some cases are ambiguous and therefore have to be disambiguated pragmatically. (82) is one such case.

(82) muwelewele wakalisya (u-aka-li-isi-a) mubwa

(Here -lisi-, 'to cause to eat/feed', is the causativised form of -li-, 'to eat'). Because mubwa, 'dog', is a kind of entity that can eat and can be eaten (e.g. by a lion), the sentence in (82) has two possible readings.

- (83) a. 'muwelewele caused the dog to eat' (AGENT)
 b. 'muwelewele caused e to eat the dog' (PATIENT)
 (lit. muwelewele-caused-somebody/something-to-eat-the-dog)
 (i.e. 'Muwelewele caused the dog to be eaten')

Only the listener or reader who knows the context of communication can determine the correct meaning of the statement.

3.1.3 The Passive Extension

As a general rule, only transitive verbs can be passivised, although some transitive verbs (such as resemble in English) do not passivise (an example of passivisation of an intransitive verb in Tonga will be given later in this chapter). The most familiar passive construction is the one in which a d-structure internal patient surfaces as the subject. Since in the framework adopted in this study passivisation of verbs is in the lexicon, the sentence in (84a) is not syntactically (i.e. transformationally) derived from (84b).

- (84) a. coolwe wakalumwa (u-aka-lum-u-a) a mubwa
 (lit. coolwe-he-was-bitten-by-the-dog)

'Coolwe was bitten by the dog'

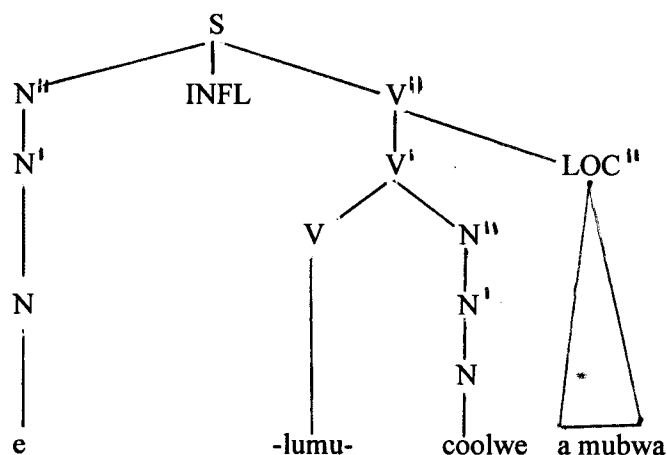
b. mubwa wakaluma (u-aka-lum-a) coolwe

(lit. the-dog-it-bit-coolwe)

'the dog bit Coolwe'

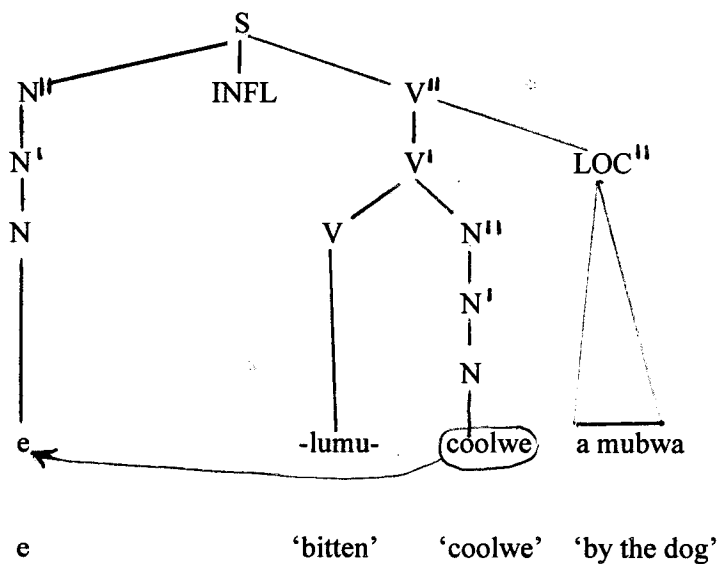
Rather, (84a) is derived from a structure like this

(85)

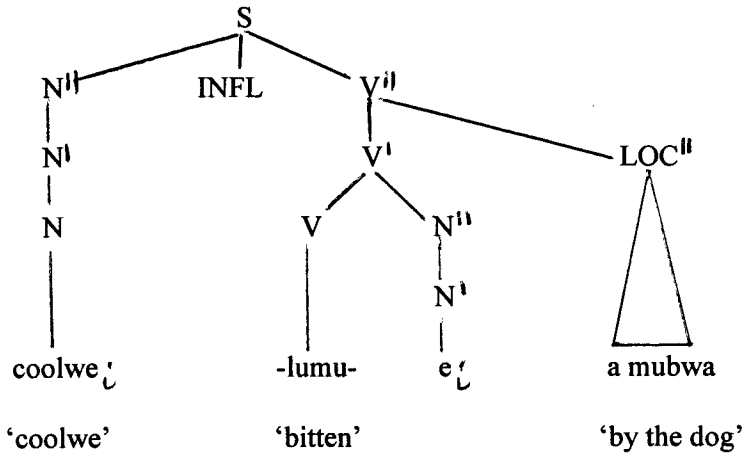


In this structure the prepositional phrase 'by a dog' is rendered in Tonga by a locative NP. The rule move-alpha, whose operation in the case at hand is shown in (86a), transforms the structure in (85) into (86b) (see for further details, Sells 1985: 21-2)

(86) a.



b.



In (86b) coolwe and e stand for a coreferential chain, coolwe/e. The e representing the subject in (85) and (86a) is different from the e (e) in (86b). The former is an 'empty' NP in the sense that at d-structure the subject position is not filled by any lexical material. The latter is a trace: the trace of the NP moved by move-alpha; hence its being coindexed with the moved NP, with which it forms a chain. As can be seen when comparing (86b) and (85) the structure has been preserved. It is due to the Projection Principle and some GB-based rules that a structure must be preserved (see, for example, Sells 1985:33 Radford 1988: 391) as follows:

(87) **Projection Principle**

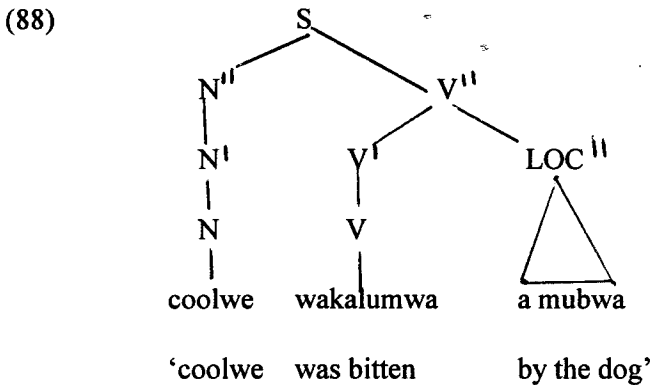
representations at each syntactic level are projected from the lexicon in that they observe the subcategorisation properties of lexical items.

On the Projection Principle, Sells (1985:42) says that

given the Projection Principle, once some syntactic position exists, it must have existed and must always exist, within the context of derivation (a 'derivation in this usage is one d-structure --- s-structure ---LF sequence).

It is important to note that in our treatment of passive sentences, we follow the GB position and assume that the external argument of any passivised verb is 'empty', that is not filled by any lexical material at d-structure. Despite this, its position in the s-structure (which is the subject position) exists right from the d-structure. This is in line with the Extended Projection Principle in GB which asserts that **all clauses have subjects**. (see, for instance, Sells 1985:34, Heageman 1995:68-9)

At PF (Phonetic Form), (84a) is something like this:



One of the things happening at PF is the erasure of all material in the (postverbal) patient argument position, the rule being that at PF all positions not filled by any lexical material are erased; in short, they are not represented. Just as \triangle under a mubwa 'by the dog' means that a mubwa is a complex constituent (following a standard convention), the \triangle under V (verb) means

that the verb form wakalumwa, ‘was bitten by’, is a complex word. The verb for wakalumwa ‘was bitten’ (lit. she was bitten) is morphologically structured as in (89)

(89) u-aka-lum-u-a

in which u- = class 1 subject prefix in agreement with the s-structure subject, coolwe ‘coolwe’, -aka- = preradical ‘tense sign’, -lum- = simplex verb radical ‘bite’, -u- = passive extension and a- = postradical ‘tense sign’ (=ending). (For the terms ‘tense sign’ and ‘ending’ see 3.0. above). However, we should take note that in this study -u- and -lum- should not be separated since -lum-u- ‘be bitten’, is treated as a single lexical item, in line with the theoretical model (GB) we are employing which states that the passive forms of words are not derived from their active counterparts but that they exist as separate passive forms in the lexicon. The items u-, -aka- and -a are the representation of INFL (= inflection) in (86b). The element u- is the morphologisation of PREFIX after the operation of a (syntactic) rule of subject-verb agreement and -aka- and -a are the morphologisation of ‘tense’. The necessary morphosyntactic rules involved are explained and illustrated in 3.0.

The next issue we want to tackle could have been dealt with in the lexicon (Chapter Two). It is not at all out of place here on account of the Projection Principle (see (87) and because it concerns, inter alia, at least some of the theta-roles of the applied extension, which were discussed in 3.1.1. and causativised verbs, which were discussed in 3.1.2. We will put this issue in the form of a question: **What can be passivised?**

This question is ambiguous as it can mean either (a) or (b) below:

- (a) What (kind of) verb can be passivised; that is, what can be the base of a passivised verb?
- (b) What (kind of) postverbal material can move into the empty subject position of a passivised verb?

We already gave a partial answer to (a) when at the beginning of this section we stated that, as a general rule, only transitive verbs can be passivised, although some transitive verbs do not passivise.

Consider the following sentences with -kal-, 'sit', and the corresponding passive -kalu- (-kal-u-) literally meaning 'be sat on'.

- (90) a. | mutinta | wakakala (u-aka-kal-a) | amunseme |
 1 2 3
 (lit. mutinta-she-sat-on-the-mat)
 ' | Mutinta | sat | on the mat |'
 1 2 3
- b. * amunseme | akakalwa (a-aka-kal-u-a) | amutinta
 1 2 3
 (lit. | on-the-mat | was-sat | by-mutinta |
 1 2 3
 'the mat was sat on by Mutinta')

(a- in munseme and a-aka-kal-u-a is a class 16 locative prefix)

in which amunseme ‘on the mat’ is the subject of the passive verb -kalu- (-kal-u-) ‘be sat on’. Given only the examples in (90) and their glosses, one would naturally explain the ungrammaticality of (90b) by saying that the verb meaning ‘sit’ in Tonga, -kal-, is intransitive and therefore cannot be passivised, which is ‘violated’ by (90b). However, this turns out to be wrong when given the example in (91), which is grammatical although the verb meaning ‘sit’ is passivised (-kal-u- ‘be sat on’):

(91) | munseme | wakakalya (u-aka-kal-u-a) | amutinta |

1

2

3

(lit. the-mat-it-was-sat-on-by-mutinta)

‘ | the mat | was sat on | by Mutinta |

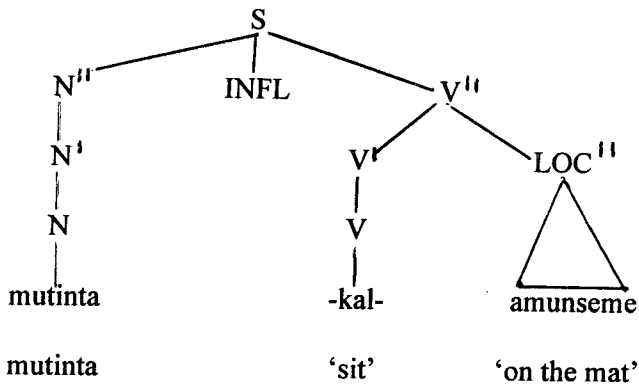
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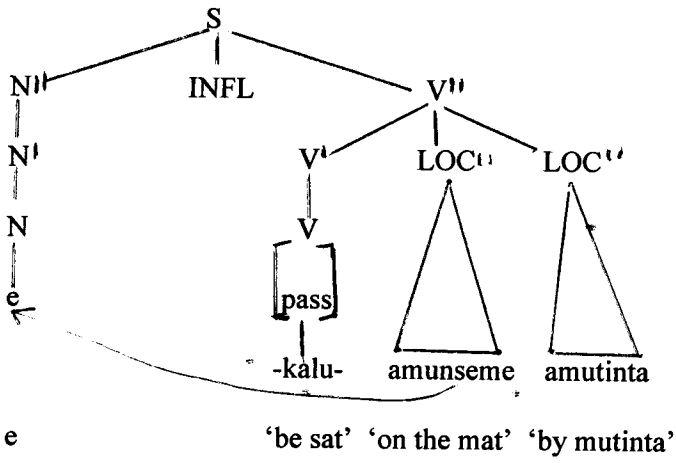
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The only difference between (90b), which is ungrammatical, and (91), which is grammatical, is that in (90b), amunseme, is a locative noun (the a- is a class 16 locative prefix) while the subject in (91), munseme ‘the mat’ is not. However, we assume that in Tonga, like in other languages, only verb complements (sisters to zero-bar V) can passivise, that is, be moved (by move-alpha) to the subject position of a passive verb and that amunseme, ‘on the mat’, in (90b) is not a verb complement but an adjunct while munseme, ‘the mat’, in (90) is a verb complement. In other words, we assume the structures (92a), (92b) and (92c) for (90a), (90b) and (91), respectively.

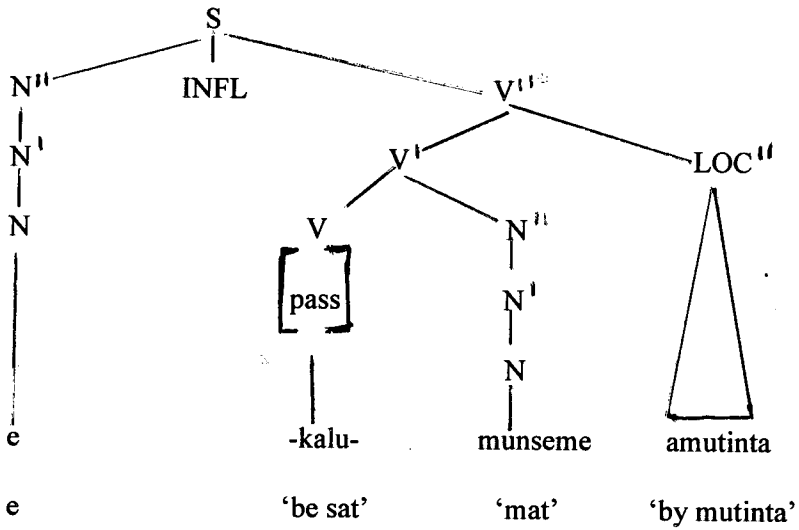
(92) a.



b. *



c.



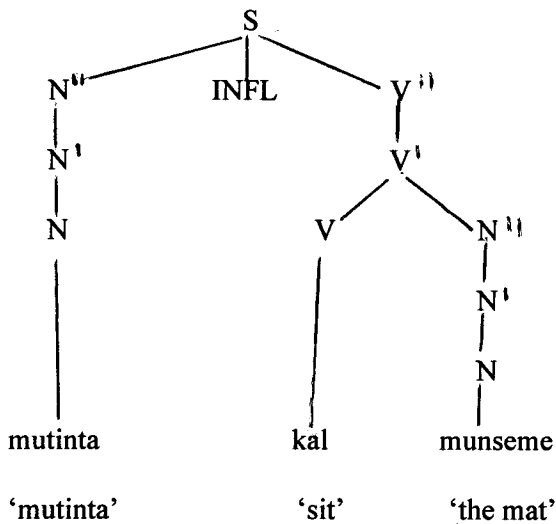
Note that both munseme and amutinta are structurally locative phrases (in this case locative nouns), the a- being a class 16 locative prefix but they have different theta-roles: amunseme is location and amutinta is an adverbial of agency (the English passive by-phrase). According to (92b) and (92c) the passive verb -kalu-, 'be sat on', is transitive, hence the grammaticality of (92a) and the ungrammaticality of (92b). In contrast, the active verb -kal-, 'sit', is intransitive, hence the grammaticality of (92a) above and the ungrammaticality of (93) below:

(93) a. * mutinta wakakala (u-aka-kal-a) munseme

(lit. mutinta-she-sat-the-mat)

'Mutinta sat the mat'

b. *



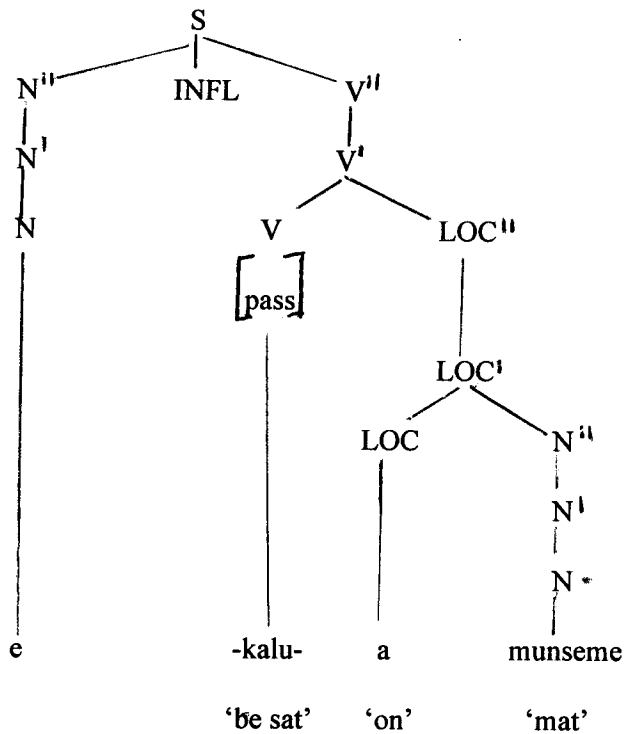
Given the fact that an active verb and the corresponding passive verb are expected to have the same internal arguments, if any, what we have noticed for -kal-, 'sit', and -kalu-, 'be sat on', is an idiosyncrasy, which must be stipulated in the lexicon. The idiosyncrasy is that the intransitive verb -kal-, 'sit', can passivise in the sense of being capable of being extended by a passive extension. The effect of this idiosyncrasy on the argument structure is that, unlike -kal-, 'sit', -kalu-, 'be sat on' has an internal argument (the one which has to move in the empty subject position).

An alternative to the above account of the grammaticality of (91), repeated as (94a) below, and the ungrammaticality of (90b), repeated as (94b) below, is to postulate that in (94a) munseme, 'mat', comes from amunseme, 'on the mat'.

- (94) a. munseme wakakalwa (u-aka-kal-u-a) amutinta
 (lit. the-mat-it-was-sat-by-mutinta)
 'the mat was sat on by Mutinta'
- b. * amunseme akakalwa (a-aka-kal-u-a) amutinta
 (lit. on-the-mat-it-was-sat-on-by-mutinta)

Assuming, as we have done, that only sisters to zero-bar verbs can passivise, for amunseme to underlie munseme in (94a) it must be a complement of -kalu- 'be sat on' at d-structure:

(95)



The problem with (95) is that it is not amunseme, 'on the mat', which moves, via move-alpha, into the empty subject position, but only munseme, 'the mat', leaving the locative prefix, a-, stranded, or dangling, which would require an additional idiosyncratic rule of Locative Erasure:

(96) **Locative Erasure**

When an NP governed by a locative moves (by move-alpha) into the subject position, the dangling locative is erased at PF.

(98b) and (99b) have passivised intransitives with classes 17 and 18 locatives, respectively. However, the ungrammaticality of (98b) and (99b) is not due to the presence of class 17 and 18 class locatives but rather to the fact that the verbs are intransitives. The behaviour of -kal- 'sit' and -kalu- 'be sat on' are an idiosyncrasy. This can be seen in (100b) where the verb in (98) and (99) are used with class 16 NPs.

- (100) a. mutinta wakaunka (u-aka-unk-a) amusamu
 (lit. mutinta-she-went-to-the-tree)
 'Mutinta went to the tree'

where amusamu 'to the tree' is in class 16, a locative class.

- b. *amusamu akaunkwa (a-aka-unk-u-a) a mutinta
 'to the tree was gone on by Mutinta'
- c. *musamu wakaunkwa (u-aka-unk-u-a) a mutinta
 'the tree was gone to by Mutinta'

We conclude that, as a general rule in Tonga, only transitive verbs can passive and intransitive verbs behaving like -kal- are exceptional. Therefore, it is not possible to predict which intransitive verbs can be passivised or which cannot be passivised. This is one of the idiosyncrasies which must be given in the lexicon.

We now come to the question of determining what (kind of) postverbal material can move into the empty subject position of a passivised verb. We have already seen that some NP phrases governed by locatives can passivise (see the discussion of (90-95)).

Besides the fact that as a general rule only transitive verbs can passivise in the sense of being extended by a passive extension, we have seen a number of types of internal arguments (such as patient, experiencer, etc.) which can passivise in Tonga, in the sense of moving into the (empty) subject position of a passive sentence. Here are some more examples:

(101) **Patient**

(a) coolwe wakalumwa (u-aka-lum-u-a) e ʔ

(lit. coolwe-he-was bitten)

‘Coolwe was bitten’

cf. mubwa wakaluma (u-aka-lum-a) coolwe

(lit. the-dog-it-bit coolwe)

‘the dog bit Coolwe’

b. bbuku lyakapegwa (li-aka-pa-igu-a) e ʔ kuli mutinta

(lit. the-book-it-was-given-to mutinta)

‘the book was given to Mutinta’

cf. mwaka wakapa (u-aka-pa-a) mutinta bbuku

(lit. mwaka-she-gave-mutinta-the book)

‘Mwaka gave Mutinta the book’

(102) **Locative**

mulonga wakakosolwa (u-aka-kosol-u-a) kululyo e ʔ

(lit. the-river-it-was-crossed-at-on-the right side)

'the river was cross at on the right side'

cf. bana bakakosolola (ba-aka-kosol-a) mulonga kululyo

(lit. the-children-they-crossed-the-river-on the right side)

'the children crossed the river on the right side'

(103) **Goal**

mutinta;_i wakapegwa (u-aka-pa-igu-a) e;_i bbuku

(lit. mutinta-she-was-given-the book)

'Mutinta was given the book'

cf. coolwe wakapa (u-aka-pa-a) mutinta bbuku

(lit. coolwe-he-gave-mutinta-the book)

'Coolwe gave the book to Mutinta'

(104) **Theme**

mutinta;_i ulayandwa (u-la-yand-u-a) e;_i

(lit. mutinta-she-is-loved)

'Mutinta is loved'

cf. ndamuyanda (n-a-mu-yand-a) mutinta

(lit. I-love-mutinta)

'I love Mutinta'

However, two points must be made. The first point is that, since nobody has established an exhaustive list of theta-roles (Radford 1988:373), any list of types of internal arguments that can

passivise have to be regarded as mere examples although the list includes the most commonly assumed theta-roles (Radford, *ibidem*). The second point is that we have not discussed whether or not argument passivisation can be constrained by the number of arguments. This is the issue we now turn to.

In discussing the question whether argument passivisation can be constrained by the number of arguments, it is important to note that no sentence in Tonga can have more than two internal arguments. In other words, Tonga has two types of transitive verbs: monotonatives and ditransitives. Our findings on argument passivisation with ditransitive verbs have revealed that it is possible to passivise any type of internal argument including in sentences with two internal arguments as shown in (105) through (107):

- | | | | |
|-------|---|------------------------------|----------------|
| (105) | V | GOAL | PATIENT |
| a. | | pass | |
| b. | | | pass |
| e.g. | twakapa (tu-aka-pa-a) | <u>bana</u> | <u>zyisani</u> |
| | | | |
| | | (GOAL) | (PATIENT) |
| | (lit. we-gave-the-children-clothes) | | |
| | 'we gave the children clothes' | | |
| ---> | <u>bana</u> bakapegwa (ba-aka-pa-igu-a) | | zyisani |
| | (lit. the-children-they-were-given-clothes) | | |
| | 'the children were given clothes' | | |
| ---> | zyisani | zyakapegwa (zi-aka-pa-igu-a) | bana |

(lit. the-clothes-they-were-given-to-the children)

'the clothes were given to the children'

(106) V BEN PATIENT

pass

pass

e.g. wakalimina (u-aka-lim-il-a) mukaintu muunda

|

|

BEN

PATIENT

(lit. he-cultivated-for-the-woman-the field)

'he cultivated the field for the woman'

---> mukaintu wakaliminwa (u-aka-lim-il-u-a) muunda

(lit. the-woman-she-was-cultivated-for-the field)

'the field was cultivated for the woman'

---> muunda wakaliminwa (u-aka-lim-il-u-a) mukaintu

(lit. the field-it-was-cultivated-for-the woman)

'the field was cultivated for the benefit of the woman'

(107) V POSS PATIENT

pass

pass

e.g. bakabbila (ba-aka-bba-il-a) bana zyisani

|

|

POSS

PATIENT

(lit. they-stole-the-clothes-of-the children)

'they stole the children's clothes)

- > bana bakabbilwa (ba-aka-bba-il-u-a) zyisani
 (lit. the-children-they-were-stolen-for-the clothes)
 ‘the children were robbed of the clothes’
- > *zyisani zyakabbilwa (zi-aka-bba-il-u-a) bana [9]
 (lit. the-clothes-were-stolen-of-the children)
 ‘the clothes were stolen from the children’

3.2 Object Marking

3.2.0 General

Following a number of other authors, Woolford (1995) examines the problem in Bantu syntax of ‘why some objects lose the ability to be realised as object markers in the passive’. In this section we consider the active/passive asymmetry in the realisation of object NPs in Tonga, a language which, to the knowledge of the writer, has not yet been examined in respect of this problem. We shall deal in turn with monotransitives (3.2.1) and ditransitives (3.2.2) before examining the question of object marking in relation to argument passivisation(3.2.3) as explained above.

3.2.1 Object-Marking with Monotransitive Verbs

In our discussion we have considered monotransitive verbs as those verbs that are intransitive in their non-extended condition but have been made transitive through applicativisation and causativisation. This happens because, as has been revealed above applicativisation and causativisation create a new argument position (in this case an object argument).

With monotransitive applied verbs we can object-mark BENEFACTIVE and PURPOSE arguments. This can be seen in the following examples (in all the examples the object marker (OM) and the object in reference are underlined):

(108) V BEN
 OM
 wakabelekela (u-aka-belek-il-a) mukaintu

|
 BEN

(lit. he-worked-for-the woman)

‘he worked for the woman’

---> wakamubelekela (u-aka-mu-belek-il-a)

(lit. he-worked-for her)

‘he worked for her’

(109) V PURPOSE
 OM
 wakabelekela (u-aka-belek-il-a) mali

|
 PURPOSE

(lit. he-worked-for the money)

‘he worked for the money’

---> wakaabelekela (u-aka-a-belek-il-a)

(lit. he worked for it)

‘he worked for it’

On the other hand, we cannot object mark monotransitive applied verbs with SOURCE, PASSAGE and REASON arguments, as can be seen in (112-114).

- (112) V SOURCE
 *OM
 wakazwila (u-aka-zu-il-a) kuchoma

|

SOURCE

(lit. he-came-from choma)

'he came from Choma'

---> *wakakuzwila (u-aka-ku-zu-il-a)

(lit. he-came-from-it)

- (113) V PASSAGE

*OM

wakanjila (u-aka-njil-a) amulyango (a- here = class 16 locative prefix)

|

PASSAGE

(lit. he-entered-through-the door)

'he entered through the door'

---> *wakaunjilila (u-aka-u-njil-il-a)

(lit. he-entered-through-it)

(lit. he-lost-for-mutinta-the pencil)

'he lost Mutinta's pencil'

--> wakamusoweja (u-aka-mu-sow-il-a) mpensulo

(lit. he-lost-for-her-the pencil)

'he lost her pencil'

---> *wakajsoweja (u-aka-j-sow-il-a) mutinta [10]

(lit. he-lost-it-for-mutinta)

(116) V INSTRUMENT PATIENT

OM

*OM

wakajikila (u-aka-jik-il-a) mupika nyama*

| |

INSTRUMENT PATIENT

(lit. he-cooked-in-the pot-meat)

'he cooked meat in the pot'

---> wakajjikila (u-aka-u-jik-il-a) nyama

(lit. he-cooked-in-it-meat)

'he cooked meat in it'

---> *wakajjikila (u-aka-j-jik-il-a) mupika [11]

(lit. he-cooked-for-it-the pot)

(117) V GOAL PATIENT

OM

*OM

wakalembela (u-aka-lemb-il-a) mutinta lugwalo

| |

GOAL PATIENT

(lit. he-wrote-for-mutinta-the letter)

'he wrote a letter to Mutinta'

---> wakamulembela (u-aka-mu-lemb-il-a) lugwalo

(lit. he-wrote-to-her-the letter)

'he wrote to her the letter'

---> *wakalembela (u-aka-lu-lemb-il-a) mutinta [12]

(lit. he-wrote-it-for-mutinta)

'he wrote it to Mutinta'

On the other hand it is not possible to object mark LOCATION applied verb arguments, as can be seen in (118)

(118) V PATIENT LOCATION

OM

*OM

wakatumina (u-aka-tum-il-a) mutinta kulusaka

| |

PATIENT LOCATION

(lit. he-had-sent-mutinta-to lusaka)

'he had Mutinta sent to Lusaka'

---> *wakakutumina(u-aka-ku-tum-il-a) mutinta

(120) V INSTRUMENT PATIENT

OM

*OM

wakalimya (u-aka-lim-i-a) talakita muunda

| |

INSTRUMENT PATIENT

---> wakalilimya (u-aka-li-lim-i-a) muunda

(lit. he-caused-it-to-cultivate-the field)

'he cultivated the field with it'

---> *waka~~u~~limya (u-aka-u-lim-i-a) talakita [14]

(lit. he-caused-it-to-cultivate-the tractor)

Consider the following sentences:

(121) a. wakasowela (u-aka-sow-il-a) mutinta mpensulo

| |

POSS PAT

(lit. he-lost-for-mutinta-the-pencil)

'he lost Mutinta's pencil'

b. *wakamwisowela (u-aka-mu-i-sow-il-a)

(lit. he-her-it-lost-for)

'he lost hers'

c. *wakaimusowela (u-aka-i-mu-sow-il-a)

(lit. he-it-lost-for-her)

'he lost it hers'

- (122) a. wakajikila (u-aka-jik-il-a) mupika nyama

| |

INST PAT

(lit. he cooked-in-the-pot-meat)

'he cooked meat in the pot'

- b. *wakawjikila (u-aka-u-i-jik-il-a)

(lit. he-it-it-cooked-in)

'he cooked it in it'

- c. *wakayujikila (u-aka-i-u-jik-il-a)

(lit. he-it-it-cooked-in)

'he cooked it in it'

- (123) a. wakatenzya (u-aka-tend-i-a) coolwe nyama

)

| |

AGENT PAT

(lit. he-caused-to-cut-coolwe-meat)

'he caused Coolwe to cut the meat'

- b. *wakamwitenzya (u-aka-mu-i-tend-i-a)

)

(lit. he-him-it-to-cut-caused)

'he caused him to cut it'

- c. *wakaimutenzya (u-aka-i-mu-tend-i-a)

)

(lit. he-it-him-to-cut-caused)

‘he caused him to cut it’

We see that if a verb has two internal arguments, it is not possible to object-mark both in a single sentence. This can be interpreted as an effect of Maximality Condition which in this context restricts the number of object markers in a sentence in Tonga to one. It is worth noting that the Maximality Condition also restricts the number of internal arguments in such a way that in Tonga no sentence can have more than two internal arguments. This explains why causativisation of ditransitive verbs is blocked, as shown in (124b)

(124) a. mutinta wakaletē|a (u-aka-let-|l-a) mwana meenda

| |

GOAL PAT

(lit. mutinta-she-brought-for-the-child-water)

‘Mutinta brought water for the child’

b. *wakaletezya (u-aka-let-|l-j-a) mutinta mwana meenda

(lit. he-caused-to-bring-mutinta-for-the-child-water)

‘he caused Mutinta to bring the child water’

The ungrammaticality of (124b) is due to the presence of more than two internal arguments as an effect of the Argument Increment Principle. However, there is one type of construction with three internal arguments which is acceptable in Tonga. This is applicativisation of ditransitive verbs in which the applied extension is associated with a LOCATION carrying new information (see example no. 28 above), as shown in (125b)

(125) a. wakapa (u-aka-pa-a) mwana meenda

| |

GOAL PAT

(lit. he-gave-the-child-water)

'he gave the child water'

b. wakapela (u-aka-pa-il-a) mwana meenda mung'anda

| | |

GOAL PAT LOC

(lit. he-gave-in-the-child-water-in-the-house)

'he gave the child water in the house'

The constituent mung'anda 'in the house' is not an adjunct but a true complement since (126) without it is ungrammatical:

(126) *wakapela (u-aka-pa-il-a) mwana meenda

| |

GOAL PAT

(lit. he-gave-in-the-child-water)

'he gave the child water'

Just as there is the Maximality Condition there is also the Minimality Condition which for example restricts the minimum number of arguments a sentence can have (for details and examples on the Minimality Condition refer to Haegeman (1995:625-668) and Park (1995:295-312).

wakalimya (u-aka-lim-i-a) bana muunda
)

| |

AGENT PATIENT

(lit. she-caused-to-cultivate-the-children-the-field)

‘she caused the children to cultivate the field’

---> *bana bakaulimisigwa (ba-aka-u-lim-isi-igu-a) muunda
))

(lit. the-children-they-were-caused-to-cultivate-the-field)

---> *muunda wakabalimisigwa (wa-aka-u-lim-is-igu-a) bana
))

(lit. the-field-it-was-caused-to-be-cultivated-by-the-children)

Woolford (1995:199) reports that since the work of Gary and Keenan (1977) the standard answer to the question why in Bantu some objects can be realised as object markers (OMs) in the active but cannot in the passive is that

passive and object marking require the same property (a grammatical relation, a particular Case, etc.) and if this property is usurped by the passive, it will not be available for an object marker (OM) [15].

Under this view, to passivise or to become an OM, an NP must have some property, P, and languages differ in the number of NPs that can have P at once, that is, one or both in double-object verbs (Woolford 1995:202). Woolford (Op cit. p. 207) points out that

the standard assumption is that the passive interferes with object marking only indirectly, because it usurps one instance of the property P which would otherwise be available to an OM

and proposes an alternative account of how the passive blocks object-marking. According to him (Woolford 1995:214);

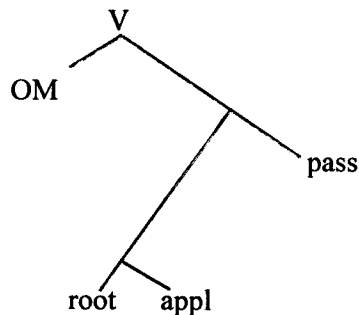
OMs are blocked in the passive, not because the passive and object compete for the same scarce resource (Case), but rather because the addition of the passive morpheme adds a structure level that blocks the access of object markers, to Case.

He explains (p. 20) that this is so since

because of the structure of the Bantu verb, the passive is attached lower than object markers and, thus, the passive has the opportunity to be in a position where it is close enough to get Case itself, but at the same time, block the OMs above it from getting Case.

The view of the structure of the Bantu verb Woolford refers to is that 'suffixes attach to the root first, then prefixes attach to this complex' as illustrated below: (Woolford 1995:210-211)

(129)



That one cannot decide who is right and who is wrong can be seen from the fact that even the proponents of what Woolford refers to as the 'Standard Approach' have different views on the nature of the property P. Since in this study, we have been talking of internal arguments associated

with the root and those associated with certain suffixes (i.e. verb extensions, following Coupez (1961:91-6), we might ask ourselves whether in an extended verb, both the root and the suffix can assign Case, each to the argument it is associated with. In other words, we might ask ourselves, and Woolford, whether it is not possible for an extended verb to have two or more Case-assigners. The question is pertinent since the addition of an extension like the applied and the causative has the effect of bringing one additional argument position.

3.3 Applicativisation, Causativisation, Passivisation and the Order of Arguments

Consider the following sentences

(130) a. mulombwana wakalima (u-aka-lim-a) muunda

AGENT	PATIENT

(lit. the-man-he-cultivated-the field)

‘the man cultivated the field’

b. mulombwana wakalimina (u-aka-lim-il-a) coolwe muunda

AGENT	BENEFACTOR	PATIENT

(lit. the-man-he-cultivated-for-coolwe-the field)

‘the man cultivated the field for Coolwe’

c. mutinta wakabbila (u-aka-bb-il-a) coolwe mpensulo

AGENT	POSSESSOR	PATIENT

(lit. mutinta-she-stole-of-coolwe-the pencil)

'Mutinta stole Coolwe's pencil'

d. mutinta wakalimya (u-aka-lim-i-a) mulombwana muunda

CAUSER	AGENT	PATIENT

(lit. mutinta-she-caused-to-cultivate-the-man-the field)

'Mutinta caused the man to cultivate the field'

e. muunda wakalimya (u-aka-lim-u-a)

PATIENT

(lit. the-field-it-was-cultivated)

'the field was cultivated'

cf. e INFL - limu - muunda

AGENT	PATIENT
'cultivate'	'field'

From the examples of causativisation and passivisation in the previous section and those in (130) above, we can observe that the causer NP and the moved NP in a passive construction occupy the subject position at s-structure. On the other hand we can see that the argument associated with the applied extension (see (130b-c)) immediately follows the verb. However, this is not true

for all constituents associated with the applied extension. Typically, place arguments associated with the applied extension occupy the right most position in a sequence of arguments, as shown in (131b)

(131) a. musimbi wakapa (u-aka-pa-a) mwana meenda

AGENT	GOAL	PATIENT

(lit. the-girl-she-gave-the-child-water)

‘the girl gave the child water’

b. musimbi wakapela (u-aka-pa-il-a) mwana meenda mung’anda

AGENT	GOAL	PATIENT	LOCATION

(lit. the-girl-she-gave-in-the-child-water-in the house)

‘the girl gave the child water in the house’

c. *musimbi wakapela (u-aka-pa-il-a) mung’anda mwana meenda

LOC	GOAL	PAT

(lit. the-girl-she-gave-in-the-house-the-child-water)

‘the girl gave in the house the child water’

Consider also the following sentences

(133) mupika wakujikila (u-a-ku-jik-il-a) nsima

INSTRUMENTAL	PATIENT

(lit. the-pot-for-cooking-in-nsima)

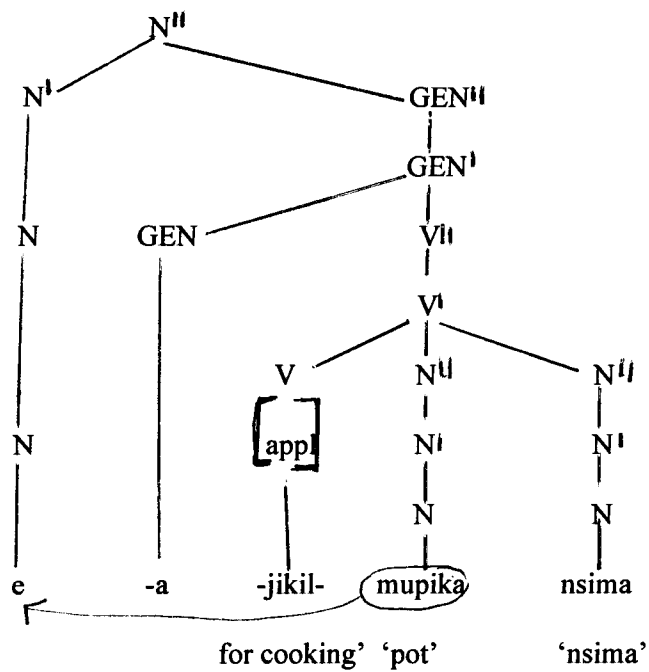
‘the pot for cooking nsima in’

The expression in (133) is an NP, but an NP which embeds a qualifying infinitival verb phrase (kujikila nsima) with the applied radical -jikil-, ‘cook for’, from -jik-, ‘cook’. That mupika wa, ‘pot for’, is associated with the applied extension (and therefore that the applied extension in (133) is necessary) is shown by (134)

- (134) a. kujika (ku-jik-a) nsima (without the extension and mupika wa)
 ‘to cook nsima’
- b. *kujikila (ku-jik-il-a) nsima (with the extension but without mupika wa)
 ‘to cook for nsima’
- c. *mupika was kujika (ku-jik-a) nsima (with mupika wa but without the extension)
 ‘pot for cook nsima’
- d. mupika was kujikila (u-a-ku-jik-il-a nsima (with both the extension and mupika wa)
 ‘the pot for cooking the nsima in’

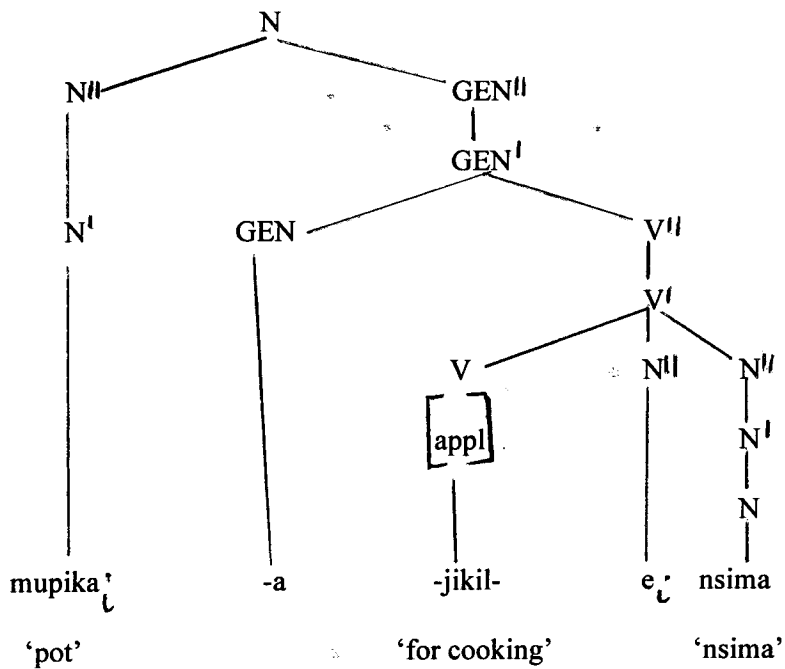
We assume that (133) is structured as (135) at d-structure (GEN =Genitive Phrase). Our justification for assuming that mupika, ‘pot’, occupies a post- applied verbal position in the d-structure stems from the fact that in (134) mupika, ‘pot’, is the argument of the applied verb, and as has been shown above (see for example 130b-c), arguments of applicativised verbs usually occupy the position immediately after the applied verb.

(135)



Move- α moves mupika 'pot' into the empty NP position, as shown by the arrow in (135), leaving behind a trace:

(136)



For (136) to be replaced by a structure representing the NP mupika wa kujikila nsima, 'the pot for cooking nsima', a number of operations need to be carried out:

- (a) class agreement between mupika 'pot' and GEN, so that GEN = wa 'for' (in this case), at s-structure,
- (b) erasure of the empty node, left behind by the moved constituent, at PF, and
- (c) infinitivisation, that is, the transformation of -jikil- 'for cooking' into the infinitive form kujikila 'to cook in', a morphological process which is outside the objectives of this study.

It is by analogy with the position of the benefactive and possessive NP signalled by the applied extension (see observation on (130b-c) above) that we assume that the instrumental NP in (135) immediately follows the verb. As for the branching of NP into N and GEN, it is reminiscent of the structure of an NP with a restrictive relative clause. This is necessary because the instrumental NP is really a full NP, as illustrated in (137)

(137) mupika mupati ooyu wakujikila (u-a-ku-jik-il-a) nsima

|
INSTRUMENTAL

(lit. pot-big-this-for-cooking-in-nsima)

'this big pot for cooking nsima in'

3.4. **Binding**

According to Horrocks (1987:108) the Binding Theory is concerned with the conditions under which NPs are interpreted as co-referential with other NPs in the same sentence. He states that

for purposes of the Binding Theory NPs that are arguments fall into one of the following three categories:

- a) anaphors**
- b) pronominals**
- c) referential expressions (R-expressions)**

An anaphor in Government-Binding Theory, and as used in this study, is an NP which has no independent reference but whose reference is determined sentence-internally in the sense that it refers to some other constituent (called its antecedent) within the same sentence. In English, the class of anaphors consists of reflexive pronouns (e.g. himself) and reciprocal pronouns (e.g. each other, one another). Pronominals are those NPs such as he, him, they, them, etc., in English that lack specific lexical content and have only the features person, number, gender, and Case and 'may either refer to individuals independently or co-refer to individuals already named in a given sentence' (Horrocks 1987:109). R-expressions (for referential expressions) are those NPs with a specific lexical content (e.g. bush, cat, bullet).

In this section, we shall deal only with pronominals because only this type of NPs may pose problems of referential interpretation. These include:

- (a) the so-called independent pronouns (e.g. mebo, 'I', balo, 'they' (class 2) and
- (b) subject verb prefixes (e.g. u in ulaseka 'he is laughing' and object verb infixes (clitics or object markers) (e.g. mu in ndamuyanda 'I love him/her').

It is important to note that some pronominals are overt, e.g. *mebo*, 'I', and others are empty (see, for example, Sells 1985:74). There are two empty pronominals, namely *pro* ('small/little *pro*') and *PRO* ('big *PRO*'). The empty pronominal *pro*, which is not universal, is an empty pronoun occupying the position of a pronoun which is phonetic material but which is not expressed. This occurs in certain languages, referred to as 'pro-drop languages', such as Italian, Portuguese or Spanish where subject pronouns are optional. This is exemplified from Italian in (138).

- (138) a. *io telefono* ---> *telefono (=pro telefono)*
 'I telephone / am telephoning'
- b. *voi telefonate* ---> *telefonate (=pro telefonate)*
 'you-plural telephone / are telephoning'

PRO, which is dealt with in the Control subtheory, is the missing subject of infinitive sentences which are complements of verbs, the so-called catenative verbs (Crystal 1991:50).

In respect of applied and causative verbs, only object infixes are problematic in Tonga as far as binding is concerned. A common practice in Tonga is to use an object verb infix announcing, so to speak, an object R-expression, as in (139).

- (139) a. *mubwa wakaluma (u-aka-lum-a) mwana*
 (lit. the-dog-it-bit-the-child)
 'the dog bit the child'
- b. *mubwa wakamuluma (u-aka-mu-lum-a) mwana*
 (lit. the-dog-it-him-bit-the child)

'the dog bit the child'

c. wakamu pa (u-aka-mu-pa-a) mutinta mwana

(lit. he/she-gave-mutinta-the child)

'he/she gave Mutinta the child'

d. wakamubona (u-aka-mu-bon- a)

(lit. he/she-saw-him/her)

'he/she saw him/her'

In (139d) mu necessarily refers to somebody who is not mentioned in the sentence. In contrast, the mu in (139b-c) refers necessarily to somebody named in the sentence, mwana, 'child', in (139b) and mutinta, 'mutinta', in (139c). Consider now the sentence below:

(140) wakamupa (u-aka-mu-pa-a) mutinta

This sentence has two possible readings:

a. 'he/she gave him/her Mutinta'

in which case mu has an independent reference or

b. he/she gave Mutinta something'

in which case mu refers to an empty object NP within the sentence as shown in

(141)

- (141) wakamu₁ pa mutinta e₁
 | | |
 PATIENT GOAL PATIENT

The following are problematic examples involving applied and causative verbs in Tonga as far as binding is concerned.

- (142) a. wakamujayila (u-aka-mu-jay-il-a) mwana mutinta
 | | |
 AGENT PATIENT POSS
 (lit. he/she-killed-of-the child-mutinta)
 'he/she killed Mutinta's child'
- b. wakamujaisya (u-aka-mu-jay-isi-a) mwana mutinta
 | | |
 AGENT PATIENT AGENT
 (lit. he/she-caused-to-kill-the-child-mutinta)
 'he/she caused Mutinta to kill the child'

Since both mutinta, 'mutinta', and mwana, 'child', are class 1 nouns and the prefix mu is also in class 1, does the mu refer to mutinta or mwana? In these examples mu is interpreted as referring to the second postverbal argument, mutinta as follows:

- (143) a. wakamu₁ jayila mwana mutinta₁

(lit. he-for-her-killed-the-child-mutinta)

'he killed Mutinta's child'

b. wakamu_ijajisya mwana mutinta_i

(lit. he-her-caused-to-kill-the-child-mutinta)

'he caused Mutinta to kill the child'

A general rule in Tonga is that whenever there is more than one surface internal argument, a verb object infix refers sentence-internally and to the second postverbal argument. Consider the examples in (144) with only one s-structure internal argument:

(144) a. mulombwana wakamubelekelela (u-aka-mu-belek-il-a) mukaintu

(lit. the-man-he-worked-for-the woman)

'the man worked for the woman'

b. mulombwana wakamunyemya (u-aka-mu-nyem-j-a) mukaintu

(lit. the-man-he-caused-the-woman-to-get-angry)

'the man caused the woman to get angry'

In these sentences, mu refers to the postverbal internal argument. In the following sentence with no postverbal argument, mu refers outside the sentence.

(145) mulombwana wakamubelekelela (u-aka-mu-belek-il-a)

(lit. the-man-he-worked-for-him/her)

'the man worked for him/her'

From the examples given in (142-145) and their discussion it seems that the situation is as follows in Tonga:

- a. an internal argument (= an object) may be announced by a verb object infix (or object marker) and this is usually, but not obligatorily the case,
- b. with reference to binding, monotransitive verbs and objects markers, the object marker refers to (or is bound by) the object such as in

(146) wakamu'bona mutinta;

(lit. he/she-saw mutinta)

'he saw Mutinta'

- c. with regard to ditransitive verbs
 - (i) Tonga does not use verb forms with more than one OM,
 - (ii) the order of internal arguments depends on whether or not there is an 'announcing' OM. The 'announcing' OM refers to the first OBJECT in constructions and is without the 'announcing' OM. This OBJECT is the last one in a construction.

Finally, examine (147):

(147) wakamupa (u-aka-mu-pa-a) mwana

This sentence is ambiguous, with the following two readings: either ‘he/she gave somebody a child’, in which case mu refers to some extra-sentential entity, e.g. ‘mutinta, or ‘he/she gave the child something’ as in

- (148) wakamu₁ pa mwana e₂
 ‘he/she gave the child somebody/something’

It can be noticed that in the latter reading, but not in the former, the mu is an ‘announcing’ OM. What we are referring to as ‘announcing’ OMs is what Bresnan and Mchombo (1987), quoted by Woolford (1995:206) have called agreement object markers which obligatorily co-occur with an overt NP, a phenomenon which occurs in certain other Bantu languages such as Chewa. This example (148) also shows that when there are at least two s-structure postverbal R-expression arguments, an object verb clitic refers to the first postverbal argument.

3.5. Summary

In this chapter, the semantics and syntax of the applied, causative and passive verb extensions, in Tonga have been discussed. The following observations and conclusions have been made with regard to the applied extension:

- a. when a verb is applicativised,
 - (i) it retains the argument structure of the simplex verb radical from which it is formed under the principle we have referred to as the Argument Inheritance Principle;

- (ii) it acquires another argument which is the argument of the applied verb under the principle we have called the Argument Increment Principle;
- b. the applied extension is characterised by thematic polysemy because it is associated with several theta-roles;
- c. a given applied verb may be thematically ambiguous since it can have several readings and interpretations;
- d. despite (b) and (c), applicativisation in Tonga does not 'violate' the theta-criterion because we can disambiguate applied verbs;
- e. with reference to (b), (c) and (d) we can disambiguate and hence determine the thematic interpretation or recognition of the argument associated with the applied verb on the basis of the following:
 - (i) the meaning of the argument associated with the applied extension;
 - (ii) the meaning of the base radical; and
 - (iii) the context of communication.
- f. In applicativisation, the benefactive argument is the most productive in that most bases will allow for it. The location, purpose, reason and instrumental arguments then follow;
- g. most bases that will accommodate the arguments outlined in (f) will be in the category of stative verbs;
- h. only transitive bases allow for possessive arguments while only movement verbs are associated with goal, source and passage arguments;
- i. the argument associated with the applied extension immediately follows the applied verb for non-place arguments;
- j. place arguments occupy the right most position in a sequence of arguments in an applied sentence; while

- k. at s-structure instrumental arguments in an applied sentence occupy the sentence initial position although at d-structure they occupy a post-verbal position.

Of the causative extension, it has been shown and established that

- a. just as is the case with the applied extension, a causativised verb inherits the argument of the simplex verb radical and in addition acquires another argument, which is the argument of the causative verb, through the principles of Argument Inheritance and Argument Increment, respectively;
- b. unlike the applied verb, which is associated with several theta-roles, the causative verb argument has only one theta-role, the causer, although there are various types of causation.
- c. With reference to (b), there can be a difference in causative expressions with regard to the involvement of the causer argument in the execution of the action denoted by the verb;
- d. whereas the argument brought about by applicativisation occupies different positions in a sentence the argument brought about by causativisation is always an external argument and therefore occupies the pre-verbal position;
- e. because of (d), when a verb is causativised what was the external argument of the simplex radical is internalised and is 'demoted' into the immediate postverbal position.
- f. In causativisation, we can 'demote' patient agent, experiencer and instrumental arguments.

Concerning passivisation, we have presented data to show that

- a. in passivisation there is movement of the d-structure internal argument to be the s-structure external argument by the rule of move alpha;
- b. for passivisation to occur, the external argument must be empty, that is, not filled by any lexical material at d-structure and that the verb must be in the passive form;
- c. as a result of (b), a passive sentence cannot be said to be derived from its related active counterpart;
- d. most transitive verbs and a few intransitive verbs can passivise; however,
- e. it is not predictable as to which transitive verbs cannot passivise and as to what intransitive verbs can passivise; this would only be reflected in the lexicon;
- f. most postverbal non-sentential constituents can passivise; that is, they can move into the empty subject position of a passivised verb. For example, it is possible to passivise the following:
 - (i) patient, locative, goal and theme arguments that occur with simplex verb radicals;
 - (ii) benefactive, possessive, patient and goal but not source and passage arguments that occur with the applied extension; and
- g. The moved NP in a passive construction occupies at s-structure the subject position.

With regard to object-marking, it has been established that

- a. with monotransitive verbs we can object-mark
 - (i) benefactive and purpose applied verb arguments, and not source, passage and reason applied verb arguments;
 - (ii) patient and experiencer causative verb arguments.
- b. with ditransitive verbs we can object-mark

- (i) possessive, instrument and goal applied verb arguments but not location applied verb arguments;
 - (ii) patient and instrument causative verb arguments but not agent causative verb arguments
- c. there is a limit on the number of arguments a verb can take and the number of arguments that can be object marked in a sentence in line with the MAXIMALITY CONDITION;
- d. whereas it is possible to mark objects of active sentences, passive objects cannot be object marked.

Regarding applicativisation, causativisation, passivisation and order of arguments it has been observed that

- a. the causer NP and the moved NP at s-structure in a passive sentence occupy the subject or sentence initial position;
- b. while the arguments associated with the applied extension immediately follow the verb although the arguments associated with the applied extension in place arguments occupy the right most position in a sequence of arguments.

ENDNOTES

1. Throughout our work we write simplex radicals and extended radicals as follows:

-lim-, 'cultivate'

-limil-, 'cultivate for'

-limi-, 'cause to cultivate'

-limu-, 'be cultivated'

in which all the above are lexical entries but -limil-, -limi- and -limu- are made of the following morphemes:

-limil- = -lim- and -il- (applied extension),

-limi- = -lim- and -i- (causative extension), and

-limu- = lim- and -u- (passive extension).

2. Note, however, that tense, mood and polarity are not the only factors determining the occurrence of tense-signs and endings.
3. The tense-sign is also a cumulative morph since it denotes several things.
4. Mainly based on the preradical position of clitic pronouns in Bantu, some authors (see, for example Bellusci 1994) have argued that Bantu languages have basically an SOV order. In this study, however, we assume an SVO order for Tonga. As shown by Bellusci (op. cit), not all Bantuists have argued for an SOV order for Proto-Bantu.
5. In mung'anda 'in the house' ng' corresponds to the IPA symbol ɲ
6. With certain verbs, a sentence with an applied verb is thematically ambiguous. Thus the sentence coolwe wakabbila mwana mpensulo has two readings:
- (a) coolwe stole the pencil of the child
(POSSESSIVE); or

(b) coolwe stole the/a pencil for the child

(BENEFACTIVE)

Because of this ambiguity, the applied extension signalling possession is often reinforced by a possessive if the possessor is expressed by a clitic pronoun as in coolwe wandisowela mpensulo (yangu)

‘coolwe has lost my pencil’

where yangu is a possessive meaning ‘my’ and -ndi- is a clitic pronoun ‘me’. If the possessive is not a clitic pronoun and if the speaker intends to express possession, the message may be made unambiguous by not using the applied verb but instead a genitive pronoun ya or yakwa ‘of’ as in

coolwe wakasowa mpensulo ya mwana

‘coolwe has lost the pencil of the child’

where ya mwana means ‘of the child’

7. The verb in such sentences is always in the infinitive as can be seen in the following sentence which is not acceptable in Tonga since it has a non-finite verb.
ndatendela (n-a-tend-il-a) nyama a cipeni (lit. I cut with meat with a knife) ‘I cut meat with a knife’
8. We assume that the argument structure of a predicate is a structured representation of that predicate characterised by relations of prominence. In general, the external argument is higher in the structured argument structure than the internal arguments (Grimshaw 1992:3).
9. Note that although this passive sentence is grammatically correct in Tonga it changes the meaning of the sentence from which it is constructed and therefore renders it unacceptable in this context.

10. Note that although this sentence is grammatically correct in Tonga it does not have the same interpretation as the sentence from which it is constructed, which makes it unacceptable in this context.
11. Ibid.
12. Ibid.
13. Ibid.
14. Ibid.
15. Note that case with capital C refers to abstract case.

CHAPTER FOUR

FEATURE GEOMETRY

4.1. Introduction

4.1.0 General

In this Chapter, we present a Feature Geometry analysis of the applied, causative and passive verb extensions. In so doing we discuss a number of phonological rules which either apply to or are triggered by at least one of the three extensions under study. The rules we look at are the following: height harmony, nasal harmony, gliding, palatalisation and spirantisation [1].

As pointed out above, the phonological rules which apply to the verb extensions fall under two categories. The first category is that of rules which apply to the extensions. The second category is that of rules which apply to another segment within the verbal form as a result of the presence of the verb extension. The first category comprises height harmony, nasal harmony and gliding, while the second group consists of spirantisation and nasal palatalisation. Since the rules we discuss assume underspecified segments and will be formulated within the framework of Underspecification Theory (UT) and Feature Geometry (FG), it is necessary to begin with the presentation of some of the relevant aspects of underspecification Theory and Feature Geometry.

4.1.1. Theoretical Considerations and Tonga Underlying Segments

Underspecification theory deals with the feature content of segments. The feature content of segments can be specified in two ways. It can either be fully or partially specified. Assuming that we had chosen a certain set of distinctive features of segments in a particular language, such that the chosen set of features distinguishes any given segment from any other segment in the

language, a full specification of such segments would allow that we enter into a phonological matrix a value (i.e. + or -) for every feature we have chosen (as has been done in matrix 1, below). On the other hand, a partial specification would require that some predictable features be left out from the phonological matrix. The missing values would then be filled in by redundancy rules (RRs).

As pointed out by Durand (1990:157), Underspecification Theory, like partial specification theory, advocates the feature minimisation principle which says the following:

1. **Feature Minimisation Principle (FMP)**

a grammar is most highly valued when underlying representations include the minimal number of features necessary to make different phonemes of a language.

Durand declares that in the light of this, Underspecification Theory

starts from the assumption that underlying specifications should be as streamlined as possible and that redundancies should be extracted from underlying entries not only for distinctive features but for other aspects of phonological representation.

(Durand 1990:157).

We outline below some of the building blocks of UT. UT advocates that only non-redundant, that is, distinctive features are posited underlyingly, while predictable features are supplied by redundancy rules (RRs). These RR's are of two types. Default rules, most of which are universal are supplied by Universal Grammar (UG). Complement rules are language-specific but are derived by a general principle of UG termed Complement Rule Formulation (for details

see Archangeli 1984). Both types of RRs do not change feature specification. (Durand 1990:158).

On universal default rules Durand (1990:161-2) says that these

correspond to the markedness convention. For example since non-low back vowels are typically round, a default rule such as... [] ---> [+round]/ [+back, +low] will be available unless the opposite value (non-round) has been posited underlyingly. This is because non-low back vowels or a language specific RR makes these vowels non-round.

Other default rules emanate from what Durand (1990:162) calls 'logical statements'. With respect to the features we have chosen for matrix 2 below the following rules would fall under this category.

- (2) [+ant] ---> [-back];
- (3) [+high] ---> [-mid], and vice versa.

There are two major versions of UT, namely Radical Underspecification Theory (RUT) and Contrastive Underspecification Theory (CUT) (Myers 1995:190). Under the hypothesis of RUT (see for instance Kiparsky 1982, Archangeli and Pulleyblanc 1986), for each feature F, only one value (+ or -) is supplied, the opposite feature value being supplied by an RR. For instance, if for the feature [high] the value + is given underlyingly (i.e. [+high]), for all segments with unspecified [high], the following will apply [] ---> [-high]. Complement rules draw from this aspect of RUT as they are formulated on the basis that whenever a feature value is selected for underlying representation, a rule inserting the opposite value is created (Durand 1990:162). For

instance, let us assume that the underlying values for [voice] and [ant] have been chosen to be [-voice] and [+ant], the following complement rules are automatically rendered:

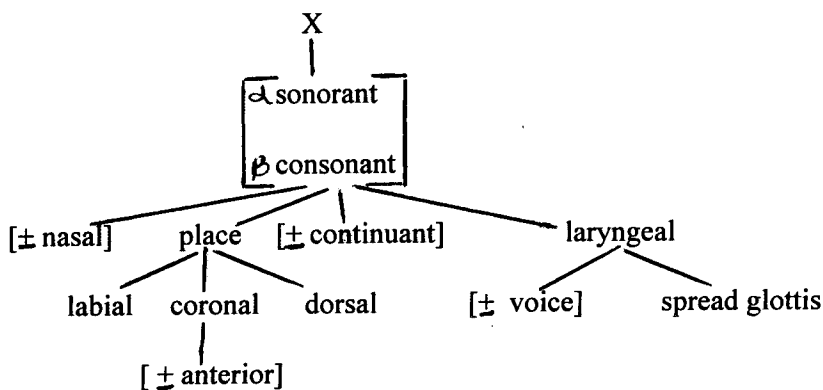
(4) [] ---> [+voice]

(5) [] ---> [-ant]

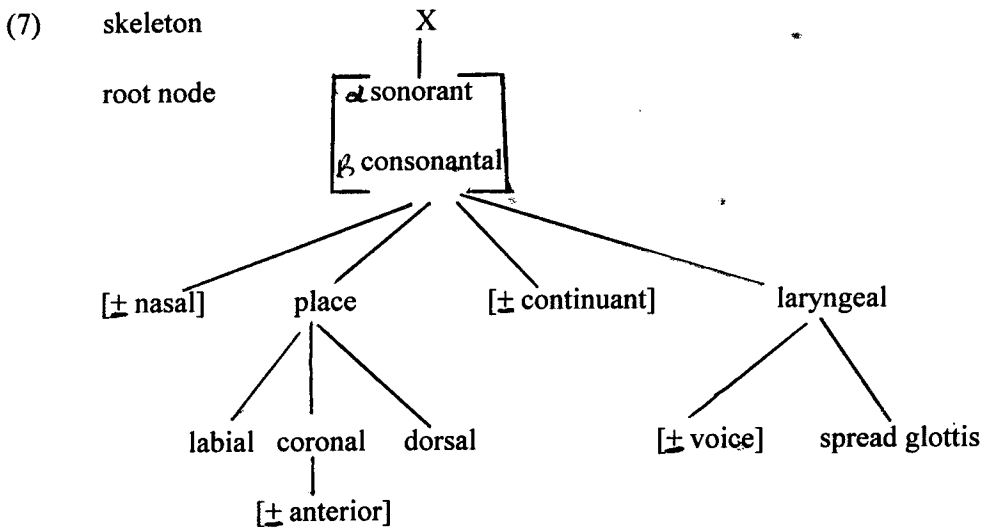
In this study we have chosen not to make a distinction between default and complement rules. We have referred to both types of rules simply as redundancy rules. We have also not applied RUT. Instead we have opted to apply a version of CUT. The version of CUT we assume follows Steriade (1987) and others (for instance Mester and Ito 1989, Myers 1995). However, under both RUT and CUT only distinctive features are posited underlyingly. The major difference between CUT and RUT is that in the latter, but not in the former, for each feature F only one value (+ or -) is supplied and the missing value is supplied by a redundancy rule. Under CUT the same feature may have both values (+ or -) underlyingly.

Apart from adopting a version of CUT we also use a version of McCarthy's (1988) feature geometric representation of segments in our analysis of the extensions. In this theory the term 'geometry' is motivated by the fact that feature or sets of features are not only on separate layers, or tiers, but are also hierarchically organised. McCarthy's (1988) feature geometry model is as follows:

(6)

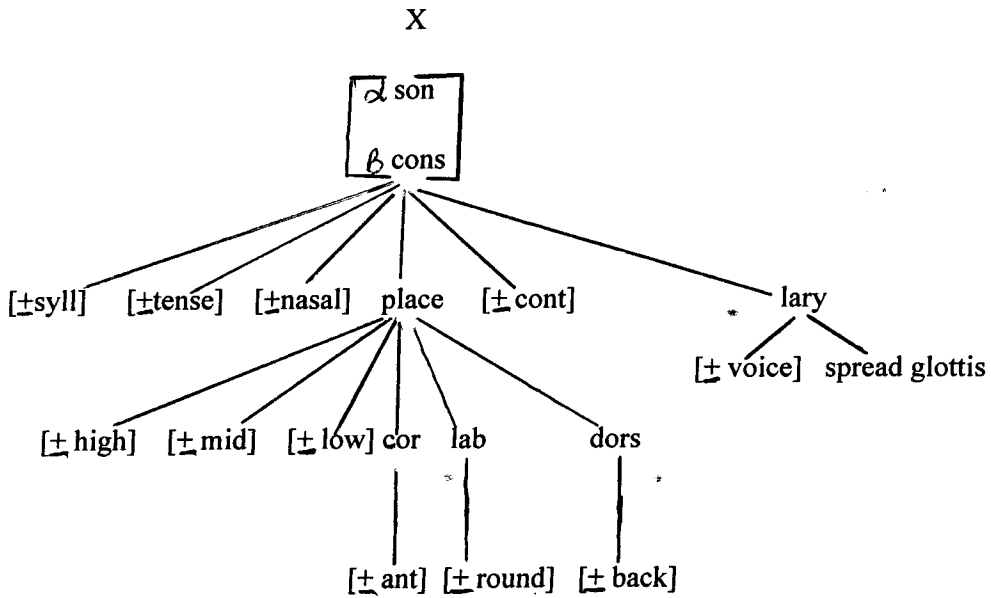


where [nasal], [continuant], [anterior] and [voice], the nodes with values (+ or -), are 'terminal nodes' while the other nodes designate classes of features (Inkelas and Cho 1995:544). The set of features [α sonorant, β consonantal] is the root. In fact, the root is in turn dominated by the skeleton, a pure position usually represented by X which mediates between the various planes (Durand 1990:264). Thus the feature geometric schema in (6) above stands for (7):



Drawing upon McCarthy (1988). We assume the following feature geometric representation of segments in Tonga:

(8)



The features [tense], [high], [mid] and [back] which are not in (6) are needed in Tonga. [Tense] is needed to distinguish /c/ ([dʒ]) ([-tense]) and /j/ ([dʒ]) ([+tense]); [high] and [mid] are needed to describe the vowel system; and [back] is needed to distinguish segments from the three major classes of segments, namely vowels, glides and consonants.

Matrix 1 and matrix 2 supply the set of fully specified Tonga underlying segments and the set of underspecified underlying segments, respectively.

Matrix 1: Fully Specified Tonga Underlying Segments

	i	i	e	a	o	u	p	b	t	d	k	g	cc	c	j	β	s	z	ʒ	h	ɦ	m	n	ɲ	ŋ	l	ɻ	w
son	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+
cons	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	-	-	-	-	-	-	+	+	+	+	+	+	+
syll	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	-	-
nas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
cont	+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	-	-	-
tense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+
cor	+	+	+	-	-	-	-	-	+	+	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	+
ant	-	-	-	-	-	+	+	+	+	+	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	+	+	-
round	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	-
high	+	+	-	-	-	+	-	-	-	-	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	+
mid	-	-	+	-	+	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	+	-	-	+
low	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
voice	+	+	+	+	+	+	-	+	-	+	-	+	-	+	+	+	-	+	+	+	-	+	-	+	-	+	-	+

While in matrix 1 no feature is redundant for the matrix as a whole, for each segment there is a set of feature values which are redundant. For instance, for /e/ and /o/, which are the only [+mid] segments the only distinctive features are [mid] and [back]. In matrix 2, in contrast, there are no redundant feature specifications except for [son], [cons] and [syll] in some cases. For instance [+son] and [+cons] are redundant for all nasals since all nasals in Tonga are [+son] and [+cons]. Some of the redundancy rules needed to supply the missing feature specifications in matrix 2 are as follows [2]:

(9) **Some Redundancy Rules**

a. [] ---> [-syll]

b. [] ---> [-nas]

c. [+nas] ---> [-cont]; otherwise [] ---> [+cont]

d. [] ---> [-tense]

e. [] ---> [+cor] /

+son
+cons
-nas

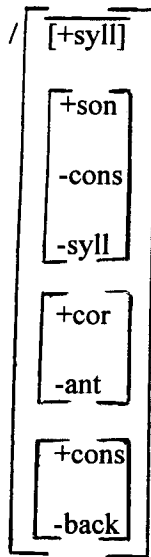
(i.e. /l/ is [+cor]) although other rules are needed for this feature.

f. [] ---> [+ant] /

+son
+cons
-nas

; otherwise [] ---> [-ant]

g. [] ---> [+high] / [+syll] ; otherwise [] ---> [-high]



h. [] ---> [-mid]

i. [] ---> [+voice]

j. [] ---> [-round]

k. [] ---> [-low]

Note that the specifications of the feature [coronal] in the matrices 1 and 2 are something unusual in the linguistic literature. We assume, following Clements (1976), Mester and Ito (1989) and Broselow and Niyondagara (1990), that the front vowels, and therefore /y/, are [+coronal] (see also Hume 1992 and Kenstowicz 1995: 464-465).

In matrices 1 and 2 we have adopted the following representation of sounds for typographical convenience:

kk as IPA [k]

cc as IPA [k]

c and j as IPA [dʒ] [ʒ]

k as IPA [ʃ]

y as IPA [j]

We note that although the vowels /i/ and /i/ do not correspond to different phonetic realisations in the sense in which, say, /u/ corresponds to [o], it has been necessary to posit underlying /i/ in addition to /i/ to account for the difference between such examples as (10b) and (10c) or (11b) and (11c) [4]:

- (10) a. ku-luk-a ---> ku-luk-a /kuluka/
 'to vomit'
- b. ku-luk-il-a ---> ku-luk-il-a /kulukila/
 'to vomit for/on'
- c. ku-luk-igu-a ---> ku-lus-igu-a /kulusigwa/
 'to be made to vomit'
- (11) a. ku-lung-a ---> ku-lung-a /kulunga/
 'to salt (food)'
- b. ku-lung-il-a ---> ku-lung-il-a /kulungila/
 'to salt (food) for'
- c. ku-lung-i-a ---> ku-lunz-i-a /kulunzya/
 'to cause to salt (food)'

By underlying /i/ and /i/ it is possible to explain non-spirantisation and spirantisation by saying that before /i/ but not before /i/, stops spirantise (refer to 4.2.4 below). It would be necessary to resort to ad hoc devices if only /i/ was posited underlyingly. The same view is held by Hyman in his presentation of Bemba vowels (for details refer to Hyman 1991:2-4).

From matrix 1 and matrix 2 it can also be noticed (from both matrices 1 and 2) that we have left out the fricatives /f/ and /v/. We have done so because although the two consonants occur in the orthography of Tonga, they do not exist in the phonetics and pronunciation of Plateau Tonga, the dialect we are investigating [5].

It is also important to note that underspecification is not equivalent to minimal specification. This is apparent in matrix 2 (Underspecified Tonga Underlying Segments). For instance, according to matrix 1, on which matrix 2 is based, a minimal specification of /o/ is [+mid, +back]. In working out matrix 2, two principles were used. First, the hypothesis offered by the version of Feature Geometry in McCarthy (1988), adopted here, in which for each segment the values of both [consonantal] and [sonorant] are specified underlyingly. Secondly, we have assumed out a version of CUT in which only “non-redundant feature specifications are absent from underlying forms” (Myers 1995:190); see also Steriade (1987), Mester and Ito (1989). The latter principle explains for instance why in matrix 2 all vowels are [+syllabic] because [syllabic] is necessary to distinguish between vowels and non-vowels. In fact the decision to specify the value of a feature is not only based on distinctiveness but also on whether or not it is possible to insert it via a straightforward redundancy rule. For instance the value of [syllabic] is not specified for non-vowels, all of which are [-syllabic], because the value - for syllabic is supplied by the redundancy rule [] ---> [-syllabic], a context-free rule. Some redundancy

rules, however, are context-sensitive. Thus, while in matrix 2 some segments are given as [-cont] and others as [+cont], for those segments with no value for [continuant], the values are given by context-sensitive rules, as in:

(12) [] ---> [+cont] / [+syll]

(all syllabic segments are continuant)

However, it is always possible to transform a context-sensitive rule into a context-free one. Thus (13) below says the same thing as (12):

(13) [+syll] ---> [+cont]

In working out a matrix of underspecified segments, the final result must be such that no two segments have the same 'description', regardless of the theory chosen or principles used. In this, UT does not differ from minimal specification.

To conclude this brief account of UT and FG, we wish to point out that RRs do not apply in block. One guiding principle governing their application in UT is that they apply as late as possible. Another guiding principle of UT is that an RR which supplies a feature specification (i.e. + or -) to which a given phonological value makes reference must apply before that phonological rule.

4.2. Rules

4.2.0. General

In this section we discuss the phonological rules that apply to the verb extensions under study in the context of Feature Geometry and matrices 1 and 2 presented above.

4.2.1 Harmony

4.2.1.0. General

Harmony is the process or result of two sounds becoming identical or similar due to the influence of one upon another. This occurs in Tonga when morphemes are combined to form words [6]. The advantage of harmony is that it results in smoother, more effortless and more economical transitions from one sound to another (Katamba 1989:80).

It is useful to look at assimilation or harmony in terms of directionality. Directionality refers to whether a sound becomes more like the sound that precedes it or the sound that follows it. If a sound becomes like the sound that precedes it, the process is called progressive assimilation. If on the other hand, a sound is modified so that it becomes more like the sound that follows it, the process is called regressive or anticipatory assimilation. The assimilation processes that apply to verb extensions in Tonga are height harmony which affects vowels and nasal harmony which applies to nasals.

4.2.1.1 Height Harmony

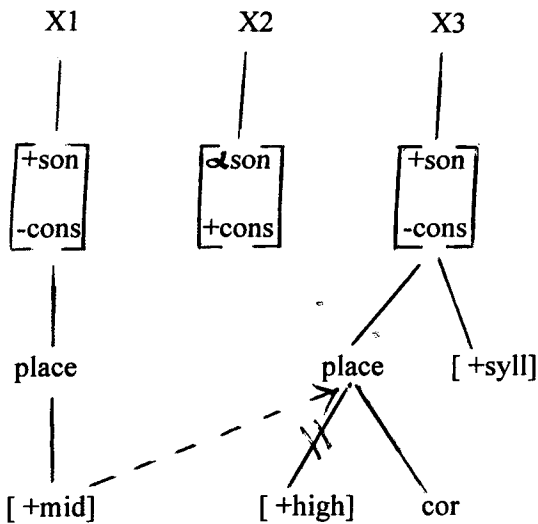
Height harmony is the phonological process whereby some vowels in a particular environment have to agree with regard to height. For the verb extensions under study, height harmony applies to the /i/ of the applied extension /-il-/; to the polyphonic causatives /-is-/ and /-isi-/ and /-ik-/

and to the /i/ of the passive extension /-igu-/. In these extensions /i/ and /i/ must agree for the feature [+mid] with the preceding [+mid] vowels /e/ and /o/ [7]. Since the two vowels are not contiguous in all the cases we have identified, the phenomenon as follows:

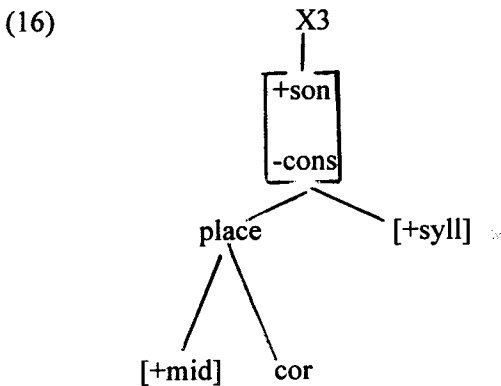
(14) $\{i, i\} \rightarrow e / \{e, o\} x ___$

(14) means that /i/ or /i/ become /e/ after either /e/ or /o/, where x does not contain any vowel, but is either a consonant or a semi-vowel. On the other hand /i/ and /i/ do not change after the [+high] vowels /u/ and /i/ and the [+back, -mid] vowel /a/. The phenomenon in (14) is formalised in (15).

(15) **Height Harmony (HH)**



The output of X3 is as follows:



That is [+son, -cons, +syll, +mid, +cor] which represents /e/. In (15) X1 represents /e/ or /o/, X2 can be any consonant or semi-vowel while X3 stands for /i/ and /i/. Prior to the application of the height harmony rule the relevant redundancy rules supplying the missing values for the features [high] and [cor] must apply.

The application of the process of vowel harmony can be seen in the extended verbs in (17), (18) and (19).

(17) **Applied Extension**

- a. mutinta wandilele^{le}la (u-a-ndi-lel-il-a) mwana
(lit. mutinta-she-has-presided-over-for-me-the baby)
'Mutinta has presided over the baby for me'
- b. mwami wasolole^{le}la (u-a-solol-il-a) bantu bakwe
(lit. the-chief-he-has-led-for-people-his)
'the chief has led for his people'
- c. mwana walilij^{il}la (u-a-lil-il-a) banyina
(lit. the-baby-it-has-cried-for-its mother)
'the baby has cried for its mother'
- d. cisyu cabalulij^{il}la (ci-a-ba-lul-il-a) bantu
(lit. the-relish-it-is-too-bitter-for-the people)
'the relish is bitter for the people'
- e. mwana wamukalij^{il}la (u-a-mu-kal-il-a) a cuuno
(lit. the-child-he-has-sat-for-him-on-the chair)
'the child has sat for him on the chair'

(18) **Causative Extension**

- a. kupenga kwakamulomeka (ku-aka-mu-lom-ik-a) mwana uuya
(lit. problems-have-caused-to-be-humble-child-that)
'problems have humbled that child'
- b. coolwe wakaeneka (u-aka-en-ik-a) mudaala a bana
(lit. coolwe-he-caused-to-sneer-at-the-old-man-by children)
'Coolwe made the children sneer at the old man'
- c. mutinta wananika (u-a-nan-ik-a) mwana mafuta
(lit. mutinta-she-has-made-to-be-oiled-the-child-oil)
'Mutinta has oiled (caused to be oiled) the child'
- d. bacembele bayumika (ba-a-yum-ik-a) nkuni
(lit. the-old-woman-she-has-caused-to-be-dry-the firewood)
'the old woman has dried the firewood'
- e. mudaala wayimika (u-a-yim-ik-a) bana
(lit. the-old-man-he-has-made-to-stand-children)
'the old man has made the children to stand'
- f. dokotela wayoyesya (u-a-yoy-isi-a) mulwazi
(lit. the-doctor-he-has-caused-to-breathe-the patient)
'the doctor has made the patient breath'
- g. mutinta waleyeyya (u-a-ley-isi-a) bana mamvwa
(lit. mutinta-she-was-made-to-dodge-the-children-thorns)
'Mutinta has made the children dodge the thorns'
- h. mutinta wayijisya (u-a-yiiy-isi-a) bana kubala
(lit. Mutinta-she-has-caused-to-learn-the-children-to read)

‘Mutinta has taught the children how to read’

- i. mukaintu watekunyisya (u-a-tekuny-isi-a) mwana
(lit. the-woman-she-has-caused-to-be-tickled-the child)
‘the woman has caused the child to be tickled’
- j. bana bayaayisya (ba-a-yaay-isi-a) mwino
(lit. the-children-they-have-caused-to-dissolve-salt)
‘the children have dissolved the salt’
- k. mucembele walikwenyese^gwa (u-a-li-kweny-is-igu-a) kusule a cinkoti
(lit. the-old-woman-she-has-caused-to-be-scratched-on-her-back-with-a maize stalk.)
‘the old woman has caused her back to be scratched with a maize stalk’
- l. mulwazi wayoyese^gwa (u-a-yoy-is-igu-a) a muncini
(lit. the-patient-he-has-been-made-to-breathe-with-a machine)
‘the patient has been made to breathe with a machine’
- m. zisani zyatubisigwa (zi-a-tub-is-igu-a) a jiki
(lit. the-clothes-they-have-been-made-white-with-jik bleach)
‘the clothes have been whitened with jik bleach’
- n. musimbi walayisigwa (u-a-lay-is-igu-a) a bamacembele
(lit. the-girl-she-has-been-made-to-be-counselled-by-the-old-women)
‘the girl has been made to be counselled by the old women’
- o. mpoto yasiyisigwa (i-a-siy-is-igu-a) a mbaula
(lit. the-pot-it-has-been-made-dark-by-the-brazier)
‘the pot has been darkened with/by a brazier’

(19) **Passive Extension**

- a. mwana watowegwa (u-a-tow-igu-a) a mamvwu
(lit. the-child-he-has-been-blinded-by-the soil)
'the child has been blinded by the soil'
- b. kayuni kateyegwa (ka-a-tey-igu-a) a bana
(lit. the-bird-it-has-been-trapped-by-the children)
'the bird has been trapped by the children'
- c. popwe lyakunygwa (li-a-kuny-igu-a) a ng'ombe
(lit the-maize-it-has-been-gnawed-by-the cattle)
'the maize has been gnawed by the cattle'
- d. mwana watingigwa (u-a-ting-igu-a) a mavwa answi
(lit. the-child-he-has-been-choked-by-bones-of-fish)
'the child has been choked by the fish bones'
- e. ng'anda yayasigwa (i-a-yak-igu-a) a bulongo a bana
(lit. the-house-it-has-been-built-with-clay-by-the children)
'the house has been built by the children with clay'

In the height harmony affecting verb extensions regressive assimilation takes place because the vowels in the verb extensions assimilate the [+mid] feature of the preceding vowels. It can also be noticed that when the preceding vowel in the radical is /e/, there is complete assimilation, whereas there is only partial assimilation when the preceding vowel is /o/ [8].

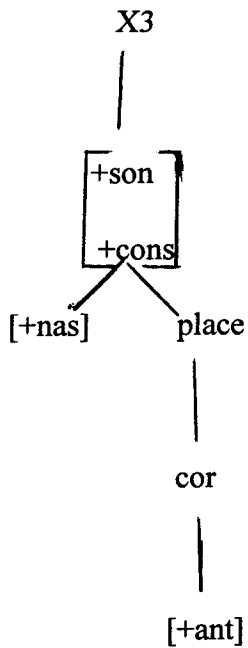
4.2.1.2 *Nasal Harmony*

Nasal harmony is the process whereby an oral segment acquires nasality from a neighbouring segment. The process can affect both vowel and consonantal phonemes and is not peculiar to verb extensions only (for examples on non-consonantal phonemes and non-verb extensions that are affected by nasal harmony refer to Katamba 1989:93).

Of the verb extensions being investigated nasal harmony or assimilation affects only the applied verb extension [9]. In this extension nasal assimilation dictates that /l/ or all /l/'s in successive syllables agree with the feature [+nas] of the preceding nasal endings of /m/ and /n/ in a verb radical. This means that all and only nasal endings of /m/ and /n/ verb radicals are lexically associated with the harmonising feature [+nas]. In Tonga there is no nasal harmony when the preceding nasal is [ŋ] as can be seen in the following examples [10]:

- (20) a. ku-kweny-a [ʒu-ʒwɛŋ-a] ---> ku-kweny-el-a [ʒu-ʒwɛŋ-el-a]
 'to scratch' 'to scratch for'
- b. ku-kony-a [ʒu-ʒoŋ-a] ---> ku-kony-el-a [ʒu-ʒoŋ-el-a]
 'to cause to inherit' 'to cause to inherit for'
- c. ku-kuny-a [ʒu-ʒuŋ-a] ---> ku-kuny-il-a [ʒu-ʒuŋ-il-a]
 'to bite' 'to bite for'
- d. ku-kany-a [ʒu-ʒaŋ-a] ---> ku-kany-il-a [ʒu-ʒaŋ-il-a]

(23)



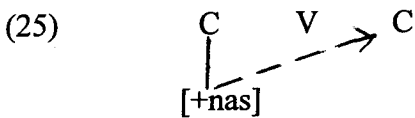
which can be summarised as [+son, +cons, +nas, +ant] which represents /n/ as can be seen in matrix 1. To account for the feature [ant] in (22) and (23) the relevant redundancy rule needs to apply. In (22) and (23) X1 is either /m/ or /n/, X2 can be any vowel whereas X3 in (22) is /l/ while in (23) X3 is /n/. The fact that in (22) X3 = /l/ and that in (23) X3 = n can be noticed from matrix 1.

Nasal Harmony is recursive: after [+nas]v, all instances of /l/ become [+nas] within the same word. This is illustrated in the following verbal forms that have the completive extension -ilil-.

- (24) a. kulila (ku-lil-a) ---> kulililila (ku-lil-ilil-a)
 'to cry' 'to-cry-completely'
- b. koonana (ku-on-a) ----> koonenena (ku-on-ilil-a)
 'to sleep' 'to-sleep-completely'

- c. kusama (ku-sam-a) ----> kusaminina (ku-sam-ilil-a)
 'to dress' 'to-dress-completely'
- d. kutuma (ku-tum-a) ----> kutuminina (ku-tum-ilil-a)
 'to send' 'to-send-completely'

It is important to note that in the NH rule presented here the two segments concerned, that is the target /l/ and the preceding nasal are not contiguous: nasality crosses the intervening vowel:



A simple explanation to offer is that V is not opaque to the spread of nasality (for a discussion on this see Hyman 1995). Similarly in Height Harmony, discussed above, the segment or set of segments between the two vowels is transparent, that is not opaque to the spread of [+mid]. Consider now the following example:

- (26) ta-ba-sek-u-i ---> tabasekwi / *ta-ba-sek-u-e ---> tabasekwe

'they are not laughed at'

The feature [+mid] of /e/ does not spread to /i/ because /u/ is opaque to the spread of [+mid]. What we observe then is that vowels are opaque to the spread of [+mid] while non-vowels are not opaque to the spread of [+nas].

The operation of (22) and (23) can be seen in (27)

- (27) a. bana balimina (ba-a-lim-il-a) mucembele muunda

(lit. the-children-they-have-cultivated-for-the-old-woman-the field)

‘the children have cultivated the field for the old woman’

- b. babbi bakamusinina (ba-aka-mu-sin-il-a) mwana
(lit. the-thieves-they-strangled-for-her-the child)
‘the thieves strangled her child’
- c. mutinta waswenena (u-a-swen-il-a) makani
(lit. mutinta-she-has-moved-closer-for-the news)
‘Mutinta moved closer for the news’
- d. watemala (u-a-tem-il-a) bana mapopwe
(lit. he-has-cut-for-the-children-maize)
‘he has cut maize for the children’
- e. wandoonena (u-a-ndi-on-il-a) a bulo bwangu
(lit. he-has-slept-for-me-on-the-bed-mine)
‘he has slept on my bed’
- f. walomena (u-a-lom-il-a) nduwe
(lit. he-has-become-humble-for-you)
‘he has become humble for you’
- g. bana bandinunina (ba-a-ndi-nun-il-a) musinza
(lit. the-children-they-have-scooped-for-me-some-gravy)
‘the children have scooped some gravy for me’
- h. nzoka yandilumina (i-a-ndi-lum-il-a) mubwa
(lit. the-snake-it-has-bitten-for-me-my-dog)
‘the snake has bitten my dog’

- i. mucembele waanina (u-a-nin-il-a) bana twaano
(lit. the-old-woman-she-has-narrated-for-the-children-stories)
'the old woman has narrated stories for the children'
- j. wanditamina (u-a-ndi-tam-il-a) mwanaangu mumulandu wakwe
(lit. he-has-named-for-me-my-child-in-the-case-his)
'he has implicated my son in his case'

We have observed from the sentences above that there is complete nasal assimilation when the preceding nasal in the radical is /n/ whereas there is partial assimilation when the preceding nasal is /m/. When some verb radicals are suffixed with the applied extension both the processes of vowel harmony and nasal assimilation occur as can be observed from (27c), (27d), (27e) and (24f) above. In such verbals, the two rules are not ordered in terms of feeding or bleeding relationship since they apply simultaneously [11].

4.2.2 Vowel Gliding

In Tonga, gliding is a phonological process whereby the vowels /i/ and /i/ when followed by non-identical vowels /e/, /a/ and /u/ become the glide /y/ and the process whereby the vowel /u/ when followed by /i/ and /e/ becomes the glide /w/ as follows:

- (28) a. { i, i } -----> y / _____ {e,u,o,a}
- b. u -----> w / _____ {i,i,e,a}

We have referred to the former as Front Vowel Gliding and the former as Back Vowel Gliding. Gliding is a general rule which is not restricted to verb extensions. It applies to all morphemes where /i/, /i/ and /u/ are followed by other vowels as presented in (29).

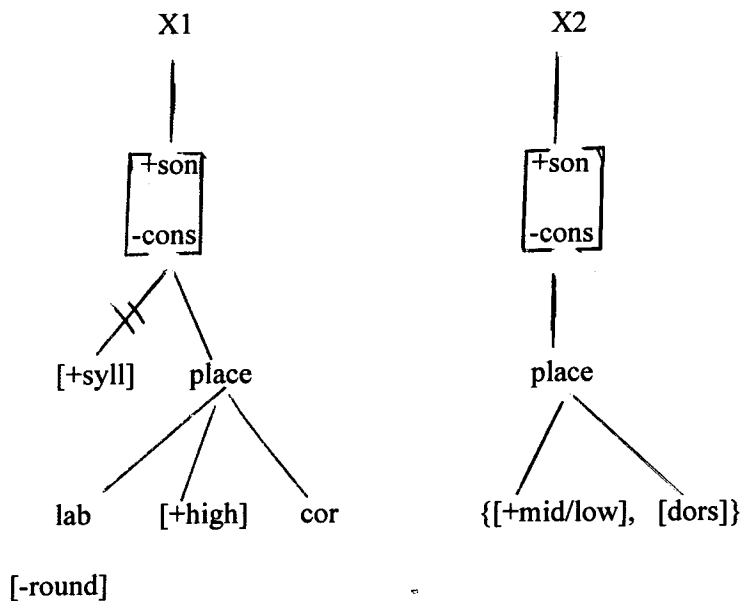
- (29) a. (i) mi-ezi ---> myeezi 'moons'
 (ii) mi-ungo ---> myuungo 'spoons'
 (iii) mi-ono ---> myoono 'fishing baskets'
 (iv) mi-aka ---> myaaka 'years'
- b. (i) ku-imba ---> kwiimba 'to sing'
 (ii) ku-enda ---> kweenda 'to walk'
 (iii) ku-ana ---> kwaana 'to tell stories'
 (iv) ku-ima ---> kwiima 'to stand up'
 (v) ku-epa ---> kweepa 'to clear grass'
 (vi) ku-anda ---> kwaanda 'to strike with lightning'

As shown in (30) /u/ does not glide before /u/ and /o/ while it is also the case that /i/ and /i/ do not glide before /i/ and /i/ [12].

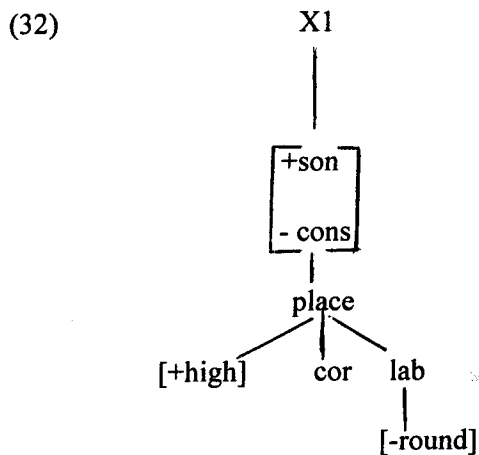
- (30) a. mu-ungo ---> muungo 'spoon'
 c. mi-indi ---> miindi 'legs'
 b. mu-ota ---> muota 'car'

We can account for Front Vowel Gliding where $\{i, i\} \rightarrow y / __ \{e, u, o, a\}$ and Back Vowel Gliding where $/u/ \rightarrow w / __ \{i, i, e, a\}$ separately as a consequence of the significant difference in their determinants.

(31) **Front Vowel Gliding**



The output of the target segment (/i/ or /i/) is as follows:

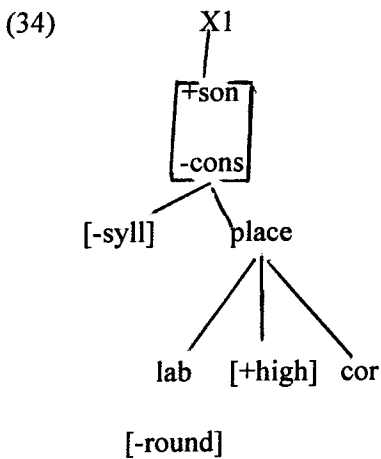


However, we assume the following principle:

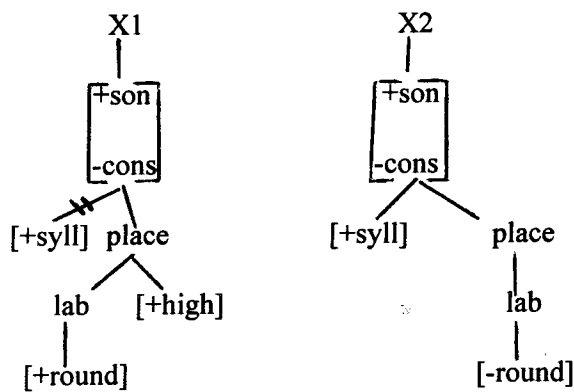
(33) **Obligatory Opposite Principle (OOP)**

When one feature F with a value α , i.e. [+F] or [-F], is delinked and no other feature spreads into its position, the same feature with the opposite value, i.e. α F, is automatically inserted in the same position.

Applying the OOP to (31), the structure of (32) becomes (34)

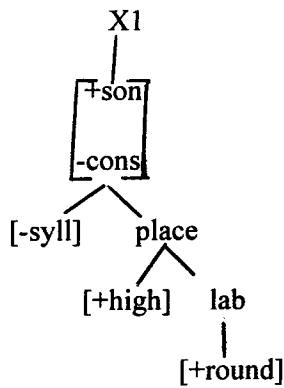


That is, [+son, -cons, -syll,+high, +cor, -round] which represents /y/. In (31), (32) and (34) X1 represents /i, i/, X2 stands for the back vowels /u,o,a/ and the mid vowels /e,o/ (refer to matrices 1 and 2). In view of matrix 2, for the Front Vowel Gliding rule to apply, the redundancy rules supplying [+high] for /i/ and [-round] for both /i/ and /i/ must first apply.

(35) **Back Vowel Gliding**

After applying the OOP, the output of X1 in (35) is as follows:

(36)



That is, [+son, -cons, -syll, +high, +round] which represents /w/ as can be seen from matrix 1. The relevant RRs supplying the value + for [high] for /u/ in the rules in (35) and (36) must apply before the above rules apply. Among the verb extensions under study, gliding applies to the causative extensions /-i-/ and /-isi-/ and to the passive extensions /-u-/ and /-igu-/.

(37) and (38) below show some of the extended verbs in which gliding takes place when they are suffixed with the causative and passive verb extensions.

(37) **Gliding with causative verbs**

- a. mwana wakamujatya (u-aka-mu-jat-i-a) mulilo
(lit. the-child-it-made-him-touch-the fire)
'the child made him touch the fire'
- b. wakamulubya (u-aka-mu-lub-i-a) banyina mwana
(lit. he-caused-to-for-get-the-mother-the child)
'he caused the child to forget the mother'
- c. bakamubayisya (ba-aka-mu-bay-isi-a) kucibbadela
(lit. they-caused-him-to-go-blind-at-the hospital)

‘they caused him to go blind at the hospital’

- d. bakamuyoyesya (ba-aka-mu-yoy-isi-a) a muncini

(lit. they-made-him-to-breathe-with-a machine)

‘they made him breathe with a machine’

- e. wakamuleyesya (u-aka-mu-ley-isi-a) mamvwa mwana

(lit. he-made-to-avoid-the-thorns-the child)

‘he made the child avoid the thorns’

(38) **Gliding with Passive verbs**

- a) mutinta walumwa (u-a-lum-u-a) mubwa

(lit. mutinta-she-has-been-bitten-by-the dog)

‘Mutinta has been bitten by the dog’

- b) muunda walimwa (u-a-lim-u-a) a bana

(lit. the-field-it-has-been-cultivated-by-the children)

‘the field has been cultivated by the children’

- c) nkuni zyatemwa (zi-a-tem-u-a) a coolwe

(lit. the-firewood-it-has-been-cut-by coolwe)

‘the firewood has been cut by coolwe’

- d) ng’ombe zyakamwa (zi-a-kam-u-a) a bana

(lit. the-cows-they-have-been-milked-by-the children)

‘the cows have been milked by the children’

- e) bamasi bakomwa (ba-a-kom-u-a) a beenzu

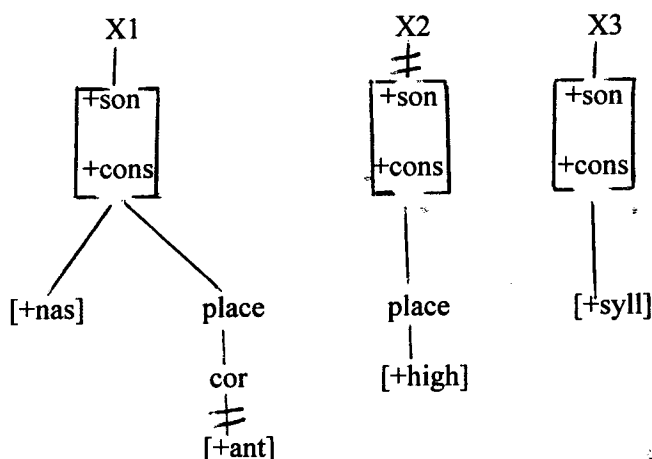
(lit. the-natives-they-have-been-defeated-by-the invaders)

‘the natives have been defeated by the invaders’

where V = vowel. What this means is that the sequence ny, is realised by [ɲ]. This is corroborated by the fact that the phonetic sequence [ny] is not attested in Tonga.

We favour the interpretation in (43) because here, just as /i/ causes some preceding consonants to spirantise (see 4.2.4), it causes /n/ to palatalise in (43) /i/ becomes /y/ under the influence of a following vowel (front vowel gliding). We formalise the rule of nasal palatalisation as follows:

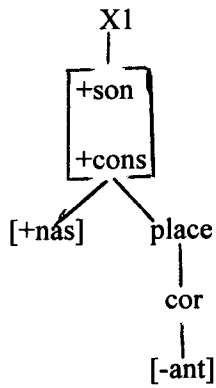
(44) **Nasal Palatalisation**



The rule says that the sequence /n i V/ is realised by [ɲV] (V = vowel)

In (44) X1 represents /n/, X2 represents /i/ and X3 represents any vowel. After applying either the RR [] \rightarrow $[-ant]$ or the OOP, the structure in (45) obtains in which $[+son, +cons, +nas, +cor, -ant]$ represents /n/ as can be seen from matrix 1.

(45)



It can be noticed that the delinking of the root, [+son, +cons], from the skeleton X means that the segment is deleted (refer also to the formulation of the OOP in 33).

4.2.4 Spirantisation

Spirantisation or mutation is a phonological process whereby phonemes that are not stridents acquire stridency. In the study at hand spirantisation results when the causative extension /-i-/ is suffixed to some verb radicals.

Examples such as those in (46) show that before /i/, /d/, /g/ /l/ and /w/ are realised by /z/.

(46) a. kufula (ku-ful-a) 'to sharpen (spear) or forge'

mu-ful-i ---> mufuzi 'blacksmith'

b. kupenga (ku-peng-a) 'to suffer'

mu-peng-i ---> mupenzi 'miserable person or a person that is suffering'

c. kulinda (ku-lind-a) 'wait or watch'

mu-lind-i ---> mulinzi 'watchman'

d. kulowa (ku-low-a) 'to bewitch'

mu-low-i ---> mulozi 'witch'

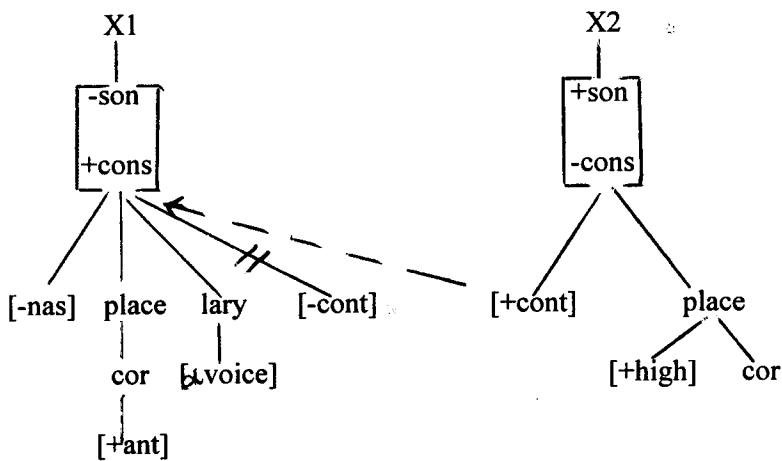
There is likewise evidence showing that before /i/, /t/, /k/ and /ʎ/ are realised by /s/.

- (47) a. kupanuka (ku-panuk-a) 'to be clever'
 mu-panuk_k-i ---> mupanu_{si} 'clever person'
- b. kujika (ku-jik-a) 'to cook'
 mu-jik_k-i ---> muji_{si} 'a cook'

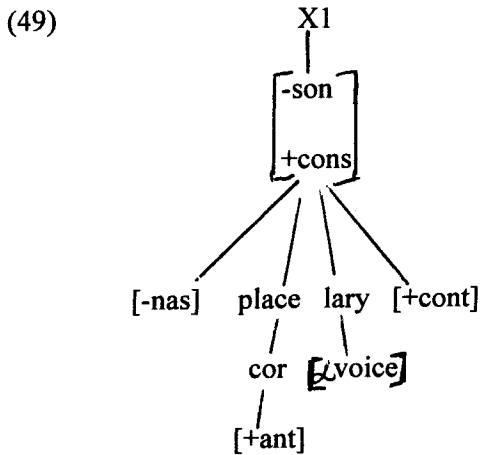
That before /i/ the voiceless consonants /t/ and /k/ are realised by the fricative [s] as shown above is expected since the corresponding voiced /d/ and /g/ are realised by the fricative /z/ (refer to (46) above). What is unexpected is that the voiced fricative [ʎ], written as **k** in Tonga orthography, is realised by a voiceless fricative instead of a voiced fricative.

We shall deal in turn with /t,d/, /k,g/, /ʎ/, /l/ and /w/ mutation or spirantisation in Tonga. The mutation of /t,d/ is accounted for as follows:

(48) **/t,d/ - mutation**

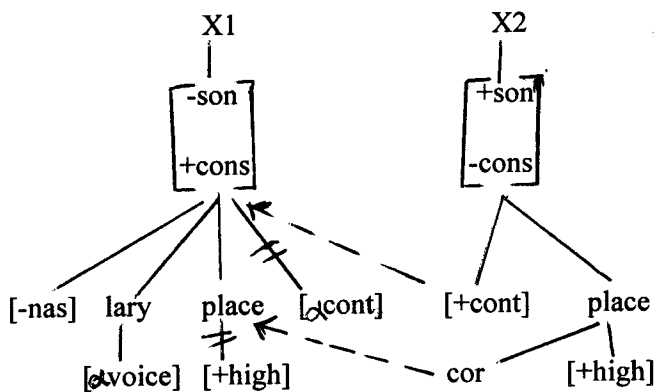


In (48) X1 = /t,d/ while X2 = /i/. The outcome of X1 is [-son, +cons, -nas, +cor, +ant, +cont, voice] which stands for /s/, if $\alpha = -$, and /z/, if $\alpha = +$ (refer to matrix 1) We formalise this outcome as follows:

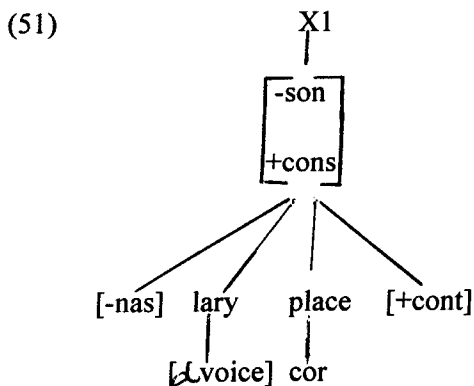


The redundancy rules for [nas], [cont] and [voice] must apply first. In addition, the relevant RRs concerning [high] and [cor] should have applied before the rule in (48).

(50) **/k,g/ - mutation**



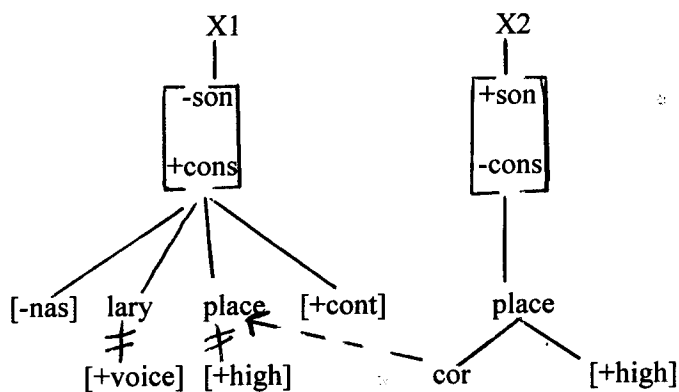
where X1 = /k/ and /g/ and X2 = /i/. The output of (50) is given below:



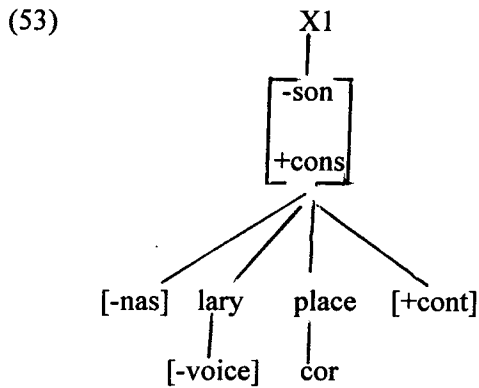
That is, [-son, +cons, +cont, -nas, voice] which represents /s/, if $\alpha = -$, and /z/, if $\alpha = +$. Note that for X1 to be appropriate the relevant RRs for [nas], [voice] and [cont] must apply first while bearing in mind that front vowels are [+coronal]. Note also that according to matrix 2, for X2 to be appropriate, the relevant RR specifying that front vowels are [+coronal] should apply first.

So far we have seen that consonant mutation does not change the value of [voice]. In the case of /s/, in addition to spirantisation there is devoicing. In other words / / \rightarrow s / $_$ i. We formulate this rule as follows:

(52) /s/ - mutation



In this rule $X1 = /ʃ/$, while $X2 = /i/$. We note that [+high] in X1 is delinked and [cor] spreads from X2 onto its place and [+voice] in X1 is delinked without being replaced by anything from X2. Therefore after applying the OOP, the structure of X1 changes to (53).



which is [-son, +cons, -nas, +cor, +cont, -voice] and represents /s/ (see matrix 1). Before the application of the rules above the RRs for [nas], [voice], [cont] and [cor] have to apply first. The operation of the process of /t,d/, /k,g/ and /ʃ/ - mutation in causative verbs is shown in (54-58)

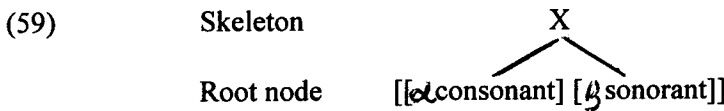
- (54) a. wabalazya (u-a-ba-lang-i-a) bbola bana
(lit. he-has-caused-to-watch-football-the children)
'she has caused the children to watch football'
- b. wabapenzya (u-a-ba-peng-i-a) bana coolwe
(lit. he-has-caused-to-suffer-the-children-coolwe)
'Coolwe has caused the children to suffer'
- (55) a. wabeenzya (u-a-ba-end-i-a) musinzo mulamfu
(lit. he-has-made-them-travel-a-distance-long)
'he has made them travel a long distance'
- b. walonzya (u-a-lond-i-a) bana

(lit. he-has-made-to-be-picked-up-the-children)

‘he has had the children picked up’

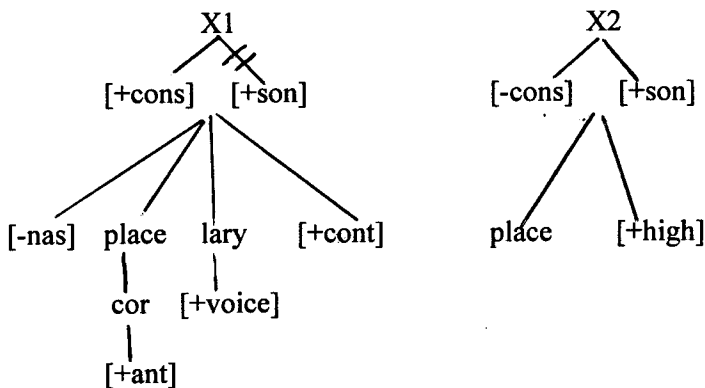
- (56) a. coolwe wabayasya (u-a-ba-yak-i-a) ng’anda bana
 (lit. coolwe-he-has-made-them-to-build-a-house-the children)
 ‘Coolwe has made the children build a house’
- b. wamusesya (u-a-mu-sek-i-a) mucembele
 (lit. she-has-made-to-laugh-the-old-woman)
 ‘she has made the old woman laugh’
- (57) a. wamusisya (u-a-mu-sikk-i-a) nkuni mucembele
 (lit. he-has-caused-to-put-on-fire-firewood-the-old woman)
 ‘he has made/caused the old woman to put firewood on the fire’
- b. wabagonsya (u-a-ba-gonkk-i-a) nkuni bana
 (lit. he-has-made-to-cut-firewood-the-children)
 ‘he has made the children cut firewood’
- (58) a. wamutansya (u-a-mu-tant-i-a) ncinga mwana
 (lit. he-has-caused-to-climb-a-bicycle-the child)
 ‘he has caused the child to climb a bicycle’
- b. wabatensya (u-a-ba-tent-i-a) sokwe
 (lit. he-has-made-them-to-burn-the-bush)
 ‘he has caused them to burn the bush’

We finally come to the mutation of /l/ and /w/. These segments pose a problem which the other segments do not. The problem is that they both involve a change in the content of the root node itself, that is, in $[\alpha \text{cons}, \beta \text{son}]$. /l/ involves the change from [+son] to [-son] and /w/ involves the change from [-cons] to [+cons]. The problem derives from the fact that the root nodes bear the features [son, cons] directly dominating some class nodes as well as some terminal features (Inkelas and Cho 1995:544). That the root node contains a set of features has been shown thus far by representing it as $[\alpha \text{son}, \beta \text{cons}]$. Given the framework adopted in this study, in which the root node is made of [consonant] and [sonorant] with underlyingly specified values (+ or -), it is necessary to assume that the root node (made of $[\alpha \text{consonant}, \beta \text{sonorant}]$) is linked to the skeleton as follows:

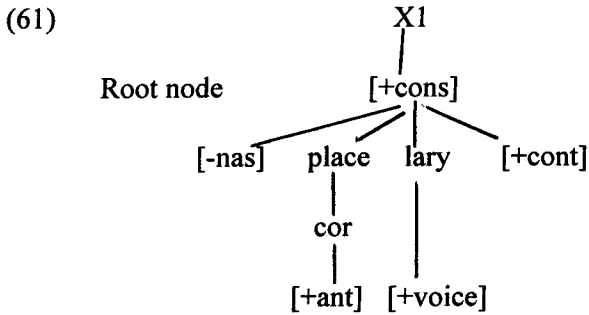


What is new in (59) is that the skeleton is no longer linked to the root node by a single line but by a double branching. This enables the analyst to delink only one of the two features which constitute the root node. Such a delinking is inevitable in the case of the /l/- and /w/- mutation rules. Given (59) above, the two rules are as follows:

(60) **/l/- mutation**



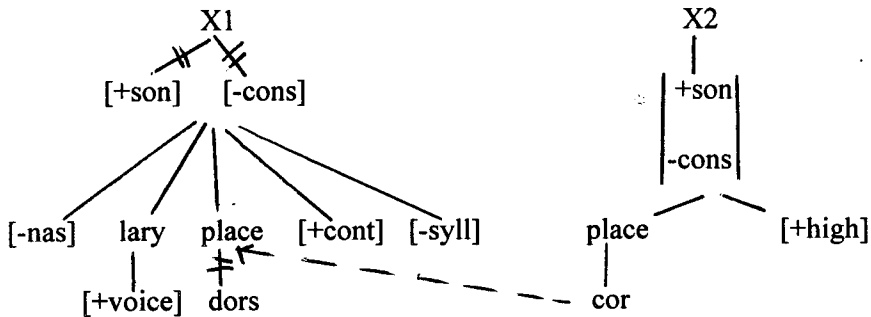
in which X1 = /l/ and X2 = /i/. The output of X1 is as follows:



That is [+cons, -nas, +cor, +ant, +cont, +voice]. Although this set represents /z/ (see matrix 1) we need a rule to insert [-son] to complete the root node since by convention, in McCarthy's (1988) model adopted here the root node must be [+son, +cons]. The OOP is such a rule.

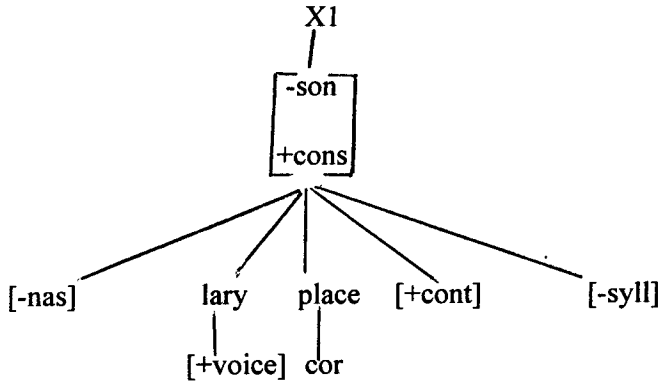
The rule of /w/ - mutation is as follows:

(62) /w/ - mutation



where X1 = /w/ and X2 = /i/. After the application of the OOP (to insert [+cons] and [-son]) the output of X1 is as follows:

(63)



That is [-son, +cons, -nas, +cor, +cont, -syll, +voice] which represents /z/ (see matrix 1). Note that the relevant RRs concerning [nas], [voice], [cont], [syll] and [cor] must apply first. The motivation for this is apparent when one looks at matrix 2.

We have seen that before /i/, /d/, /g/, /l/ and /w/ spirantise to /z/ and /t/, /k/ and /ʒ/ to /s/. However, in Plateau Tonga, the output is respectively [h̥] and [h] when /i/ becomes a glide, that is, before a vowel, which is always the case when /i/ is the causative extension -i-, as shown in

(64)

- (64) a. (i) ku-end-a [ʒweenda] 'to move'
 (ii) ku-end-i-a ---> /kweezya/ [ʒwe:fiya] 'to cause to move' [13]
- b. (i) kupenga [ʒupenga] 'to suffer'
 (ii) mu-peng-i ---> /mupenzi/ [mupenzi] 'sufferer'
 (iii) ku-peng-i-a ---> /kupenzya/ [ʒupefiya] 'to cause to suffer'
- c. (i) kufula [ufula] 'to sharpen/forge'
 (ii) mu-ful-i ---> /mufuzi/ [mufuzi] 'blacksmith'

- (iii) ku-ful-i-a ---> /kufuzya/ [ʒufuhya] 'to cause to sharpen/forge'
- d. (i) kubeleka [ʒuβeleʒa] 'to work'
- (ii) mu-belek-i ---> /mubelesi/ [muβelesi] 'worker'
- (iii) ku-belek-i-a ---> /kubelesya/ [ʒuβelehja] 'to cause to work'
- e. (i) kumita [ʒumita] 'to be pregnant'
- (ii) mu-mut-i ---> /mumisi/ [mumisi] 'person that is pregnant'
- (iii) ku-mit-i-a ---> /kumisya/ [ʒumihja] 'to make someone pregnant'
- f. (i) kucunka [ʒucunka] 'to trot'
- (ii) ku-cunk-i-a ---> /kucunsya/ [ʒucunhja] 'to make to trot' [14]
- g. (i) kugunwa [ʒugunwa] 'to be embarrassed'
- (ii) ku-gunw-i-a ---> /kugunizya/ [ʒugunihya] 'to cause someone
to be embarrassed' [15]

Theoretically, there are two ways of accounting for [ɸ] and [h] in data such as (64). The first way is as follows:

- (65) d,g,l,w ---> z / ___ i and
d,g,l,w ---> ɸ / ___ i V, where V is any vowel.

In other words

- (66) /d,g,l,w/ ---> [z] before nonprevocalic /i/
---> [ɸ] before prevocalic /i/

while

- (67) t,k,ʒ ---> s / ___ i and
t,k,ʒ ---> h / ___ i V, where V is any vowel. That is to say,
(68) /t,k,ʒ/ ---> [s] before nprevocalic /i/

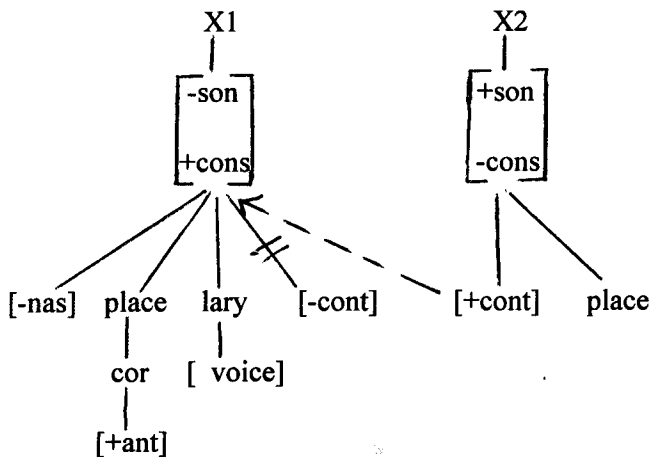
---> [h] before prevocalic /i/.

Note that by Elsewhere Condition, /d,g,l,w/ are realised by [d], [g], [l] and [w], respectively, and /t,k,ʒ/ by [t], [k] and [ʒ], respectively. Clearly, what happens in (65), (66), (67) and (68) is a simple allophonic variation. For instance, in other words, the allophonic rule for /d/ is as follows:

- (69) /d/ is realised by (a) [z] before nonprevocalic /i/ ,
 (b) [h] before prevocalic /i/, and
 (c) [d] elsewhere.

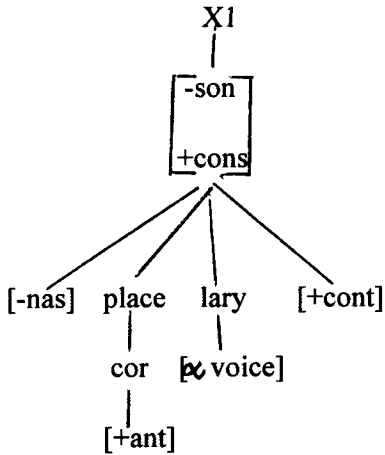
If this view was adopted, then it would be necessary to formulate two rules for each case, that is, for /t,d/, /k,g/, /l/, /ʒ/ and /w/. In each rule we should add a symbol for instance and say that the first rule accounting for /z/ 'where /z/ is anything except a vowel' and for the second rule accounting for [h] 'where X2 is a vowel'. For instance the two /t,d/- mutation rules would be as follows:

(70) /t,d/- mutation I

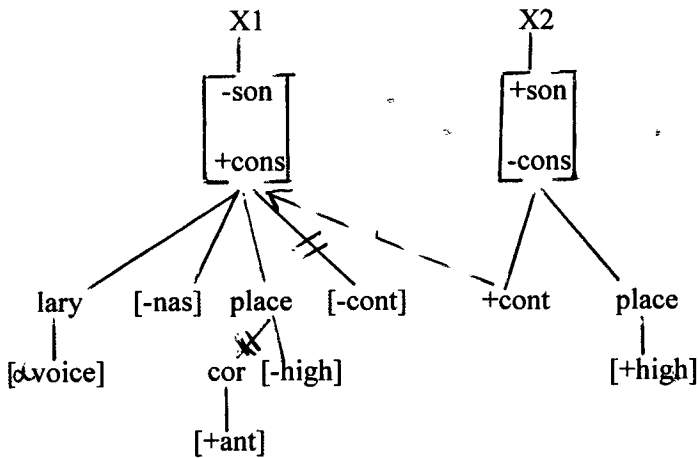


where X1 is anything except a vowel while X2 is a vowel. This rule which accounts for [z] has the following output:

(71)



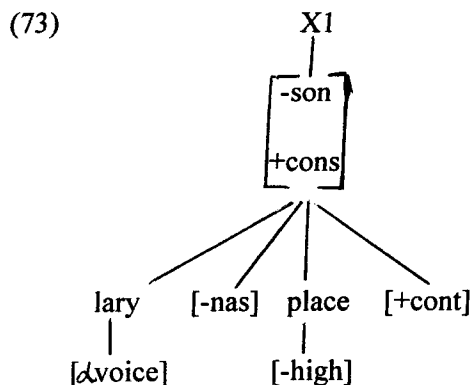
The second rule which accounts for [f] would be as follows:

(72) /t,d/- mutation II

First note that the features under X1 represent /t,d/ in both matrices although in matrix 2 the value of [high] for /t,d/ and the value of [voice] for /d/ are not given. In other words to refer to the set /d,t/ it is not necessary to apply the RRs concerning these two features. In contrast, for X2 which stands for /i/ only, it is necessary to apply the RRs supplying the missing value for

[high] for vowels. As it is, X2 stands for /i/ only since in matrix 2 /i/ is the only [+high] vowel.

The output of X1 is as follows:



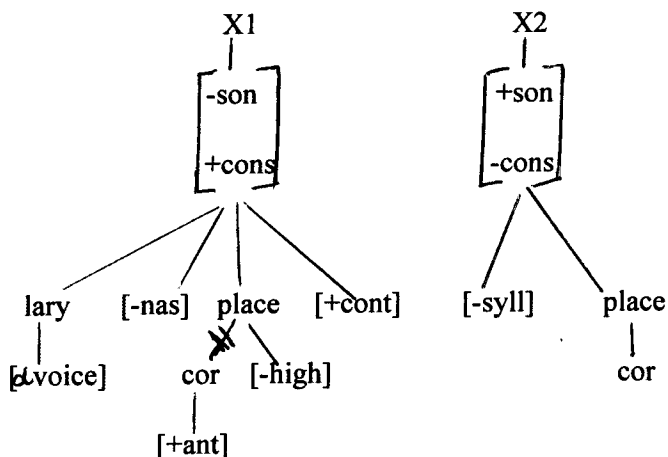
That is [-son, +cons, -nas, -high, +cont, voice]. Although the set [-son, +cons, -nas, -high, +cont, ±voice] does not represent only /h,ɦ/ in matrix 1, it does in matrix 2, if we apply the RR [] ---> [+voice]. While the set [-son, +cons, -nas, -high, +cont, -voice] represents /h,s/ and the set [-son, +cons, -nas, -high, +cont, +voice] represents /ɦ, z, β/ in matrix 2, the structure under X1 represents only [h,ɦ] since to have /s,z/ we need the node [cor], which is no longer present, and to have /β/ we need the node [lab] which is not present either in (72) or (73).

Given that before a vowel /i/ becomes /y/, the second way of accounting for [ɦ] and [h] is simply to formulate a rule stating that in Plateau Tonga the segments /z/ and /s/ immediately preceding /y/ are phonetically realised by [ɦ] and [h], respectively:

- (74) a. z ---> [ɦ] / ___ y
 b. s ---> [h] / ___ y

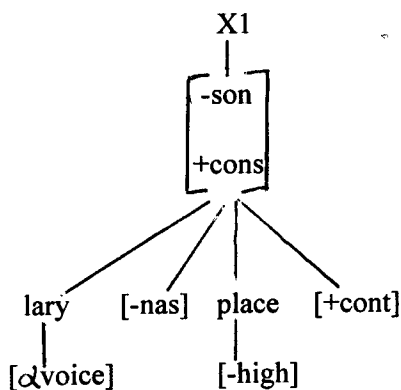
Note that in Plateau Tonga the sequences [zj] and [sj] are not attested and that wherever [zj] and [sj] occur in Valley Tonga we have [ɸj] and [hj] in Plateau Tonga, respectively. The facts in (74) can be formalised as follows:

(75) **z - Glottalisation**



It can be noticed that the output of X1 in (75) is the same as the structure in (73), which as we have argued represents only /h,ɸ/:

(76)



Take note that both derived or nonderived [z] and [s] in the sequences [zj] and [sj] in Valley Tonga correspond to [ɸ] and [h], respectively, in Plateau Tonga, as shown below:

(77)	<u>Valley Tonga</u>	<u>Plateau Tonga</u>	<u>Gloss</u>	<u>Derived/Nonderived</u>
	[ɸufuzya]	[ɸufuhja]	'to cause to sharpen'	derived

[ɣupenzya]	[ɣupenhja]	'to cause to suffer'	derived
[ɣweenzya]	[ɣweenhja]	'to make to move'	derived
[ɣuβosya]	[ɣuβohja]	'to make beautiful'	derived
[ɣosya]	[ɣohja]	'to cause to be poisoned'	derived
[ɣwaazya]	[ɣwaahja]	'to greet'	derived
[ɣucisya]	[ɣusihja]	'to make sick'	derived
[ɣuyoosya]	[ɣuyooahja]	'to make scared'	derived

4.2.5 Summary

Under the theory of underspecification, the input and output of a phonological rule can be an underspecified segment or a set of underspecified segments, or a segment or a set of segments partially specified (with some features specified underlyingly and other by RR's).

In this study we have assumed that a feature [f] (where = + or -) can be delinked by a phonological rule and then reintroduced with the opposite value later by an RR as advocated by the OOP. We have shown that this principle applies to all rules we have formulated, such as follows:

a. **Height Harmony**

[+high] is delinked and is replaced by [+mid].

b. **Nasal Harmony**

[-nasal] is delinked and is replaced by [+nasal].

c. **Front Vowel Gliding and Back Vowel Gliding**

[+syll] is delinked and is replaced by [-syll].

d. **Nasal Palatalisation**

[+ant] is delinked and is replaced by [-ant].

e. **Spirantisation**

(i) **/t,d/ - mutation**

[-cont] is delinked and is replaced by [+cont].

(ii) **/k,g/ - mutation**

[+high] is delinked and is replaced by [cor].

(iii) **/ð/ - mutation**

[+voice] is delinked and is replaced by [-voice].

(iv) **/w/ - mutation**

[+son], and [-cons] are delinked and are replaced by [-son], and [+cons], respectively.

On the basis of this we have assumed the following distinction between the two types of RR's.

a. **Prephonological RR's**

These are needed for some phonological rule to apply;

b. **Postphonological RR's**

These must apply after some phonological rule, though they need not apply after all the phonological rules.

ENDNOTES

1. We are not looking at all the rules affecting the extensions such as tonal rules and obvious rules such as metathesis.
2. We do not discuss or outline all the redundancy rules involved in this study and the matrices we have provided as this is not the objective of our work.
3. Note that c = [-tense], j = [+tense].
4. some authors distinguish /i/ and /i/ underlyingly by positing /i/ as 'extra-high' or 'tense' (see for instance Bastin 1986 and Myers 1995:211).
5. The two sounds occur in the spelling system of Tonga because of the orthographic convention that has been adopted for all Tonga dialects. While they are pronounced as the fricatives [f] and [v] in some Tonga dialects such as Valley Tonga, they are realised as the glottal [h̥] in the phonetics and pronunciation of Plateau Tonga.
6. Some linguists have referred to harmony as assimilation. We therefore use the two terms interchangeably.
7. The rule of height harmony applies to all verb extensions in Tonga.
8. Complete assimilation occurs when the sounds involved become identical while partial assimilation occurs when the sounds involved become similar but not identical.
9. Nasal assimilation applies to all verb extensions in Tonga.
10. On the other hand we cannot argue on or provide examples to show whether nasal harmony would occur when the preceding nasal is [ŋ] since this consonant never occurs in the word final position in Tonga.
11. There are two competing theories on rule ordering. On the one hand, extrinsic rule ordering assumes that rule ordering is subject to language specific restrictions. On the

other hand, intrinsic rule ordering says that rule ordering is solely determined by universal principles (for details, see for example, Koutsodas et al 1971).

12. We are not able to provide examples of the gliding of /i/ outside verb extensions because situations outside verb extensions in which /i/ is followed by the non-identical vowels /e,u,o,a/ is not attested in Tonga. Also note that the sequence /i i/ is not attested in Tonga.
13. For this example there is no corresponding nominal attested in Tonga.
14. Ibid.
15. Ibid.

CHAPTER FIVE

CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

5.1 Summary of the Findings of the Study

The objective of this study has been to present an analysis of the morphology, syntax, semantics and phonology of the applied, causative and passive verb extensions in Tonga.

In the morphological analysis which aims at showing how verbal extensions can be derived within the lexicon we have argued that derivation and compounding are entirely dealt with in the lexicon while inflection which encompasses verb extensions is handled both by syntax and the lexicon. Syntax handles inflection in that some phrase-structure rules generate morphosyntactic categories involved in inflection. On the other hand, the lexicon deals with inflection by virtue of containing inflectional rules as well as 'readjustment' rules which give phonological shapes to abstract morphosyntactic formatives such as ext = applied extension, p = past tense.

In the semantic analysis which has considered the thematic roles of the arguments of the three verbal extensions a number of observations have been made. With regard to the applied extension it has been observed that it is characterised by thematic polysemy because it is associated with several theta-roles and that a given applied verb may be thematically ambiguous since it can have several readings and interpretations. Despite this, it has been shown that applicativisation does not 'violate' the theta-criterion because we can disambiguate and hence determine the thematic interpretation or recognition of the argument associated with the applied extension on the basis of

- a. the meaning of the particular argument;

- b. the meaning of the base radical; or
- c. the context of communication

Of the causative extension it has been established that unlike the applied verb argument which is associated with several theta-roles, the causative verb argument has only one theta-role, the causer, although there are various types of causation. These different types of causation are determined on the basis of the involvement of the causer argument in the execution of the action denoted by the verb.

On the whole when a sentence is passivised there is no change to the thematic roles of its arguments since passivisation only provides for the movement of the d-structure internal argument (carrying with it its thematic role) to be or to fill-up the empty s-structure external argument position.

The syntactic analysis which is meant to outline the argument structure of applied, causative and passive verbs in Tonga has ascertained that when a verb is applicativised, it retains the argument of the simplex radical from which it is formed under the principle we have referred to as the Argument Inheritance Principle and in addition acquires another argument which is the argument of the applied verb under the principle we have called the Argument Increment Principle.

We have also shown that in applicativisation, the benefactive argument is the most productive in that most bases allow for it. The locative, purpose, reason and instrumental arguments then follow. Most bases that will accommodate benefactive, location, purpose, reason and instrumental arguments are in the category of stative verbs. On the other hand only transitive

bases allow for possessive arguments while only movement verbs are associated with goal, source and passage arguments.

It has further been shown that the argument associated with the applied extension in an applied sentence occupies the position immediately after the applied verb for non-place arguments while place arguments occupy the right most position in a sequence of arguments in an applied sentence. On the other hand instrumental arguments in an applied sentence occupy the sentence initial position at s-structure although at d-structure they occupy a post-verbal position.

On the causative extension it has been noticed that just as is the case with the applied extension, a causativised verb inherits the argument of the simplex verb radical and in addition acquires another argument, which is the argument of the causative verb, through the principles of Argument Inheritance and Argument Increment, respectively.

It has also been ascertained that the argument brought about by causativisation is always an external argument and therefore occupies the pre-verbal position and that because of this when a verb is causativised what was the external argument of the simplex radical is internalised and is 'demoted' into the immediate postverbal position in a causative construction. In causativisation, we can 'demote' patient, agent, experiencer and instrumental arguments.

Concerning passivisation, we have presented data to indicate that in passivisation there is movement of the d-structure internal argument to be the s-structure external argument, hence assuming the subject position, by the rule move alpha and that for passivisation to occur, the external argument must be empty. That is, not filled by any lexical material at d-structure. The

verb must also be in the passive form. On the basis of this a passive sentence cannot be said to be derived from its related active counterpart.

It has also been noticed that most transitive verbs and a few intransitive verbs can passivise although it is not predictable as to which transitive verbs cannot and as to what intransitive verbs can passivise as such data would only be reflected in the lexicon.

With reference to what post-verbal non-sentential constituents can passivise by being able to move into the empty subject position of a passive sentence, it has been shown that it is possible to passivise the following:

- a. patient, locative, goal and theme arguments that occur with simplex verb radicals;
- b. benefactive, possessive, patient and goal but not source and passage arguments that occur with the applied extension;

We have also produced data to establish the fact that with regard to object marking, whereas it is possible to mark objects of active sentences passive objects cannot be object marked. Regardless of this it has been shown that with monotransitive verbs we can object-mark benefactive, purpose applied verb arguments; patient and experiencer causative verb arguments.

On the other hand ditransitive verbs can be object marked for possessive, instrumental, goal applied verb arguments; patient and instrumental causative verb arguments. Nevertheless, it has been shown that there is a limit on the number of arguments a verb can take because of the Maximality Condition.

On the phonological aspects that concern the extensions it has been observed that the three extensions are affected by the phonological processes of height harmony, nasal harmony and gliding which apply to the extensions and the phonological processes of spirantisation and palatalisation which apply to other segments within the extended verbal forms as a result of the presence of the verb extensions.

With reference to the verb extensions that have been analysed, height harmony affects all the three extensions while nasal harmony affects the applied extension. On the other hand gliding applies to the passive and causative extensions. Spirantisation and palatalisation are manifested with the causative extension.

With the application of Underspecification Theory we have shown that the input and output of a phonological rule can be an underspecified segment or a set of segments or a segment or a set of segments partially specified (with some features specified underlyingly and others by RRs).

Finally, in this study we have assumed and shown that a feature F (where $= +$ or $-$) can be delinked by a phonological rule and then reintroduced with the opposite value later by a RR as advocated by the Obligatory Opposite Principle (OOP). On the basis of this principle we have established the following distinction between two types of RRs, namely Prephonological RRs, which are needed for some phonological rule to apply and Postphonological RRs, which must apply after some phonological rule, though they need not apply after all the phonological rules.

5.2 Implications of the Findings of the Study and Suggestions for Further Research

By applying particular modern theoretical models our study has shown that linguistic models which have not been evolved on the basis of Bantu languages can on the whole be fruitfully applied to Bantu languages, such as Tonga. However, there are some instances when some aspects of the theories would need to be revised so as to suit the revelations of the data of such languages. With reference to our study this can be noticed in our discussion of theta-roles of applied verbs and the Theta-Criterion.

We have also shown that the employment of linguistic theories in the analysis of aspects of language highlights some facts about such aspects of language that would otherwise be obscured if what is observed is merely recorded without attempting to analyse and provide explanations for such occurrences within the context of a linguistic model.

However, as pointed out under the objectives and limitations of our study there are other matters relating to verb extensions that we have not looked at in our study that would be worth taking into consideration for any future research. These could include:

- (a) the analysis of the other verb extensions not analysed in this study, using the same theoretical models so as to establish whether the results would be similar;
- (b) the use of oral texts as sources of data as opposed to written texts in order to determine whether this would have a bearing on the results;
- (c) a study of the pragmatics of verb extensions; and
- (d) the analysis of not only segmental but also suprasegmental features of extensions.

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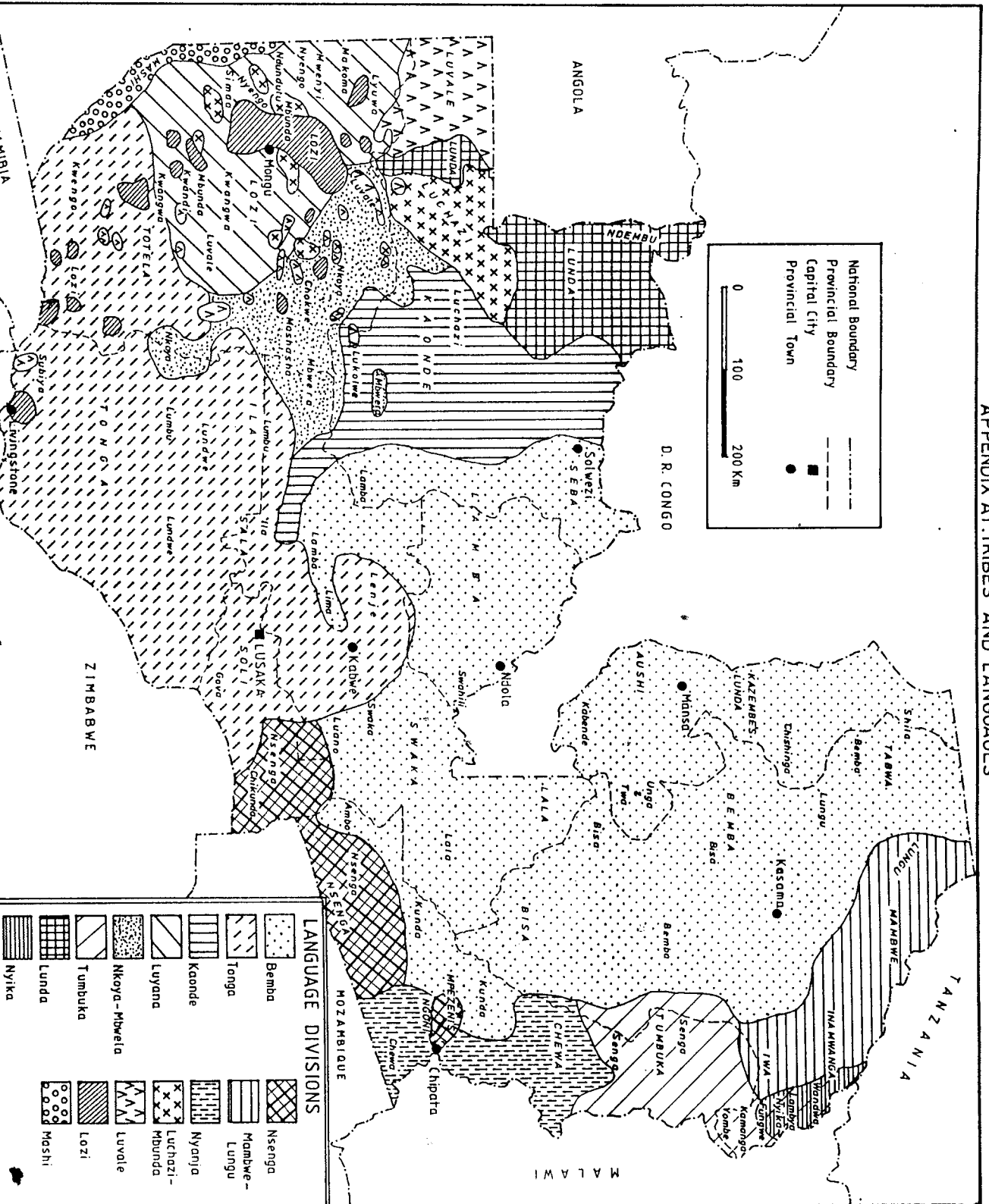
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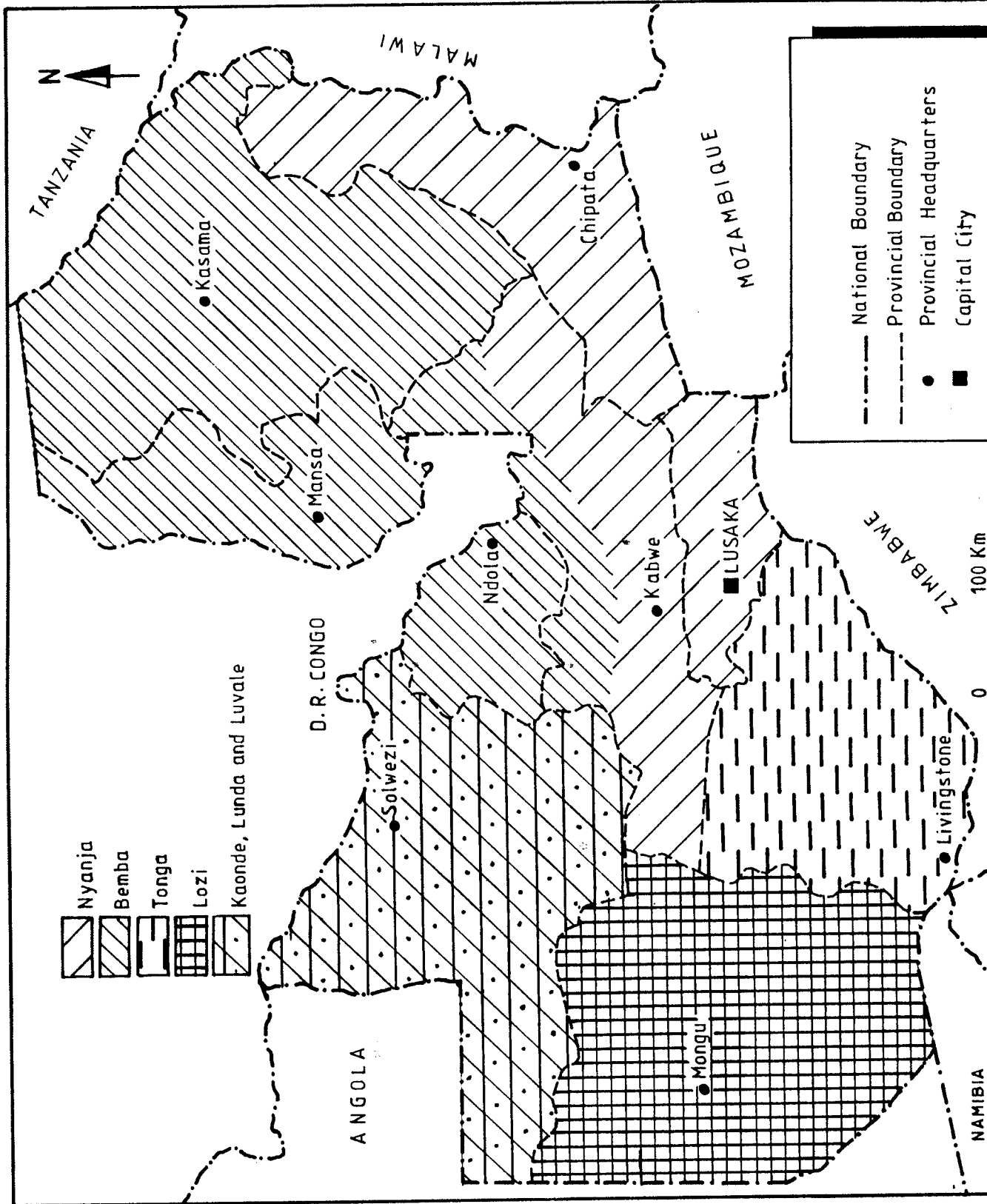
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APPENDIX A: MAPS

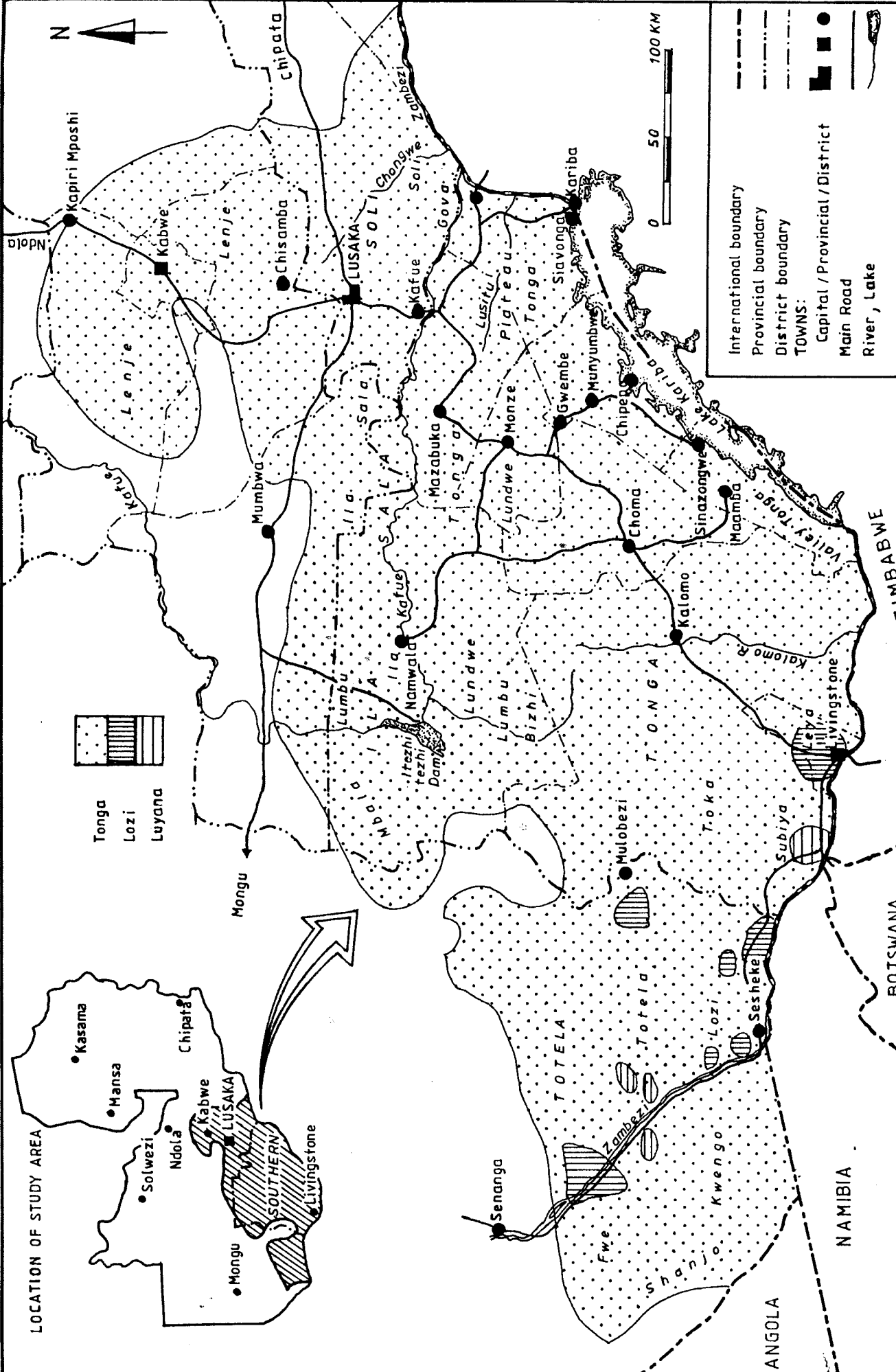
APPENDIX A1: TRIBES AND LANGUAGES



APPENDIX A2: MAP OF ZAMBIA'S OFFICIAL LANGUAGES



APPENDIX A3: MAP OF TONGA DIALECT CLUSTERS



APPENDIX B: SAMPLE DATA

All the data supplied in this appendix are taken from Haangala's (1989) novel entitled Kuno Nkuu Lusaka. However, these are not the only data used in this thesis. As we have pointed out in the section 1.4.1 above our study is based on data from several other novels, readers and grammars. We have opted to provide data from this one source, which was chosen at random, so as to show how for every novel, reader and grammar we used as our source of data, we noted down and analysed all instances where the applied, causative and passive verb extensions appeared.

Appendix B1: Applied Sentences

1. *nkujana taina kymana nsondo wapya kale tana akutumina mali kumudaala kumunzi*

'you would find that before the end of the week he would get broke before he even sends money to the village to the old man'

2. *alimwi kuti maliya utamutambuli kabotu alalibonena (p.57)*

'if you do not receive Maliya properly you will see 'also own your own'

3. *undibuzyila nzi? (p.58)*

'why are you asking me?'

4. *wakasola kuunka ku bang'anga pesi abalocakabaalila (p.58)*

'he tried to go to witchdoctors but they also failed saying his illness was incurable'

5. *mali oonse ngakakweletele mwanaakwe kuti atansye citima wakaakaka*

wakajokela kumunzi kanyemedede(p.57)

‘even the money his son had borrowed for his transport he refused it he went to the village very angry’

6....kasimpe inga wandiluba buti ndakakubbadelela cikolo (p.58)

‘...surely how can you forget that I paid for your education’

8. aalo manyongwe mpaakajanina nsonje mung’anda yabana mulembwe (p.58)

‘also problems that was when they started in the Mulembwes house’

9. ...pesi walo taakaleka muzeezo oyu kusikila buzuba oobo mbwakayeeya kuti ulaunke akamulete (p.59)

‘...but him he never gave up on this thought until the day he decided to go and bring her’

10. kumane wakaliwalila mu ncikini akutalika kujika mbuli ...mbwakalaililwa (p.59)

‘after that she threw herself into the kitchen and started cooking as she had been instructed’

11. twalumba mwatuletela mweenzuma (p.59)

‘thank you you have brought us a friend’

12. pesi walo ino ngooyu mukaintu wakali kwiile kukkomana akutondezya kuti alamukkomina maliya (p.59)

‘but the wife was just happy showing that ...she was pleased with Maliya’

13. kayi mwakandiletela wakwaambaula limwi (p.60)

‘because you have brought me someone to talk with’

14. mbwakanjilila biyo 'nkece' wakakiya cijazyo muka mulembwe (p.60)
 'immediately she entered Mulembwe's wife closed the door'
15. yebo nkulimvwa nzi ncoyandila mulumaangu, undinyange mebo
 ndakasaanguna kulibonena (p.61)
 'you, what courage did you have to have wanted my husband, you
 get him away from me who first found him for myself'
16. notali yandawida basankwa yebo olikke (p.61)
 'why didn't you look for yourself your own man alone'
17. ee ma kolijanina wako utakuumi musako (p.61)
 'ee you find one for yourself for whom you would have no quarrels'
18. maliya wakalibonena tunyenyenzi tuzyana-zyana muluwo (p.61)
 'Maliya saw for herself stars dancing in the air'
19. muka mulembwe wakakkilula cijazyo akutonkela maliya kuzyuli
 lyakwe (p.62)
 'Mulembwe's wife opened the door and pushed Maliya to her bedroom'
20. ino kakali kuzuminina nzi kakaile kundisowela ciindi (p.63)
 'why did she accept she just wasted my time'
21. wakazyiba kuti maliya ulizimbide ncaakakila ...kumubona
 mulembwe (p.63)
 'she knew that that means Maliya was swollen that was why she had
 refused to see Mulembwe'
22. ...wakalisekela biyo mucamba akulilumbaizya... (p.63)
 'she just laughed to herself in her heart and she praised herself'
23. ambeyo ndati ino undibuzyila nzi? (p.66)

‘ I also said why are you asking me?’

24. ...ndakomba inga kamundiletela mali (p.66)

‘...am pleading with you please bring me some money’

25. ...mukaintu wakadadalikila kubwaanda (p.66)

‘...the woman staggered towards the wall’

26. mpootalikila kundisoka waluba hena kuti me ndauma (p.66-7)

‘since you started provoking me you have forgotten that I beat’

27. awalo haamaleke takalindila wakasotokela anze (p.67)

‘also Hamaleke did not wait he jumped outside’

28. kucitisyini kutantilwa malifuti kwakali bantu bakali kuboolela twabo
(p.67)

‘at the station for boarding lifts from there were a lot of people who had
come there for their own reasons’

29. ...bamwi bakali kuboolela kubbida beenzinyina (p.67)

‘...some were coming to steal from their friends’

30. .mali manji ngaakali kuvwola akali kumanina mubukoko
akubasimbi (p.68)

‘...most of the money he was paid was spent on beer and women

31. kuli santani wandibbida mali (p.69)

‘there is satan who has stolen my money’

32. koleta mali njanda kweenda mebo atandisoweli ciindi (p.69)

‘bring the money I want to go do not waste my time’

33. ...ino ccita naa nguni wandibbida kunyina mali (p.69)

‘now I do not know who has stolen from me there is no money’

34. limwi hamaaleke wakalizyibila kuti zintu zyalula (p.70)

‘eventually Hamaaleke knew for himself that things had gone sour’

35. naakalanga wakabona abungene bakaintu eelyo wakasotokela mpawo
(p.70)

‘when he looked he saw where there were women gathered then he jumped
over where’

36. bakaintu bakatija bamusiila nzila...(p.70)

‘the women ran away and left way for him...’

37. wakakonkola cakubinda kaompolola kati ‘ kamundijulila na malala
balandijaya’ (p.70)

‘he knocked in a hurry shouting saying that open for me mother of
Malala they will kill me’

38. ani walo alisi wakacili nyemedede eelyo wakamutontela anze hamaaleke
akukkiya alimwi (p.70)

‘not knowing that Alice was still angry she pushed Hamaaleke outside and
locked again’

39. ndali kuyanda kuti nkuletele mali (p.70)

‘I wanted to bring you the money’

40. ino sunu wanjilwa nzi ncoti ndiletele mali? (p.70)

‘what has entered you today for you to bring me money?’

41. umane utijila kuli ndime (p.71)

‘thereafter you ran over to me’

42. hamaaleke wakasola kulikombelela walo alisi wiile kuseka (p.71)

‘Hamaaleke tried to plead but Alice was just laughing’

43. pesi naakamana kuula taakajokela kung'anda ndimuunya pe (p.72)

'but after buying he did not go home immediately'

44. aboobo takanaba kaindi mulombwana wakalijanina kumutendere

(p.73)

'as a result in no time at all the man found himself in Mutendere'

45. eelyo malala wakali kunga lyoonse mbwakotokela uli ku mutendere

(p.73)

'as a result he would immediately he knocks off he was in Mutendere'

46. ...mwanakasuwa mebo ngunkila biyo bukoko (p.73)

'my wife me I just go for beer'

47. alimwi kunyina abasimbi ku bba nkwenyida (p.73)

'also there are no women at the bar where I drink from'

48. kuti nkamvwe biyo kuti mwali ku mutendere alimwi, kamulizyibila

(p.74)

'if I just hear that you were in Mutendere know for yourself'

49. ...wakasoka umwi muntu ngubakali kuyoowa akumuuma cakuti

wakaakuponena kucibbadela (p.74)

'...he started a fight with someone they were all scared of and beat him

so much that he recovered from the hospital'

50. ...kuzwa munsondo naakaula dikiti taakajokela kung'anda pe... (p.74)

'..since Sunday when he bought the ticket he did not go back home'

51. wakaambila kasimbi kakwe kuti kamubikile meenda aakusamba

(p.75)

'he told his girl friend to put water for him to bath'

52. nasamba wakali kuyeeya ncakali kupengela kusambila mukavwuka
kakuli wakali jisi ng'anda mbotu yakajisi akaanda kakusambila
mukati alimwi a meenda aamupompi (p.75)

'while he was bathing he was thinking as to why he was suffering
bathing from an enclosure and yet he had a beautiful house which
had a room for bathing in inside and also had water from a tap'

53. ...amane wakalya kasima kankuku nkaakamujikila (p.75)

'...thereafter he ate the little nsima with chicken she had cooked for
him'

54. mucaangu, ccita na nkaanga meli kakamubikkilide tusamu ...abwalo
bwabili wakakolwa (p.76)

'poor him, not knowing whether Mary had put medicine for him even
the second day ... he got drunk'

55. ...malala wakakanyemena ati kakali kuyanda kujaya...ng'anda yakwe
(p.76)

56. '...Malala got angry with him a lot and said she wanted to wreck his
marriage'

56. kayi mebo ndakuyanda ncekutolela kuti akaone...kung'anda yangu
(p.76)

'the reason is because I love you that is why I take you to go and sleep at
my house'

57. waakwaamba kabotu uyakukulekelela mukaintu wako (p.77)

'if you explain properly your wife will forgive you'

58. mbubakazwida biyo, meli wakatozya akakkede musankwa umwi
wakajisi bubi kumutyankila liso malala naakaciliko (p.78)

‘immediately he left Mary went to where a certain man who had been
winking an eye at her while Malala was still around was seated’

59. mulombwana wakanjila munkomo amanza aabimba, akupa meli
K20, bamane bakabbilila mutwaanda twaku mutendere (p.78)

‘the man got into his pockets and with shaky hands took out K20
to give Mary, thereafter they disappeared in the little houses in
Mutendere’

60. uyanda kuti ujokele (p.78)

‘you want to go back’

71. ...eelyo wakasobelela awalo waakubweza nkoli njibakali
kubikkila kuti naa kukasike ubba pele nduuma (p.78)

‘then she quietly walked and got a walking stick which they had been
keeping in case of thieves breaking into the house it was death’

72. ...wakalibambila kuti mbwatijulile buyo pele ninkoli ...yaankumo
(p.78)

‘...she got ready saying immediately he entered she would hit him on the
forehead’

73. ...ngamunya masiku wakalyangilila akasamu kamango mulubuwa
lwabo (p.79)

‘...the same night she hanged herself on the mango tree in their yard’

74. bausyi bakayakile atala-tala acikolo cipati (p.80)

‘his father had built his home overlooking a very big school’

75. ...bausyi bakamwiitila kuzyuli akuti mwanaangu uyanda kumanizya cikolo... (p.80)

...his father called him to the bedroom saying my son you are about to finish school...’

76. ...mumoyo kati antela bayanda kale kwaamba kuti bakamujanina kale musimbi wakukwata (p.81)

‘...in his heart he was just thinking that maybe he wanted to tell him that he had found for him a girl to marry’

77. ...kabacili bana, bakali ujisi kufwebelela basimbi... (p.81)

‘...when they were still young, they used to smoke some medicines for girls...’

78. ...mbotimane cikolo mwakali weelede kulikwabilila (p.81)

‘...immediately you finish school next year you should protect yourself’

79. eelyo cilala wakajokela kakwiina kulya musamu (p.81)

‘therefore Chilala went back without taking the medicine’

80. ino yebo mbobelekela mu lusaka ukamuyandaule (p.81)

‘since you work in Lusaka you should look for him’

81. wakajokela ku lusaka... (p.82)

‘he went back to Lusaka...’

82. mbwakanjilila buyo mulubuwa tana akuti hodi kwakazwa mwana
mukaanda kakali kolikke ambo amunzi wamudaala (p.82)

‘immediately he entered the yard before acknowledging his

presence there came out from a house that was on its own a child’

83. eelyo chilala wakamuzyiba mudaala nkaambo wakali kumubona-

84. bona ciindi nakali kusilikila kumunzi (p.83)

‘then Chilala recognised the old man because he used to see him often the
time he was healing from the village’

84. ino kayi bakabajayila nzi? (p.83)

‘why did they kill them?’

84. ...mpamunya musamu wakali mukati wakatikila ansi akali kuyaka
mulilo ngwakayasyide mudaala (p.85)

‘...then the medicine which was inside spilt on the ground where there was
a fire the old man had lit’

85. komuyasa nataninga bbilila (p.85)

‘cut him before he disappears’

86. wakayeeyela munzila pesi taakajoka pe (p.85)

‘he remembered on the way but he did not go back’

87. kuti utazwi mung’anda yangu ndimunya ino alalibonena malweza
(p.87)

‘if you do not move out of my house immediately you will see for yourself’

88. nalanga wakali kwiile kulisyola mumoyo kati ino ndakali kubejela nzi (p.87)

‘as he was looking he was cursing himself in his heart saying why did I tell lies’

89. joni wakali kunga mbwasikila biyo nkwindilila kuli mweenzinyina (p.88)

‘John used to immediately he comes he would go straight to his friend’

90. deliya ubelekela mukati kuzwa jilo (p.89)

‘Deliya works from inside as from yesterday’

91. mebo bakandisumpula nikubelekela mukati (p.89)

‘I was promoted I will be working from inside’

92. mbundamubonena buyo ndamvwa nee memazwi siko (p.89)

‘immediately I saw her my legs went numb’

93. cheelo wakamubalila mali joni (p.90)

‘Cheelo counted the money for Joni’

94. mukwesu mbubo ndakucitila fooni (p.90)

‘my sister its okay I will phone you’

95. mbwakasikila buyo nkwabelekela wakacibweza cibulo akwambaula kuli deliya (p.90)

‘immediately he reached his office he picked up the machine and talked to deliya’

96. ino tee langa njanda kuti yebo andime a cheelo tweende ku hotela syikati nkamuulile cakulya (p.90)

'now look I want you, me and Cheelo we go to a hotel in the afternoon
...I buy you food'

97. joni wakauluka kusekelela kati yaa ndalizyi (p.91)

'Joni jumped up with excitement saying I knew'

98. ciya kumwaalila akulya ndaakutalika kwaamba zisesya (p.91)

'she will even fail to eat when I start to say things that will make her
laugh'

99. oonse muntu wakababona wakalizyibila kuti ma, aawa akali luyando
kapati (p.91)

'every person who saw them knew for himself that there was a lot of love'

100. pesi cheelo wakali kunyandwa kuti lyoonse bakali kuyanina
kudolopo

(p.91)

'but Cheelo used to get surprised that they were always meeting in town'

101. ...naakaceba awalo mukaintu mpasikila (p.92)

'...when he turned that was when his wife was also arriving'

102. ...wakavwila mukaintu kalanga joni nkwapazaya kwiimikila
(p.92)

'...the woman answered looking at Joni struggling to stand up'

103. ...mooye wakalizyibila katana ambulwa kuti makani alula (p.92)

'...the girl knew for herself before she was told that the issue had become
sour'

104. tiibakacibona pe nkaambo mucoolwe bakanyangu mpubakasikila abalo akumujata muka joni ciindi naakali kubweza mupeni ulisya kuti abafwuunde basikumubisyila (p.92)

‘they never saw it luckily the policemen also immediately that was the time they arrived and had Joni’s wife arrested the time she was getting the knife for eating with so that she could skin those who had wronged her’

105. ...wakabweza kabbeke kakwe akulundukila anze...(p.92)

‘...she picked up the bag and ran outside...’

106. udilaya cakacaala biyo kusibasiba limwi wakamuisya musimbi kung’anda yakwe akuvwola mali amane wakajokela kutauni (p.93)

‘ the driver the only thing remaining to do was to whistle until he reached the house where the girl-lived got his payment and thereafter went back to town’

107. cheelo naakacaala wakalijalila mung’anda akutalika kulila nsoni zyalo...(p.93)

‘when Cheelo remained he locked himself in the house and started crying because of the embarrassment’

108. ...limwi wakacimwa wakatalika kutijila mumakoko... (p.93)

‘...until he got fed up and started running away to beer drinking places..’

109. koya ukamulete mebo tandiyandi cintu cindibejela (p.94)

‘go and bring her me I do not want someone who tells me lies’

110. joni wakabula ancaamba wakalibonena kuti inzya mooye wasinizya
(p.95)

‘Joni had nothing to say he saw for himself that truly the girl was serious’

111. ...alimwi moonse mwaakali kunywida taakali kusika ccita naa wakali
kweendendela kuli (p.96)

‘...also all the places he used to drink from he was no longer going there it
was not clear as to where he used to move about to’

112. julia wakali kulibilika kuti ndiza mbwatiisikile mucintolo ulajana
awalo saladi mpamanina (p.97)

‘Julia was worried that may be immediately she reaches the shop that is
when the cooking oil will also finish’

113. naakacili kuyeeya mbuli mbubakali kupenga bantu kwiiminina zintu
wakamvwa jwi lyamukaintu waambaula mucitonga (p.97)

‘ while she was still thinking about how people were suffering queuing for
commodities she heard a voice of a woman speaking in Tonga’

114. ma syuwa mpindakasikila kuno ndimvwa biyo kubantu kuti muli
momuno ...mulusaka (p.98)

‘surely since I came here in Lusaka I just hear from people that you are in

115. mebo ndakacaala kung’anda njibakanduulila ku kaunda square (p.98)

‘me I remained in the house he bought for me in Kaunda Square’

116. ...pesi wakalyaambila kuti nee tesyi kayi mulumi wangu takkali ku libingi (p.99)

‘...but she said to herself that no it is not her husband since he was not staying in Livingstone’

117. wakaile kuli waalila mukati kujana kunyina auliko (p.99)

‘she just threw herself inside and found there was no one’

118. mulombwana wakalibonena kuti kulikombelela nkusowa ciindi (p.100)

‘the man saw for himself that pleading was a waste of time’

119. mbocitisikile sunu kalaunda akasuko ndemusimbi waku banakaila (p.100)

‘immediately he comes in today there will be chaos from the girl from banakaila’

120. wakati ma mooye twamweendela tujisi makani aakumubuzya (p.101)

‘she said woman we have come for you we have something to ask about’

121. peepe bakapolela ku libingi pesi balasika-sika (p.101)

‘no he moved to Livingstone but he usually comes’

122. ulabuzya alimwi koli wakandibbida mulumaangu (p.101)

‘you are asking when you stole my husband’

123. baama nywebo ndausa kumweetela makani kubaanga abo ba chibiya mbomwaamba mbalumi bamweenzuma (p.102)

‘mum I am very sorry to bring you the news but its like that Chibiya you are talking about is my friend’s husband’

124. *ba chibiya bakandaambila kuti bakapozegwa bani kubelekela ku libingi (p.103)*

‘Mr Chibiya told me that he had been transferred he will be working from Livingstone’

125. *limwi wakabweza cibulo akuumina mweenzinyina luwaile (p.104)*

‘in the end she got the phone and sent a phone call to her friend’

126. *nindakabuka ndakali kuyeeya kuti ndiza ciindi cajokela mumsi kusika mazuba ngindakajisi myaka makumi obilo ayosanwe (p.105)*

‘when I woke up I thought that time had moved backwards up to the time when I was twenty five years old’

127. *mbuli mbundaamba kale bwakali butolo musaama eelyo ndakajana candiyumina kubeleka (p.107)*

‘like I already said my friend it was laziness I found out that ...it was difficult for me to work’

128. *mweenzuma mpamunya awa mpucakaalila (p.107)*

‘my friend that was where it failed’

129. *samaliya wakali kutongooka lyoonse kati bausyi chindaba ina kayi tupengela nzi kuno kumunzi (p.108)*

‘Samaliya was always complaining saying father of so and so why are we suffering here at the village’

139. *alimwi twaboolela nzi? (p.108)*

‘also why did we come?’

140. *nomujisi mali katujokela tukakkale ku lusaka (p.108)*

‘while you still have money let us go back and stay in Lusaka’

141. twakalikkede katunywa kumwi mwanangu kanditongookela kuti

...mukaintu wakwe wamukatazya... (p.109)

‘we were seated while drinking and my son was complaining to me that his
wife was troubling him’

142. nikwakainda mazuba otatwe zuba lyakandibbilila kumatero (p.109)

‘after three days the sun set on me while I was in Matero’

143. mbukwaasiila biyo ndakazwa nkwindakali kunywa bukoko(p.109)

‘immediately it got dark I got out of where I was drinking beer from’

144. nkujana mbwakotokela uli munganda (p.6)

‘you would find that immediately he knocked off he would be at the
house’

145. ino mpawa candisikifa ndabula angwebuzya (p.7)

‘now here it has occurred to me and I have no one to ask’

146. ani yebo wakamubikila buya? (p.7)

‘so you had to put for him?’

147. nkokuti njakukubbadelela (p.7)

‘that means I will pay for you’

148. mbubakaunkila kumulimo balumi babo abalo bakaintu bakalubweza
kutozya kumaliketi (p.8)

‘immediately their husbands went for work their wives also started off for
the market’

149. bakagama kucivwuka kwakali kusambalila mucembele oyo wakali
kupa misamu (p.8)
'they went straight to the shelter where the old woman who was
giving medicines was selling from'
150. selina wakakweletela mweenzinyina nkuku (p.8)
'Selina got on credit a chicken for her friend'
151. bamane bakajokela ku chilenje (p.8)
'then they went back to Chilenje'
152. amane wakanyunyina musamu mbubona mbwakaambilwa (p.9)
'then she sprinkled the medicine as she had been told'
153. musimbi wakwe wakamuulila mbamba (p.9)
'his girl friend bought him opaque beer'
154. mulombwana wakiikkomanina (p.10)
'the man was pleased with it'
155. amubona nkumulundumukila mbuli kuti mubwa ulundukila simalelo
wakwe (p.11)
'when he saw her he would run for her like a dog running for its master'
156. naakatibuzye ambi makani malita wakasikila mpawo (p.14)
'when she wanted to ask some other things Malita arrived'
157. wakavwila timooti mumoyo kati ino waboolela nzi mukaintu ooyu
(p.14)
'Timothy answered in his heart saying why has this woman come'
158. wakatijila kuzyuli nkwakali koono (p.16)
'he ran to the bedroom where he was sleeping'

159. timooti nakamvwa boobu wakaile kulilekelela (p.18)

‘when Timothy heard this he just apologised’

160. mucoolwe nceciindi naakaitwa kuli umbi muntu eelyo

wakafwaambana kutijila nkuko (p.19)

‘luckily that was when he was called by someone else then he rushed there’

161. jailosi wakaunka kaya busiba-siba mumoyo kalyaambila kuti weelede

kucenjela kubba limwi inga alajatwa (p.20)

‘Charles went away whistling in his heart he was saying to himself he

should be very careful when stealing again in case he gets caught’

162. wakajokela mwakainda moonse pesi mali taakabona (p.20)

‘he went over all the places he had passed through but he did not find the money’

163. limwi wakalizyibila kuti abbigwa eelyo wakatalika kulibilika kuti

uyakutamikizigwa kuti wabba (p.20)

‘eventually he knew own his own that it had been stolen then he started

worrying that it was going to be said that he had stolen it’

164. pesi nkaambo kakuloma wakambila jailosi kuti nkokuti

unakumugusyila mali ngavwola kusika limwi akaakkwanye mali ayo

ngaakabbisya (p.21)

‘but because of being kind she told Charles that then she would be

deducting from his pay until he pays the full amount of the money he had

stolen’

165. nindali anze muntu umwi wabwezela cibbudu camali asika ku fifite
kwacha (p.21)

‘when I was outside someone picked a bundle of money that amounted
to fifty kwacha’

166. jailosi wakalibonena tunyenyezi (p.22)

‘Charles saw for himself stars’

167. alimwi bandaambila kuti mulombe kuti naa inga mwandijanina
mulimo nkaambo buumi bwandiyumina kumunzi (p.24)

‘again they have told me that I ask whether you can find me a job because
life has become tough for me at the village’

168. awalo kabanze wakamukalalila mweninyina akumwaambila mapenzi
akubula kwakoona (p.25)

‘Kabanze also was angry with his cousin and told him about the problem
of having nowhere to sleep’

169. mucoolwe alimwi ooyo musankwa wakalikoona akati taakasika eelyo
mweenzu wakalyoonena (p.25)

‘luckily again the boy who was sleeping in the sitting room never came as
a result the visitor slept on his own

170. aboobo beenzu nibakali kusika tiibakali kubakkomanina pe (p.26)

‘as a result the visitors when they came they were not pleased with them’

171. bakavwomokela kung’anda ya kabanze mbuli bahikube kuya kuzwa
nkujana kunyina alubono lwakaceede munganda (p.26)

‘they rushed to kabanze’s house like vultures by the time they left there was no property remaining in the house’

172. eelyo mujibelo niwakasika wakalijanina ku kabwata nkujana nguuli mukati alavwika nyindi (p.28)

‘then when Friday came he found himself in Kabwata, you would find he is the one inside throwing fists’

173. bakayowa kunjila limwi kamwi kantu kakali sungula kamunjilila (p.28)

‘they were scared of getting in until when one small person gained enough courage to go in’

174. naakajokela mukati wakailebula imbi nkujana wainzya alimwi waakutentelekela kooko... (p.28)

‘when he went inside he threw one fist then he missed he staggered that side with the fist’

175. bantu bakali kulangilila bakanyandwa ati hena ooyu teesyi ngonguwe wakaumwa eliya (p.29)

‘people who were watching were shocked saying isn’t this the person who was beaten the other time’

176. mucoolwe nikwakainda ciindi wakaliponena mwini eelyo bakamugusya kuti waleka kuba cidakwa (p.29)

‘luckily after sometime he got healed on his own then they got him out of prison saying he was well behaved’

177. ...limwi bakamutola ku chainama kucibbadela cabasondokede
nkwakakuponena...(p.30)

‘eventually they took him to Chainama at the hospital for mad people
that’s where he got healed from’

178. mucaangu mbwakacimenena ciyanda ncakapegwa wakatalika
kuciswa kapati (p.30)

‘poor him immediately he swallowed the root he was given he started
getting sick very much’

179. limwi bakamunyamusya kumutola kumalawi kwalo nkwakakuponena
(p.30)

‘eventually they took him to Malawi that was where he got healed from’

180. ...amane wakamwambila kuti aunke biyo uyakulibonena (p.31)

‘...then he told him to go saying he was going to see for himself’

181. ...awalo wakalizyibila kuti nkokuti nkamunya kayanda akaya (p.31)

‘...even him he knew for himself that then it must be that root’

182. ...bantu bamvwa nkamu yabantu ilila kuti watumanina bantu
watumana bantu (p.32)

‘...people heard a group of people crying saying you have finished our
people for us you have finished our people for us’

183. bumwi buzuba sookesi wakamulembela mwanookwabo lweendo...
(p.33)

‘one day Sookesi wrote a letter to his brother Lweendo...’

184. mbwakavwolela makoto taakalaya akulaya (p.34)

‘immediately he got paid he did not even say bye’

185. ...mbwakasikila makoto wakaliwaalila mukati (p.34)

'...immediately he came he threw himself inside'

186. bakapenta mbwe aalo makoko nee nkulilekela (p.35)

'prostitutes are plenty, even the beer you would just leave it own your own'

187. lweendo wakajokela mukati kuti aone... (p.36)

'Lweendo went back inside to sleep'

188. kanyangu wakamuboolela kumwi kanyamwide nkoli (p.37)

'the policeman went back for him while he was carrying a stick'

189. ...awalo kanyangu mpakamweezyela (p.37)

'...that is when the policeman caught up with him'

190. hena bakwaalila batonganyoko (p.40)

'have you failed with your fellow Tongas'

191. wakalekela nzi kuboola kumunzi kutegwa naa cakwaalila kulijanina musimbi mebo ndakugwasya (p.40)

'why did you not come to the village so that if you have failed to find a woman for yourself I would help you find one'

192. ...malweza nzi aayo ngondiletela (p.40)

'...what kind of bad omen is this you have brought me'

193. ndakakomenena ku soozubeli mebo (p.42)

'I grew up in Salisbury myself'

194. awo mpolyakamanina kkwato (p.42)

'that was when the marriage ended'

195. ...ncenceceeco ncaakali kujokela kumunzi (p.42)

‘...that was why he was going back to the village’

194. nikwakainda myezi yotatwe chibulo zyakatalika kumubijila zintu
(p.46)

‘after three months things started going bad for him’

195. pesi ndizyi kuti ncimwanditandila nkaambo kakuti nseyiide (p.47)

‘but I know that you have chased me because I am not educated’

196. hena wakandikwatila kuti mbe kaboyi wanu (p.48)

‘did you marry me so that I should be your servant’

197. ino mucaangu mali aajane kuli kayi awalo mootokala ngwaakajisi
wakali wa looni alimwi taakaninga mana kuubbadelela (p.48)

‘poor him where was he going to get the money from because even the
vehicle he had was bought with a loan and he had not finished paying for
it’

198. alimwi mooye wakaamba kuti uyanda kuti kapegwa mali manji
aakuula ntwayanda aakutumina basazinyina (p.48)

‘also the woman said that she wanted to be given a lot of , money to enable
her buy the things she wanted and to send to her relatives’

199. ino kuti kamuzyi kuti tamuli bami mwakandilesyela nzi kubeleka
nanga mebo ndalisanina (p.49)

‘if you knew that you are not rich why did you stop me from working I
could have been feeding myself’

200. njakulibambila bangu ndaakulizyalila (p.49)

'I will take care of my own when I will bear for myself'

201. alimwi wakamvwa tung'unung'unu twakuti jeni ulaa basankwa
bambi mbaunkila ciindi walo ncali kukubeleka... (p.49)

*'he also heard some rumours that Jeni has other men whom she goes out to
visit when he was at work'*

202. ...pesi ulandibbadela zyuulu zyamali nkaambo twakakwatanina
kubboma (p.49)

*'...but you will pay me thousands of kwacha because we got married at the
boma'*

203. atala aboobu zintu zyoonse nzyaakamuulila mukaintu uleede
kuzitoolela (p.50)

*'on top of this the things he bought for the wife she was supposed to take
them with her'*

204. kayi ncotubelekea nkuti tuule zintu alimwi akuti katuvwola amweezi
(p.50)

*'that is why we work so that we can buy things and also that we should be
getting paid every month'*

205. antela wakalijanina kale cidaala cimbi cizilaika mbuli chibulo (p.50)

*'may be she again found for herself another old man who is foolish like
Chibulo'*

206. aboobu wakabeleka canguzu kumubbadelela cikolo... (p.52)

'as a result he worked very hard to pay for his school...'

207. ...wakali kulibonya mbuli muntu ulaa maano nkaambo wakali kutumina mali a zisani kumunzi... (p.52)

‘...he was looking like a person who is sensible because he was sending money and clothes to the village’

Appendix B2: Causative Sentences

1. pepe basa buumi bwamu lusaka bwapenzya (p.52)

‘no my friend the life in Lusaka is very difficult’

2. cakabangundumya cazyi kubawaala mu lusaka (p.57)

‘it brought them and left them in Lusaka’

3. ndakaile kusowa mali kuyiisya mwana mubwa (p.56)

‘I just wasted my money educating a son of the dog’

4. wakabona ncitwakali kwaamba kuti kuyiisya mwana nkusowa lubono (p.56)

‘you have seen what we meant when we were saying that educating a child is a waste of riches’

5. mudaala nakaakusika kumunzi wakasisya makani akuti mwanaakwe talomene wakamukasya mali caali (p.56)

‘the old man when he reached the village he brought news that his son was a bad person and that he refused him money deliberately’

6. kulila koonse oku akulyeetezya kunyina ancokuti kujanye nkaambo musimbi ulasika sunu (p.57)

'crying and looking sorrowful will not help you because the woman is coming today'

7. ucimana kwaamba boobu wakalanga ciindi akuti alimwi wandicelezya ciindi cilaafwi kuti nkamulete (p.57)

'after saying that he looked at his watch and said you are wasting my time its almost time for me to go and bring her'

8. alimwi utakasoli kumupenzya nkaambo njakukuuma cibyaabi (p.59)

'also do not make her suffer because I will beat you very badly'

9. mazuba akatobela muka mulembwe wakasola kulilomeka kati ndiza mulembwe ulasanduka... (p.59)

'the days that followed Mulembwe's wife tired to make herself look humble in case Mulembwe would change'

10. ma takuli nkokumusangalisya (p.60)

'surprisingly she really made her feel at home'

11. kumvwa boobo mulembwe wakalilumbaizya... (p.60)

'to hear that Mulembwe praised herself...'

12. alimwi utakasoli kucita zyoonse nzindakakasya nkaambo uya kulijazya... (p.62)

'also do not try to do anything I have refused you because you will kill yourself'

13. yebo mulimo nkwiile kunywa bukoko bwalo bwiile kukukomezya cida cako (p.63)

‘you the only job is to drink beer which is making you develop a big stomach’

14. mucembele umwi wakali kulila akaambo kakuti wakamwaangulula citenge mwakaangidwe mali ngaakati kauzye tumbuwa twakuulisya (p.67)

‘the old woman was crying because someone had removed from her the cloth in which she had tied her money with which she wanted to order fritters for sale’

15. cakamukomanisya kapati (p.67)

‘it made him very pleased’

16. ...sakala naakali kubelesya mali akwe wakali jisi ma taxi obilo...
(p.68)

‘...even though Sakala was using his money he had two taxis’

17. eelyo kuzwa buzuba-obo wakatalika alimwi kuunka nokuba kuti wakali kubelesya nzila imbi kutegwa mukaintu atazibyi (p.74)

‘from that day he started going again although he was using another road so that his wife does not know’

18. walo meli naakabuka takuli nkokukkomanana akumwaambila malala kuti kwakanyina cibilisya (p.74)

‘when Mary woke up she was very happy and told malala that there was nothing to make him worried’

19. eelyo wakasamba amubili mukavuka kakali ambo kabelesya meenda aamubbekete (p.75)

'then he bathed his body in an enclosure which was on the western side using water which was in a bucket'

20. wakayeeya kuti ambweni kakamulisya muzyondo kana kamusimbi aka (p.75)

'he thought that maybe the woman made him eat a love portion

21. taakali kukonzya kuyeeya mbuli mbwaakaunka kung'anda ooku nkaambo wakakolwa meli nguwakamudadalisy kuya kukoona (p.75)

'he did not remember how he went to that house because he was very drunk Mary is the one who made him stagger off to sleep'

22. ambeyo pesi ndalibisya nkaambo ndime ndakakutalisya kuyanda basimbi bakookuno (p.77)

'I also blame myself because it is me who started you on wanting women from here'

23. ncoamba cilasesya pesi kayi walo jesu taakajisi mukaintu (p.77)

'what you are saying is funny but Jesus had no wife'

24. tokonzyi kupenzya mukaintu wako akaambo kakasimbi mbuli nkaangameli (p.77)

'you cannot make your wife suffer because of a woman like Mary'

25. mulilo wakamulosya malala akuunka (p.78)

'Mulilo dropped off malala and went'

26. naakasika kucijazyo wakanjizya kkii kabotu kabotu wakkilula (p.78)

'when he reached the door he pushed in the key very slowly and unlocked'

27. walo mukaintu naakayasya laiti kuti abone mubbi lyakamuleka
naakabona kuti wajaya mulumi wakwe (p.78)

‘when the wife switched on the light to see the thief she was shocked to
see that she had killed her husband’

28. bamakuwa bamuyiisya kuti kunyina kulowa... (p.80)

‘the whitemen taught you that there is no witchcraft’

29. alimwi ndausa pesi kuti uulowa wakacitizya eci (p.82)

‘I am sorry that the witch caused that to happen’

30. nikwakainda nsondo wakakumubbukizya kwa kanyama (p.82)

‘after one week he went and found him in Kanyama’

31. ucinjila buyo muntu wakakkede wakayasya-mancisi (p.83)

‘when he entered the person who was seated lit a match’

32. ndausa ndakakubisizya (p.86)

‘I am sorry I wronged you’

33. mpamunya joni nkokuyeeya kuti wakalisampuzya kuvwiila
mucitonga... (p.89)

‘then John thought that he had embarrassed himself by answering in
Tonga’

34. ciya kumwaalila akulya ndaakutalika kwaamba zisesya (p.91)

‘she will fail to eat when I start saying things that can make someone
laugh’

35. cisyabo cabo cakali kukkomanisya kapati (p.91)

‘their affair was very pleasing’

36. ...bakanyangu mpubakasikila abalo akumujata muka joni ciindi nakali kubweza mupeni uulisya... (p.92)

‘the policemen also arrived and held John’s wife when she was about to get the knife for eating with...’

37. udilaya cakacaala biyo kusiba-siba limwi waakumusisya musimbi kung’anda yakwe... (p.93)

‘the driver only remained with whistling until he reached the girl at her house’

38. wakatalika kulifubaazyia kuti pesi wakeelede kuzyiba kuti joni ulikwete (p.93)

‘ she started fooling herself saying she should have known that John was married’

39. inzya ndimumvuule nkaambo kayi ulandikatazya lyoonse (p.94)

‘yes I am a womaniser because you trouble me all the time’

40. juliya muka chibiya wakaliimvwi mumulongo wabakaintu bakali kuyanda kuula saladi mucintoolo ca zcbc naakamvwa makani akamumyonzya mwida, makani akamutontozya mumagondo (p.97)

‘Julia, Chibiya’s wife was standing in a queue with fellow women who wanted to buy cooking oil from the ZCBC shop when she heard some news which made her stomach chain, news which made her legs go numb’

41. ...wakavwiila kavwumbu kumwi kabbalula mwana kuti amunyonsye... (p.98)

‘Kavwumbu answered while getting the baby down so that she could feed it’

42. ino ccita naa liso lyakwe lyakeenda buti, wakajana ulangisya mwana ngwakali kunyonsya kavwumbu (p.99)

‘however, her eye strayed and she found herself looking at the baby that Kavwumbu was feeding’

43. pesi walo mweenzinyina sabina wakabelesya mutwe wakwe (p.100)

‘but her friend Sabina used her head’

44. ndakabba mulumaanu mebo, peepe baama mwaimpya (p.101)

‘ I stole your husband me, no, mum you are mistaken’

45. eelyo cakamukkomanisya nkaambo mali ngaakali kuvwola akali kufwambaana kumana akaambo kamaali ngakakwete (p.104)

‘then she was very happy because the money he was getting paid was finishing early because of being polygamous’

46. pesi makani aya akandiyumya mukanwa, nkaambo ciindi ncindakali kubeleka ndakali kwiile kunywa makoko... (p.106)

‘but this news made my mouth dry because the time I was working I was just drinking beer’

47. umwi wakali kwaambila mweenzinyina kati kasimpe biya uya muntu ulavwubya (p.109)

‘someone was telling the friend that surely that person can make you rich’

48. amana ukubbadelesya buyo K20 (p.109)

‘after that you only pay K20’

49. julia wakasola kulikkomanisya buyo (p.5)

‘Julia tried to please herself’

50. kwaamba na kuli cikupenzya (p.5)

‘say if there is something that is troubling you’

51. nikwali kacelo nanga ndamulisya (p.7)

‘if there was medicine I could have given him to eat’

52. wakabuka akulikkomanisya mbuli kuti kunyina ncacitide (p.18)

‘he woke up and pleased himself as if he had done nothing’

53. limwi abalo bakali kumukweletesya bakazyiba kuti mumpelenge...
(p.19)

‘eventually those who used to lend him money realised that he was a
crook’

54. awalo makoto wakanjila mucintoolo kuti abelesye mali ngakabba
kumusimbi nataninga jatwa (p.20)

‘he also entered the shop so that he could use the money he had stolen
from the girl before he was caught’

55. ndali kweenda munzila kumane ndabona muntu umwi walosya bbeke
(p.21)

‘I was walking along the road then I saw one person who dropped a bag’

56. pesi nkaambo kakuloma wakaambila jailosi kuti nkokuti
unakumugusyila mali kusika akaakkwanye mali ayo ngaakabbisya (p.21)

'but because of being kind she told Charles that then she would be deducting from his salary until he had paid the full amount of the money he had had stolen'

57. nkokuti ndaalosya nindali kweenda (p.21)

'that means I dropped it when I was walking'

58. jailosi lyakamuleka naakabona kuti walijatya (p.22)

'Charles got worried when he realised that he had himself caught'

59. wasoka kutuyoosya twati ndiza waleta makani mabi (p.23)

'initially you scared us we thought that maybe you had brought bad news'

60. ...ati ndilabaasya (p.24)

'...saying I will make them uncomfortable'

61. ino inga wabaasya buti hena ng'anda nisyoono (p.24)

'how can he make them uncomfortable is the house small'

62. nibwakaca bakamujosya kumunzi (p.25)

'in the morning they took him back to the village'

63. bana samaliya ati samaliya wamwiintizya mulumi wakwe waluba basazinyina (p.26)

'Samaliya's people said Samaliya has confused her husband he has forgotten his relatives'

64. wikalila ceetezya Samaliya pesi mbuli lyoonse misozi yakwe tiyakamubusya kabanze wakaunkila limwi kumuyabanji (p.26)

‘Samaliya cried pitifully but as usual her tears did not wake up Kabanze he went for good’

65. naakajokela mukati wakailebula imbi nkujana wainzya alimwi wakatentelekela kooko yamutoleezya (p.27)

‘when he went back inside he threw one fist only to find he missed again he staggered there the fist felled him’

66. ino cakapenzya ncakuti bantu boonse bakali kumuyoowa kumulwana eelyo wakapenga kapati (p.29)

‘what became a problem was that all the people were scared of fighting with him then he suffered a lot’

67. bakumunzi bakasola kumusilisya nkujana cabaaba biyo (p.30)

‘ people from the village tried to get him cured but they failed’

68. limwi bakamunyamusya kumutola ku malawi kwalo nkwaakuponena (p.30)

‘ eventually they took him to Malawi where he got cured from’

69. ...elyo limwi wakalibonya kuti inzya ngooyo wakakkalikila (p.31)

‘...then eventually it was seen that there he was he was getting better’

70. alimwi wakatalika kutandanya twana ntwajana munzila (p.31)

‘then he started chasing children he found on the roads’

71. ...eelyo akamukkondelezya kapati lweendo... (p.34)

‘...then Lweendo was very pleased...’

72. ...wakaamba mujwi lyakuliteteesya (p.35)

‘...he spoke in a soft voice’

73. uyanda nzi kutyokezya musalo (p.35)

‘why do you want to cut short the conversation’

74. amvwe boobo lweendo wakazwa kufwambana kaile kuti naa wabisya nzi (p.36)

‘when Lweendo heard that he got out quickly while wondering what wrong he had done’

75. ati taata ndimuzyibya kuti ndakakwata... (p.39)

‘he said father I am informing you that I got married’

76. ...elyo wakaambila munene kuti mbukwakasiide kale kunyina ncaakali kunga ulacita aboobo bwaca musimbi ulamujosya kwabo (p.40)

‘...then he told the old man that since it was already dark there was nothing he could do therefore when it was bright he would take the woman to her relatives’

77. chibulo wakatalika kumupenzya mukaintu kutegwa alitijile mwini (p.47)

‘Chibulo started making the woman suffer so that she could run away on her own’

78. jeni wakali kubeleka pesi chibulo wakamulesya ati inga kabanoomusenda balombwana batalilemeki (p.48)

‘Jane used to work but Chibulo stopped her from working thinking that some men who misbehave would propose love to her’

79. ...alimwi ulizyi kuti ndakanjizya kaboyi awalo ndamubbadela... (p.48)

‘you also know that I employed a servant whom I am also paying’

80. kayi mwakandilesya caali... (p.49)

‘it is because you stopped me from working deliberately’

81. ...ndamuleka biyo nokuba kuti ulandicetaazya (p.50)

‘...I will just divorce her even though she will make me poor’

82. ...pesi kuya awalo mwanabacindu wakayumya moyo naakayeeya
mbwakkatandwa (p.50)

‘...also the daughter of the Bacindus hardened her heart when she thought
of how she was chased’

83. bana bakamupenzya alimwi azyikwelete zyakavula (p.50)

‘the children troubled her also the debts became too much’

Appendix B3: Passive Sentences

1. nkokuti nditumine biyo oyu filipo zikolo mbuzyajalwa kale... (p. 53)

‘that means I should just send Philip since the schools have already been
closed’

2. mukwiinda mazuba mudaala cakatalika kumucima kusekwa (p. 56)

‘after some time the old man got angry with being laughed at’

3. ...bakatola mubili wakwe kumunzi kwalo nkwakakuzikkilwa (p. 56)

‘they took his body to the village where he was buried at’

4. ucimana kuzikwa banyina bakaunka kukusonda (p. 56)

‘after he was buried his mother went to consult witchdoctors’

5. usyi naakabuzigwa wakakazya (p. 56)

‘when the father was asked he refused’

6. kuliiba kwabo kwakanyonganizigwa nibakamvwa gugugu kucijazyo (p. 56)

‘their being carefree was interrupted when they heard someone knocking on the door’

7. eelyo mwanaabo wakutanguna maimbo naakazyalwa wakakomena kakunyina amapenzi pe (p. 58)

‘when their first child Maimbo was born he grew up without any problems’

8. wakasola kulila akucita zintu zyakucita kuti mulembwe ayetezegwe pesi wakajana mulombwana usamide moyo wabbwe (p. 59)

‘she tried to cry and to do things in such a way that Mulembwe would feel sorry for her but she found that the man had hardened his heart’

9. kumana wakaliwaalila muncikini akutalika kujika mbuli mbwaakalaililwa (p. 59)

‘then she went into the kitchen and started cooking as she had been told’

10. ...wakabweza kauno waakakkala anze kasuma kalindila kuti mukazinyina aletwe (p. 59)

‘...she got a chair and sat outside while waiting for her co-wife to be brought’

11. awalo maliya wakabotelwa naakabona kuti watambulwa kabotu (p.60)

‘Mary was also pleased that she had been received very well’

12. walo mukaintu naakabuzigwa wakati hena mwandimvwa ndatongooka
(p.60)

‘when the wife was asked she answered saying have you heard me
complaining’

13. musa ndabona kuti kubaanga tokkomeye kukwatwa mumaali (p.61)

‘my friend I am seeing as if you are not happy with being in a polygamous
marriage’

14. saa kuli muntu uusinikizya mweenzinyina kuti azumine kuti takondwi
kali walo ulakondwa (p.61)

‘is there someone who can force her friend to agree that she is not happy
when she is happy’

15. maliya wakafwambaana biyo kuvunga-vunga kati inga ulajaigwa
(p.62)

‘Mary quickly packed thinking that she would end up being killed’

16. ...tandiyandi kucubilwa twana tuli mbuli nduwe (p.63)

‘...I do not want to be troubled by children like you’

17. naakabuzigwa bweende bwazintu kumukaintu wakati cce ndacisiya
mebo (p.63)

‘when he was asked about how things had gone by the wife he said I have
left her.

18. ati kayanda kukwatwa kuli umbi (p.63)

'she said she wanted to get married to someone else'

19. ucimana wakati ino basa ndapenga mbundatiziyibile kugwasigwa we
(p.63)

'after that she said now I will suffer since I was getting used to being
helped'

20. kasimpe buya mbukakali kundiyanda ccita naa kakaile kululilwa nzi
(p.63)

'surely the way she loved me I do not know what went wrong'

21. hena uyanda kukandaulwa amafwumina (p.66)

'do you want to be beaten early in the morning'

22. ...benzuma balya nyama alimwi balaulilwa zisani lyoonse (p.66)

'...my friends eat meat and they are bought for clothes all the time'

23. ...wamvwa cijazyo cakiigwa (p.67)

'...she heard the door being locked'

24. kucitisyini kutantilwa malifiti kwakali bantu bakali kuboolela twabo
(p.67)

'at the station where lifts are boarded from there were people who had
come for their own reasons'

25. bbaasi nilyakanyamuka lyakasiya bantu bobilo baabana nyiindi
akaambo kakuti umwi wakatongooka kuti walyatwa abbusu linyowana
(p.67)

'when the bus left it left some two people were fighting because one of
them had complained that he had been stepped on a new shoe'

26. ...eelyo wakabeleka kusika limwi syikati cintooleo nicakajalwa
 akaambo kakuti mwakali muli bwatatu mantoolo naatakali kujulwa
 kumazuba (p.68)

‘...then he worked until afternoon when the shop was closed because it was
 on a Wednesday when shops are not opened in the afternoon’

27. tusimbi tuya kubonwa aakale (p.68)

‘the women will be seen another time’

28. ...eelyo wakaamba kuti alosegwe acitisyini cabbasi (p.69)

‘...then he said that he be dropped at the bus station’

29. haamaleke naakamvwa chitonga wakakkalilwa moyo asyoonto (p.69)

‘when Hamaleke heard Tonga being spoken he was comforted a bit’

30. kayi kucikolo hamaleke wakali kuluulwa kulunduka (p.70)

‘since at school Hamaleke was famous of being a fast runner’

31. ino sunu wanjililwa nzi ncootindiletele mali (p.70)

‘what has gotten into you today for you to want to bring me money’

32. ndanka ino kumunzi njakujana beenzinyina amukaintu wangu nkobali
 baluujisi kuvwiya beenzinyina njakwiile kulendelelwa (p.72)

‘if I go home now I will find my wife’s friends are there just back-biting
 their friends I will just be bored’

33. kakali kweebelwa ncobeni kana ka mungoni (p.73)

‘she was very nice looking the daughter of the Ngonis’

34. nkano kaindi seleta wakalubwa (p.73)

‘in no time at all Seleta was forgotten’

35. ...wakatiiyaswe cipeni akaambo kakuti wakajanikizigwa kaambaula amusimbi (p.73)

‘...he was almost knifed because he had been found talking to a woman’

36. naakacenjezegwa kuti uyakutendwa wakalibotya-botya ... (p.73)

‘when he was warned that he would be knifed he humbled himself’

37. malala wakayeeya kuti ncibotu kuti bantu abatondezye kuti wakali muntu uutasobaninwa (p.74)

‘Malala thought that it was better that he showed people that he was not someone to play with’

38. ...wakoona kuli meli akaambo kakuti wakakolwa cakaala kweenda (p.74)

‘...he slept at Mary’s place because he got very drunk and failed to walk’

39. kunyina musazinyina wakavwugwa kuti wafwa (75)

‘there was no relative of his who had been heard to have died’

40. pesi taakaunka kubbulu pe, akaambo kakucimwa koono alikke (p.78)

‘but he did not go to bed because of being fed up of sleeping alone’

41. akaambo kakuyowa kwaangwa ngamunya masiku wakalyaangilila... (p.79)

‘because of being scared of being arrested the same night she hanged herself...’

42. wakaambilwa kuti bausyi bakalilembele kubana babo kuti boonse baboole (p.82)

'he was told that his father had written to all his children that they should come'

43. wakajokela ku lusaka kwalo nkwaatakasowa ciindi kucita
ncaakalailidwe kucita kaindi (p.82)

'he went back to Lusaka where he did not waste time in doing what he had been told to do a long time ago'

44. ...ndakamwaambila uso kuti nyoonse mwelede kusilikwa (p.83)

'...I told your father that you were all supposed to be treated'

45. kuti nookasitililwa nibakabula mpobayinda (p.83)

'if you had been protected they would not have had access to you'

46. chilala takacelwa wakagusya K10 (p.83)

'Chilala did not waste time he took out K10'

47. inga naakabona busyu kubota wakalila mumoyo ati ino ndakaloogwa
nzi kaka leza (p.88)

'when he saw the beautiful face he cried in his heart and said why was I bewitched oh lord'

48. limwi joni wakatoogwa wakalanga kumbi (p.88)

'until John was blinded he looked the other side'

49. wakakkala kalisukete mbuli muntu wafwidwa (p.88)

'he sat down holding himself like someone who had been widowed'

50. ciindi joni naakali kutandwa kwakayindide myezi yosanwe kasyabide
cheelo (p.88)

‘when John was being chased it was three months since he started going out with cheelo’

51. eelyo joni wakalumba kapati akugama nkwaakaambilwa (p.89)

‘then John was very grateful and went where he had been told to go’

52. joni wakakkomana nakamvwa waambauzigwa... (p.90)

‘John was very pleased when he heard that he had been talked to’

53. hena ndaamba kuti wazumina kusyabwa (p.91)

‘did I say that you had agreed to the proposal of love’

54. limwi deliya wakatalika kusiigwa (p.91)

‘until Deliya started being left’

55. abuzya mulamwaakwe deliya awalo wakali kuti uya kutolwa akale (p.92)

‘when her sister-in-law would ask Deliya would say she would be taken another time’

56. ...wakamvwa kumeso kwapya mbuli kuti watilwa meenda (p.92)

‘...she felt that her face was hot as though hot water had been poured on it’

57. ...mooye wakalizyibila katanaambilwa kuti makani alula (p.92)

‘...the girl knew without being told that the news was bad’

58. ...limwi cakamucima kutukilwa kumukaintu ngwatakali kuyanda (p.93)

‘...until he got fed up of being insulted by a woman he did not love’

59. joni taakali kuzumizigwa kulanga antela kwaambaula a musimbi ngaatazyi sofia (p.93)

‘John was not allowed to look at or speak to a woman Sofia did not know’

60. wakatalika kutijila mumakoko mwalo muli momujanwa bakapenta
(p.94)

‘he started running away to drinking places where prostitutes are found’

61. awalo sofia takaccelwa pe wakavwiila ati ndaunka (p.94)

‘Sofia did not delay she answered and said I am going’

62. mukaintu wakaanga tuubo twakwe wakakaka akutolwa amootokala
okwa joni (p.94)

‘the wife packed her belongings and refused to be taken in John’s car’

63. eeci ncicakapa kuti joni atazwi nakali kutandwa kuli cheelo (p.94)

‘this is what made John not to go away even when he was being chased by
Cheelo’

64. mumoyo wakali kwiile kuti nee tandikonzyi kusweekelwa basimbi
bobilo mubuzuba bomwe (p.94)

‘in his heart he was saying no I cannot lose two women in one day’

65. joni wakamvwa wafwa mucamba naakabona mate atondezya kuti
cheelo wasesemwa kubona nguwe (p.95)

‘John felt bad when he saw the saliva indicating that Cheelo was nauseated
to see him’

74. cheelo nakajatwa wakajula mulomo kuleka kuti amyonte wakakwiila
(p.95)

'when Cheelo was held she opened her mouth but instead of kissing she screamed'

75. mebo ndakacaala kung'anda njibakanduulila ku kaunda square nkaambo ku libingi tabanapegwa ng'anda (p.98)

'I remained in the house he bought for me in kaunda square because in Livingstone he has not been given a house'

76. kuciinda biyo nsondo ba chibiya bakandaambila kuti bakapozegwa bani kubelekela ku libingi (p.102)

'after one week Chibiya told me that he had been transferred and would be working from Livingstone'

77. jemusi chibiya wakaccelwa kuzyila ku kabwe (p.103)

'James Chibiya came late from Kabwe'

78. wakanjila uyaa busiba-siba nkaambo mupati wamilimo wakamwaambila kuti bwaca biyo ulasumpuzigwa (p.104)

'he entered while whistling because his boss had told him that the following day he was going to be promoted'

79. kusumpulwa kwakwe kwakalekwa akaambo kamukaintu wakwe wakaakutukila bantu (p.104)

'his promotion was cancelled because of his wife who went and insulted people'

80. taakanaba kaindi ndakaba ang'anda yangu yeebelwa (p.107)

'in no time at all I had my own house which was admired'

81. wakali kwaambilwa wakali kuboneka aanga musaama (p.109)

‘the one who was being told was looking like he was my age mate’

82. shomeka mbwaakasweekelwa mali mbweena obo (p.109)

‘that was how Shomeka lost his money’

83. nokuba kuti wakapedwe livi yamwezi taakakkala kapati kumunzi
(p.82)

‘even though he had been given a month’s leave he did not stay long at the
village’

84. sekeleti naakakkala kwaciindi wakanjilwa satani (p.3)

‘after sekeleti stayed for some time he got tempted’

85. hena uya mulumaangu ulabuzigwa (p.6) -

‘do you think that husband of mine can be asked’

86. nibakasika bakajana bakaintu mbanji batongooka kutayandwa (p.8)

‘when they reached they found a lot of women complaining about not
being loved’

87. bakainda akali kuulisigwa nkuku (p.8)

‘they passed where chickens were being sold’

88. tee wamvwa mbolaililwa (p.8)

‘have you heard how you have been instructed’

89. ndiza ndakolwa (p.9)

‘maybe am drunk’

90. pesi kuleka kulombozegwa kwalo kunyina acakasanduka pe (p.10)

‘apart from being admired there was nothing else that changed’

91. ayalo yakabikkwa musamu (p.10)

‘it was also sprinkled with medicine’

92. cigamba wakacili kubbililwa mumakoko (p.10)

‘Cigamba still used to stay out late at drinking places’

93. wakatalika kucimwa nkwatobelwa (p.11)

‘she started getting annoyed being followed’

94. nkaambo nzi kutamvwa kulaigwa (p.11)

‘why not listen to advice’

95. cakulya cakabikkwa a tebule (p.14)

‘the food was put on the table’

96.hena mwaloogwa (p. 14)

‘have you been bewitched’

97. kuti watumwa kuya kuula nyama wakali kunga naa wapegwa
makwacha obilo walo nkuya kuula ya kwacha biyo amana acala waatola
(p.19)

‘if he was sent to go and buy meat for K2 he would only buy meat worth
K1 the remainder he would take’

98. kayi nyama tailembwi kuti yaulwa mali ali boobu (p.19)

‘because the price of meat is not labelled on it’

99. bumwi buzuba wakatumwa kumusimbi uumwi kuti akaule mabbuku
(p.20)

‘one day he was sent to go and buy books by a certain girl’

100. wakapegwa ma kwacha obile ama ngwe osanwe (p20)

‘he was given two kwacha and five ngwee’

101. mucoolwe nceciindi naakaitwa kuli umbi muntu eelyo wafwambaana kutijila nkuko (p.20)

‘luckily that was the time he was called by someone else then he quickly rushed there’

102. jailosi wakaunka uyaabusiba-siba mumoyo kalyambila kuti weelede kucenjela kubba limwi inga ulajatwa (p.20)

‘Charles went away whistling in his heart he was telling himself that he was supposed to be careful when stealing again least he gets caught’

103. naakasika kubbanga wakatondezya kapepa nkaakapegwa eelyo wakapegwa mali alo ngaakabika munkomo (p.20)

‘when he reached the bank he showed the paper he had been given then he was given the money which he put in the pocket’

104. limwi wakalizyibila kuti abbigwa eelyo wakatalika kulibilika kuti uyakutamikizigwa kuti wabba (p.21)

‘eventually he knew that it had been stolen then he started worrying that he was going to be accused of stealing it’

105. njeeya kuti wakaangwa (p.22)

‘I think he was arrested’

106. naakamba camasimpe natakajatwa (p.22)

‘if he had said the truth he was not going to be caught’

107. akaambo kakuti kwakanyina kwakoona bana kabanze bakaambila basazinyina kuti tabakonzyi kuswayigwa (p.23)

‘because there was nowhere to sleep Kabanze’s family told their relatives that they could not be visited’

108. nkaambo nzi ncelangwa (p.24)

‘why am I being looked at’

109. kuti kamuyanda kundiswaya inga mwakuboola twaakupegwa ng’anda mpati (p.24)

‘if you want to visit me you can come when we are given a bigger house’

110. pesi nakabuzigwa kuli kabanze ncaakalonda wakati uyendeenda buyo (p.24)

‘when he was asked by Kabanze why he had come he said he was just visiting’

111. mpamunya abalo bakumunzi bakatalika kutuma bantu kuti bazyikulange naa ino banikutandilwa nzi (p.26)

‘there and then people from the village started to send people to come and see what reason they would now have for chasing them away’

112. mukubula coolwe bana kabanze cakacili kubacisa kuti bayeeya mbubakali kutukilwa kakunyina akaambo (p.26)

‘unfortunately the Kabanzes were still angry because of how they had been insulted for no reason at all’

113. wakalikkede kayotela zuba naakabona kwaboola masilikani ati mulumi wakwe wafwa walyatwa mootokala ciindi nakali kuya kukubeleka (p.26)

‘she was seated sun basking when she saw there came policemen saying her husband was dead he had been ran over by a car as he was going for work’

114. mucaangu wakaanga tuubo twakwe pesi wakaziminwa kwakugama akaambo kakuti basazinyina tiibakali kumuyanda (p.26)

‘ poor her she just packed her belongings but she had nowhere to go since her relatives did not want her’

115. limwi naakayeeyesya alimwi ankwakacimwa kusekwa wakaunka kwaliteta kuti akalye musamu wanguzu kumung’anga ngwakavwide kuti uluuzyi (p.29)

‘eventually when he thought a lot and also because he was fed up of being a laughing stock he went to Liteta to go and look for medicine for strength from the witch doctor he had heard was very good’

116. bantu bakali kulangilila bakanyandwa ati hena ooyu teesyi ngonguwe wakaumwa eliya (p.29)

‘people who were watching got surprised saying isn’t this the one who was beaten earlier’

117. pesi alimwi wakanjilwa ceelo cimbi (p.29)

‘then again he was entered by another ghost’

118. lweendo a sookesi bakalilwa kupasa kuti baye ku sekondali (p.33)

‘Lweendo and Sookesi failed to pass to go to secondary school’

119. aalya amweka malaiti mpabonena zipekupeku (p.35)

‘there where the lights are shining is where you can watch a film’

120. mpeena wakatolwa ku polisi sitesyini (p.37)

‘then he was taken to the Police Station’

121. omu mukaanda mwakali bambi bantu bakajatidwe (p.38)

‘in the cell there were some other people who had been arrested’

122. nibwakaca umwi kanyangu wakaboola kujalula kutegwa abuzye
umwi aumwi ncakajatilwa (p.38)

‘in the morning one policeman came to open the gate so that he could ask
each one of them why they had been arrested’

123. lweendo cakaala akulivuna eelyo wakaangwa myezi kkumi a yone
kumulandu ngwatakacita (p.38)

‘Lweendo failed to defend himself as a result he was sentenced to fourteen
years imprisonment for a crime he did not commit’

124. njakumuleta kwainda myezi yobilo ndaakupegwa livi kutegwa muzyi
kuzyibane (p.39)

‘I will bring her after two months when I am given some days off so that
you can get to know each other’

125. kuli ulila muni amakwe unakuti wafwidwa (p.40)

‘is there someone who cries near in-laws as if she has lost a husband’

126. mulonga watakyolwa wakabula makoba (p.42)

‘a river which was not straightened has no banks’

127. chideya wakatingwa naakamvwa boobu (p.45)

‘Chideya was choked when he heard this’

128. wakatalika kuyoowa kuswayigwa kubenzinyina (p.48)

‘he started getting scared of being visited by his friends’

129. ...mukaintu cakamwaalila kuvwila naakanzigwa mucikuwa (p.47)

‘...the woman failed to answer when she was greeted in English’

130. amane wakatolwa kucitisyini a chibulo (p.47)

‘after that she was taken to the station by Chibulo’

131. ...wamana uyanda kuulilwa zisani zidula coonse ciindi (p.49)

‘you also want to be bought for clothes that are very expensive’

132. naa muyanda kuti kababambwa kamuyandaula musimbi una
kubabamba (p.49)

‘if you want them to be looked after well you should look for a maid who
will look after them’

133. ...cimwi ciindi naakatisole kumubuzya nkwakaunkide amootokala
wakabbodedwa... (p.49)

‘...the other time when he wanted to ask her where she had gone with the
car he was answered very rudely’

134. ndiza wakatalika kubeleka nikwakainda myaka yobilo naakaleka
kuvwozegwa (p.50)

‘maybe she started working after two years when she was no longer being
paid’

135. ...pesi kuya awalo mwanabacindu wakayumya moyo naakayeeya
mbwakatandwa... (p.50)

‘...but there also she hardened her heart when she thought of how she was
chased away...’

APPENDIX C: GLOSSARY OF TERMS

Alpha: In GB this is a variable over any phrasal or lexical category which can occupy any part of a sentence.

Anaphor: A noun phrase which has no independent reference since it refers to something else within the sentence in which it occurs. Examples of anaphors are reflexive and reciprocal pronouns.

Argument: In GB this is an expression that has a theta-role such as a subject or object of a verb.

Argument Increment Principle: This is the principle discovered in this work, according to which applied and causative verbs retain all the arguments and theta-roles associated with the simplex verb radical.

Argument Inheritance Principle: This is the principle discovered in our study, according to which the number of arguments of an applied and causative verb is equal to the number of arguments of the simplex radical plus one.

Barrier/Bounding Node: These are usually noun phrases and sentences. According to the Bounding theory of GB these are constituents beyond which a moved element, in the transformational rule move-alpha, should not cross over.

Binding Theory: This is the GB sub-theory by which relations between noun phrases are determined. The theory also covers the distribution of pronouns, reflexive pronouns and empty categories in sentences.

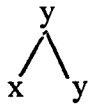
Bounding theory: This is a sub-theory of GB which provides for the limitations to be placed on the displacement of constituents by the transformational rule move-alpha. The theory is guided by the subjacency principle which says that no movement operation can cross more than one barrier or bounding node.

C-Command (constituent command): This is a condition that defines the relationship between constituents in a given sentence. Given two constituents x and y, x would be said to c-command y if every maximal projection dominating x dominates y.

Chain: This is the pair of constituent that has moved by the transformational rule move-alpha and the empty category (which is also referred to as a trace) it has left behind by such movement. The two are usually co-indexed.

Chomsky-adjoin: If there were two constituents x and y, the Chomsky-adjoining of x to y would be achieved by creating a new node which *immediately dominates both x and y as follows*

Left Chomsky-adjunction



Right Chomsky-adjunction



Empty Category/Trace: This is a noun or pronoun position from which some material has been displaced or moved by the operation of the transformational rule move-alpha.

Extended Projection Principle: This is an extension of the Projection Principle which was formulated to account for the presence of subjects in clauses. The principle states that all clauses have subjects.

Extraction site: This is the position from which movement by move-alpha has taken place from.

Head: In a phrase a head is the constituent that characterises such a phrase and is therefore an obligatory element to it. For example in a verb phrase the head would be the verb while in a noun phrase it would be the noun.

Landing Site: This is the position to which movement, in the operation of the rule move alpha, has taken place to. It also refers to a position that is available for movement to take place to.

Maximal Projection: This is the highest level of the projection of a lexical category. For example in a phrase such as the noun phrase NP is the maximal projection of N.

Move-Alpha: This is the single and universal movement or transformational rule in Government-Binding Theory which refers to the movement of any phrasal or lexical category from one part of a sentence to another by Chomsky-Adjunction. However, this movement is guided by independent universal principles and constraints such as dictated by the Bounding Theory and its Subjacency Principle which will state what can move and where it can move to.

Obligatory Opposite Principle: This is the principle we have assumed in our study which dictates that when one feature F with a value α , i.e. $[+F]$ or $[-F]$, is delinked and no other feature spreads into its position, the same feature with the opposite value, i.e. β , is automatically inserted in the same position.

Projection Principle: This is a central principle of GB which projects properties of lexical entries on to the structure of the sentence. For example given a set of any lexical items the Projection Principle will right from the lexicon, in the form of lexical entries, subcategorise for the syntactic requirements of such lexical items at the D-structure and S-structure. For instance the complement requirements of verbs will be subcategorised for from the lexicon.

Subjacency: This is a condition in the Bounding Theory of GB which is responsible for the provision of limitations on the movement of constituents by the rule move-alpha. The condition does this by stating that any single application of move-alpha should not operate across more than one barrier or bounding node.

Theta-Criterion: This is a principle of the Theta-Theory of GB which dictates that given a sentence each argument in such a sentence should have one and only one theta-role while each theta-role should be assigned to one and only one argument.

Theta Criterion Revised: *This is a revised version of the GB theta-criterion which we have come up with in our study which says that in a given context of communication, each argument bears one and only one theta-role while each theta-role is assigned to one and only one argument.*

Theta-Role (abbreviation for thematic role): This is the semantic role (e.g. “agent”, “goal”, “patient”, etc) placed by an argument.

Theta-Theory: This is a theory in GB that is concerned with the assignment of semantic roles such as agent, patient, benefactive, source, etc to sentential constituents or arguments.

X- Theory: This is a theory in GB that determines the hierarchical organisation of constituents. This is done in the form of general schemata which is referred to as the X -scheme.

APPENDIX D: AUTHOR INDEX

- Allan, K. 51,53
- Anderson, S.R. (1982) 48
- Anderson, S.R. (1988) 48,67
- Andrews, AD 106
- Archangelli, D. 2
- Archangelli, D. and D. Pulleyblanc 2,8,169
- Atkinson, M. et al 6,7
- Bastin, Y. 217
- Bellusci, D.C. 164
- Borsley, R.D. 19
- Broselow, F. and A. Niyondagara 176
- Carter, H. 3
- Chanda, V.M. (1985) 86,88
- Chanda, V.M. (1992) 47
- Chomsky, N. (1970) 48

- Chomsky, N. (1981) 2,8
- Clements, G. 176
- Collins, B. 3,34,35,36,37,38,47
- Coupez, A. 20, 47,77.145
- Crystal D. 17,48,49,153,198
- Durand,J. 2.8.64.66.168.169.171
- Fodor, J.A. 23
- Fromkin, V, and R. Rodman 48
- Gary, J. and E. Keenan 143
- Givon, T. 28
- Goldsmith, J.A. 3
- Grimslaw, J. 108,165
- Guthrie, M. (1948) 2
- Guthrie, M. (1967) 1,20,72
- Guthrie, M. (1970) 29
- Hachipola, J.S. (1987) 3
- Hachipola J.S. (1991) 3
- Haegeman, L. 2,8,12,116,141
- Hopgood, C,R. 3, 34, 37,38
- Horrocks, G. 2,7,8,9,11,13,16,19,47,74,152
- Horton, A.E. 30,31
- Hume, E. 176
- Hyman, L.M. (1991) 25,26,27,28,66
- Hyman, L.M. (1995) 189

- Inkelas, S. and Y.Y. Cho* 171,206
- Jacobsen, B. 21,22,23
- Jones, B. 21,22,23
- Katamba, F. 54,64,65,180,186
- Kimenyi, A. 95,106
- Kiparsky, P. 169
- Kenstowicz, M. 2, 176
- Kisserberth, C. and M. Kenstowicz 4
- Koutsodas, A.G. et al 218
- Kunene, E.C.L. 21,22,23,81
- Lyons, J. 98,99,100
- McCarthy, J. 2,8,170,171,178,208
- Meeussen, A.E. (1963) 3
- Meeussen, A.E. (1965) 1
- Mester, R.A. and J. Ito 8,170,176,178
- Mudzi, H.A.K. 3
- Mwisiya, M.W. 30 31
- Myers, S. 8,169,170,178,217
- O'Brien, P. 3,34,35,36,37,38
- Park, J.I. 141
- Quirk, R. et al 58
- Radford, A.W. 4,12,51,115,127
- Riemsdijk, H.V. and E. Williams 2,8,15,16,18,19
- Sanfillipo, A. 98

Schane, S.A. 51

Scotton, C.M.M. 21,22

Sells, P. 2,8,9,10,11,12,13,14,15,16,17,18,19,46,47,69,74,115,116,153

Spencer, A. (1993) 48

Spencer, A. (1994) 49

Steriade, D. 8,170,178

Stump, D. 51

Trithart, M.L. 30,31,32,22,34

Tsonope, J. 23,24,100

Woolford, E. 130,143,144,145,158

APPENDIX E: SUBJECT INDEX

- alpha 16
- anaphor 152
- A-position 17
- A (non-argument) position 17
- applicativisation 44
- applied
 - sentence 42
 - verb 43
- assimilation 180
 - complete assimilation 185,191,217
 - partial assimilation 185,191,217
 - progressive assimilation 180
 - regressive assimilation 180,185
- argument 11,12

external argument 13

internal argument 13

Argument Increment Principle 77,140

Argument Increment Principle Revised 98

Argument Inheritance Principle 76

Argument Inheritance Principle Revised 98

barrier 17

Binding Theory 10,152

bleeding relationship 191

bounding node 17

Bounding Theory 16-8

Bracket Erasure Convention 64-5

case 17,18

case filter 10,17

categorial component 10,68,69

causative

 sentence 43

 verb 43

causativisation 44

cause/causer 98,104

chain 16,17,18

 coreferential chain 115

Chomsky-adjunction 73

complement 77

- radical complement 77
- suffix complement 77
- complementiser 12
- constituent command (c-command) 16
- control 10
- dialect 2,45
 - dialect cluster* 2,45
 - sub-dialect* 45
- d-structure 9.10
- elsewhere condition 40
- empty category 14,16,17,116
 - empty category with causative verbs 110-1
 - empty category principle 10,18
- extraction site 16
- Feature Geometry 170
- feature minimisation principle 168
- feature specification
 - full specification 168
 - partial specification 168
 - minimal specification* 171
- feeding relationship 191
- glottalisation 213-4
- Government-Binding Theory 8-9
- Harmony 180

- directionality in harmony 180
- height harmony 187~~8~~-1
- nasal harmony 186-9

- heads 11,13

- INFL (inflection) 12

- landing site 16

- lexical category 11

- lexical head 11

- lexical properties 13

- lexicon 51-3
 - contents of the lexicon 51-3
 - mental lexicon 55
 - organisation of the lexicon 54-6
 - theoretical lexicon 55

- linguistic intuitions 2

- locative erasure 123-4

- logical form 9,10

- maximality condition 140-1,222

- maximal projection 11

- minimality condition 141

- modifier 11

- morphosyntactic category 48,49,50,69

- morphosyntactic formatives 50

- move alpha 10,16,17,18,69

- mutation (see spirantisation) 201
- nasal palatalisation 198-200
- non-theta (O) position 16
- object marker 41
- obligatory opposite principle* 193-223
- passive
 - sentence 43
 - verb 43
- passivisation 44
- phonetic form 9,10
- phonological rules 216
 - postphonological rules 216
 - prephonological rules 216
- phrasal category 11
- phrasal constituent 11
- projection principle 10,13,14-5,18,115-6
 - extended projection principle 15,16
- pronominal 152
- referential expressions 152
- rules
 - complement rules 168,169,170
 - default rules 168,169
 - redundancy rules 168,169
- rule ordering 217-8

- semantic roles 12
- sentential arguments 12
- skeleton 11
- specifier 11,12
- spirantisation (see also mutation) 201
- s-structure 9,10
- subjacency 16-18
 - subjacency condition 17
- syntactic category 48,69
- tense marker (sign) 40,72-3
- terminal nodes 171
- theta-criterion 10,12,13,15,83-5
- theta-criterion revised 85
- theta (O) position 16
- theta-role 12,13
- theta-role assignment
 - direct theta-role assignment 13
 - external theta-role assignment 14
 - indirect theta-role assignment 13
- Theta-Theory 10, 12-4
- trace 15,16,18,225
- Trace Theory 18
- Underspecification Theory 167,168,169
 - contrastive underspecification theory 169,170

radical underspecification theory 169,170

verb

verb ending 44,72

verb extension 42

verb postprefix 40

verb prefix 39

verb preprefix 39

verb radical 40

verb root 40

verb types

factitive verbs 100-3

operative verbs 100-3

vowel gliding 191-2

back vowel gliding 192, 194

front vowel gliding 192-3

X scheme 11,74-5

X Theory 10,11-2