THE GRAMMAR OF COMPOUND NOUNS IN TONGA

By

Maureen Mweene Chiyonga Musale

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Declaration

I Maureen Mweene Chiyonga Musale declare that this dissertation:

a) Has been written following the accepted standards of writing a dissertation.

b) Is the original work of my own

c) Has never been published or presented to any other examining board of any academic institution.

Signed: MMA——ga

APPROVAL

This Dissertation of *Maureen Mweene Chiyonga Musale* is approved as fulfilling the partial requirements for the award of the degree of Master of Arts in Linguistic Science of the University of Zambia.

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ABSTRACT

This study investigated the assumption that compound noun words embed a grammar of a language with special reference to Tonga. The descriptive study was carried out to examine whether the assumption which is thought to be universal is applicable to Tonga, a Bantu language (M64) mainly spoken in the southern part of Zambia.

The research applied purposive sampling and snowball sampling to identify and also collect data from fifteen informants. These composed two custodians of the language and thirteen teachers of the language in secondary schools in Southern Province. Radio programs, church and reading materials in Tonga also contributed to the data collected.

The collected data was then subjected to phonological, morphological, syntactic and semantics theories for analysis. Syntactic analysis was carried out based on Transformational Generative Grammar. In addition, Government Binding theories were used to analyse grammatical structures and functions of words in a compound noun.

The observations done through morphophonological, syntactical and semantics analysis proved that compound noun words do embed a grammar of a language. The analysis was achieved through the four linguistic levels of, phonology, morphology, syntax and semantics. The proposition that compound nouns embed the grammar of a language was therefore proved true not only to Tonga as has been proved in other languages.

DEDICATION

I dedicate my work to my loving children Victor, Victoria, and Vernon, for whom I set an example for being dedicated to meet my life's goals, and to my spouse Willard without his support this study would not be a reality. The voices of a million angels could not express my gratitude but one thing is sure; you will remain treasured as long as this work stands.

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To God my father from whom knowledge, wisdom and understanding emanate.

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Table of Contents

Content **Page**

List of Figures and Tables

Page

A. Figures

B. Tables

CHAPTER ONE

INTRODUCTION

1.0 GENERAL

Linguists assume that compound nouns of any language can reflect the grammar of a language since most parts of speech are used to name objects, things, and places in the habitat of human beings. While this assumption has been proved in a language like English, the research delved to examine the assumption to prove that a descriptive grammar study does reveal a grammar of a language.

Description Grammar is an approach that describes the grammatical construction that is used in a language without making any evaluative judgements about their standing in society (Crystal 1989;83). This type of study is common in linguistics where it is a standard practice to investigate a corpus of spoken or written material and to describe in detail the patterns it contains. Based on the above, the researcher carried out a research on the Grammar of compound words in Tonga.

1.1 BACKGROUND OF THE STUDY

Tonga, (Guthrie's, M64) is a Bantu language mainly spoken in the southern part of Zambia. It is a tonal language which uses a five vowel system and has a recognized orthography.

There is an assumption that the study of compound noun words of a language is as good as studying the grammar of that language in that the compound noun words when translated expose either a phrase or a sentence (Crystal 1989:40). The researcher went ahead to prove this assumption. The revelation: since words, by positioning in a

sentence or phrase, reveal their grammatical category and function, then the grammar of a language reflects itself in compound noun words.

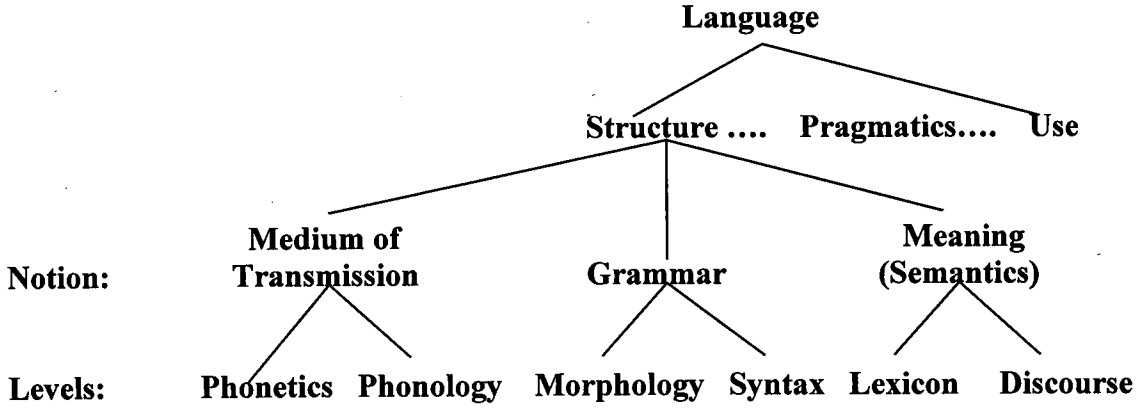
In beginning this research, a definition of the word 'grammar' is necessary. The definition of the word 'grammar' is problematic in linguistics. Students who discuss their English lesson refer to it as 'English grammar.' This is not valid to this research. Others refer to sentence structures as grammar, but even this does not suffice for our study. Fromkin and Rodman (1993:13) report that some 2000 years ago, a Greek grammarian, Dionysius Thrax, referred to grammar as 'that which permits us either to speak a language or to speak about the language.' To add to this historical fact, Lyons (1995:133) writes that the term 'grammar' goes back (through French and Latin) to a Greek word, which translates as 'the art of writing'. With this knowledge on what grammar consists of, Radford (1997:1) states with clarity that grammar is 'traditionally concerned not just with the principles which determine the formation of words, phrases and sentences, but also with the principles which govern their interpretation.

Grammar study covers a vast portion of language study. Fromkin (1993:17) recognizes grammar as everything pertaining to language: phonology, morphology, syntax and semantics. This research therefore proceeds to reveal the grammatical aspects of compound noun words in Tonga with particular focus on the four linguistic levels stated above.

In order to carry out a study of the grammar of a language, Bloomfield (cited in Crystal 1989:83), recommends the approach of using levels as the best. Bloomfield recommends a work, which moves through the levels in a particular order beginning with phonetic description, proceeding through phonology, morphology, syntax and

concluding with semantics. In this view, the analysis at each level apart from the first is dependent on what has gone before.

To illustrate this, Crystal (ibid) gives the following structure reflecting the recommended levels as shown in Figure 1 below.



(David Crystal, 1989: 440)

Figure 1: Grammar Study – The Linguistic Level Approach

In this structure, the component of grammar is shown as morphology and syntax. Although these are core to the study of grammar, the structure also reveals a co-relation to the medium of transmission (phonetics and phonology) and meaning (lexicon and discourse). As such, Fromkin's (Ibid 13) notion that the aspects of grammar include phonology, morphology, syntax and semantics is appropriate to the study of grammar.

The nature of words in Bantu is a very complex system in comparison with English. The complexity arises mainly from the type of word formation forms and processes available in Bantu languages. Many words in Bantu have a prefix. In some cases prefixes do have a semantic meaning which they bring along to the root or stem, giving a resultant complex word in the end. In addition, the process of compounding as a means of word formation makes the analysis of the words more complicated as it

enables them to materialize as larger grammatical units than words when translated into English. Therefore, the research examines the grammar of compound noun words, identifying their grammatical categories and functions leading to the actual study of the grammar of Tonga language.

1.2 STATEMENT OF THE PROBLEM

Crystal (ibid.89) recommends a study of the grammar of a language through its grammatical categories and functions. These grammatical categories are the syntactic and lexical categories of words within a sentence or utterance. While this is applicable to both the words in isolation and in the compound nouns in English, the researcher went on to prove if this was so even in Tonga. The research therefore examined the grammar of Tonga based on the corpus of compound noun words to prove whether the assumption was applicable to Tonga.

1.3 PURPOSE AND OBJECTIVES OF THE STUDY

1.3.1 *Purpose of the study*

The purpose of the study was to examine aspects of Tonga grammar based on the collected corpus of compound noun words in Tonga (Appendix C).

1.3.2 *Objectives of the study*

The objectives of the study were as follows:

(i) To examine the phonology of compound nouns, that is to explain any phonological variation in words that are components of a compound noun.

(ii) To examine noun compounds and prove whether they fit in the Bantu Class system.

(iii) To identify the syntactic categories involved in Tonga compound nouns.

(iv) To explore syntactic relations in Tonga compound nouns

(v) To examine the actual meanings of Tonga compound nouns in relation to their literal meanings.

(vi) To examine the sociolinguistic usage of compound nouns.

1.4 SIGNIFICANCE OF THE STUDY

The importance of this descriptive study lies in the revelation of the composite nature of compound noun words in Bantu languages as reflected in Tonga. In addition, this study helps any language student to understand what it takes to study a grammar of a language and also appreciate the complex composition of any given language.

1.5 THEORETICAL FRAMEWORK

The descriptive analysis of the compound noun words results in the study of grammar of a language using the linguistic levels of; phonology, morphology, syntax and semantics (Crystal 1989:440, and Fromkin Victoria and Rodman Robert, 1993:13). The researcher therefore relied on the following theories to analyze this work according to the linguistic levels:

(i) Phonological Theory – for segmental and Suprasegmental analysis

(ii) Morphological Theory – for classification of compound nouns and morphophonological rules and analysis.

(iii) Syntactic Theory – a) Transformational Grammar for drawing tree diagrams and b)Government Binding Theory for assigning theta roles to the compound constituents.

(iv) Semantic Theory – for assigning meanings to words in isolation and in compound nouns

1.6 LIMITATIONS AND DELIMITATIONS

1.6.1 Limitations

This study looks at the grammar of compound noun words in Tonga. What this entails is the research will reveal those aspects of grammar that pertain to compound noun words. By implication, if these aspects of grammar are applicable to compound noun words, then they are also applicable to other words in isolation: then this study does yield to the grammar of a language. Knowing that compound noun words are formed by conjoining of two or more words, for the sake of clarification of the study, examples of words in isolation or in a compound noun will be used. While grammar is a wide topic of linguistic study, its scope in this research is limited to the corpus of the compound noun words here collected. The aspects of grammar that will be reflected in this corpus constitute the theme of the research. As such, based on the information reflected in the compound noun words, basics of grammar in each level are discussed accordingly, including any other features that pertain to grammar that may be reflected within the scope of the data collected

1.6.2 Delimitations

This study, complex as it is, is made possible due to the professional guidance of the supervisor, the availability of necessary information of what is involved in a language study and also the expertise of the researcher who has a B.A. (Honors) degree in Linguistics, and also is a student of M.A. degree in Linguistic Sciences.

1.7 DEFINITION OF TERMS

Logism: a definition given to a complex word where the meaning of word does not meet its equivalence.

Form Retention: a term coined in this research to denote the agglutination of words in the formation of a compound word without undergoing any morphophonological change.

Tonga Valley: The authorized authography of Tonga dialect (Southeast of Monze up to Kalomo) and commonly uses ***si*** and ***sya*** particles.

Tonga Plateau: The commonly heard dialect in utterances (Monze east dialect) is the main acceptable dialect in speech and uses ***hi*** and ***ha*** particle.

1.8 SOME ASPECTS OF TONGA LANGUAGE

1.8.1 Phonetics and Phonology

Tonga (Guthries M64 classification), one of the regional official languages in Zambia, has a recognized orthography[1] as shown in the chart below. Both a phonetic chart and a phonemic chart can be presented using traditional classification and features as follows:

Type	Bilabial		Labiodental		Alveolar		Postalveolar		Palatal		Velar		Glottal	
Feature	-	+	-	+	-	+	-	+	-	+	-	+	-	+
Nasal		m				n				n				
Stop	p	b			t	d					k	g		
Fricative		β	(f) (v)		s	z	( )					γ	h	h
Affricate							ts	dʒ						
Lateral						l								

Figure 2: The Tonga Phonemic Chart

There are five short contrastice vowels[2] in Tonga symbolized as follows: a, e, i, o, u as in :

lala 'to lie'
lela 'to nurse'
lila 'to cry'
loba 'to fish'
luka 'to vomit, to knit'

Based on the position of the tongue when making the sounds, the vowels in Tonga have the following classificationas shown in figure 3 below:

[1] Zambian Languages Orthography (1977:3)

[2] Ibid (1977:1).

Height of Tongue	Front	Back
High	i	u
Mid	e	o
Low		a

Figure 3: Tonga Vowels

The assertion of these consonants and vowels as different arbitrary sounds from each other, is represented in the next section.

1.8.2 Phonemes in Tonga

Phonemes are defined as minimal units of sound capable of distinguishing words of different meanings. A minimal pair drills help determine which sounds belong in the same class. This exercise identifies phonemes of similar class as illustrated in Figure 4 below.

No.	Classification of Phonemes	Minimal Pair
1	voiceless bilabial plosive [p], voiced bilabial plosive [b]	pala v.' to scrape' bbala v.'carry'
2	voiceless bilabial fricative [β], voiceless velar plosive [k]	banga v.'put in wattles' kanga v. 'fry'
3	aspirated velar plosive [k^h], voiced postalveolar affricate [dz]	bikka v.'put, place, or deposit' bija adj.'be bad, dirty, or unclean
4	voiced alveolar plosive [d], voiced velar plosive [g]	binda v. 'hurry' binga v. 'drive'
5	voiced bilabial glide [w], voiced palatal affricate glide [j]	bowa n. 'mushroom' boya n. 'hair (of body)/fur'
6	voiced velar plosive [g], voiced palatal nasal velar [ŋ]	ganda n. 'intense cold' ŋanda n. 'house'
7	voiceless alveolar fricative [s], voiced alveolar fricative [z]	sanduka v. 'turn' zanduka adv. 'to be apart'
8	voiceless labiodental fricative [f], voiced pharyngeal velar [ɦ]	fwula v. ' to blow (a fire)' vwula adj. 'be much, be abundant'
9	voiced alveolar lateral [l], voiceless alveolar plosive [t]	cikolo n. 'school' cikoto n. 'knot'
10	voiced bilabial nasal [m], voiced alveolar nasal [n]	cisamu n. 'tree' cisanu n. 'five'
11	back vowel low [a], front vowel mid [e]	ciswa n. 'be sick, ill' ciswe v. 'species of wildcat'
12	front vowel high [i], back vowel mid [o]	eci dem. 'this' eco dem. 'that'
13	back vowel high [u], back vowel mid [o]	kukula adj. 'become of age, mature' kukola v. 'cough'

Figure 4: Minimal Pair Drills

These minimal pairs prove that the underlined phones in the words are discrete sounds for just the change of the phone brings about a different word meaning.

In summary, the classification of sound inventory in Tonga, is as follows:

i) Consonants

(a) Bilabial (articulated with two lips together) p, b, bb, m, mp, mb, mbb

(b) Labio-dental (upper teeth against the lower lips) f, v, mfw, mvw

(c) Alveolar (the tongue against the alveolus or ridge behind the upper teeth ridge) t,d, l, s, z, n, nt, nd, ns, nz

(d) Palatal (tongue against hard palate) c, cc, j, ny, nc, nj

(e) Velar (tongue against the velum or soft palate at back of the mouth) k, kk, g, ŋ, nk (ŋ + k), ng (ŋ + g).

The analysis reveals that combinations like mp, mb, nt, nd, are homogeneous in that the consonants combined are both articulated at the same point of articulation. This follows the natural morphology of the speech organs involved resulting in natural and easily formed sounds.

ii) Vowels:

Front: high [i], mid [e]; and

Back: high [u], mid [o], low [a]

When differing vowels follow each other in the spelling of a word (for example: ***mwindiokwale 'hind of a patridge'***), they should be taken as two differing vowels, each with its own tone and sound and not as a diphthong.

1.8.3 Prefixation

Prefixes play a primary grammatical part in Tonga. Nouns, adjectives, adverbials, verbals, and pronominals have a grammar founded on progress and prefix agreement.

As is the case in all Bantu languages, nouns in Tonga are divided into classes. The sign of a class is a prefix, but in few cases a prefix is null (zero prefix). The verb agrees in class with its subject and likewise adjectives and most determiners agree in class with the headnoun. The full list of noun classes and prefixes in Tonga is presented in Figure 5 below:

Class	Prefix	Example
1	Mu	muntu (mu-ntu) 'person
1a	Ø	sokwe (Ø-sokwe) 'monkey
2	Ba	Bantu (ba-ntu) 'people'
3	Mu	mulama (mu-lama) 'name of a tree'
4	Mi	milama (mi-lama) 'name of a tree' (plural)
5	li/i	lino (li-ino) 'tooth'
6	Ma	maila (ma-ila) 'grains'
7	Ci	cintu (ci-ntu) 'thing'
8	Zyi	zyintu (zyi-ntu) 'things'
9	N	nkuku (n-kuku) 'chicken'
9a	Ø	bbola (Ø-bbola) 'ball'
10	N	nkuku (n-kuku) 'chickens'
11	Lu	lumwi (lu-mu-i) 'sun'
12	Ka	kaanda (ka-anda) 'a small house'
13	Tu	twanda (tu-anda) 'many small houses'
14	Bu	bulowa (bu-lowa) 'blood'
15	Ku	kubona (ku-jwe) 'to see'
16	A	ambali (a-mbali) 'on the side'
17	Ku	kujwe (ku-jwe) 'at the eastern side'
18	Mu	munganda (mu-n-ganda) 'in the house'

Figure 5: Tonga Noun Class Classification

(Ø = zero)

As indicated in Figure 5 above, some classes are paired to express grammatical number (singular/plural). The most frequent pairs are the following: 1/2., 1a/2, ¾, 5/6, 7/8, 9/10, 9a/6, 11/10, 11/6, 12/13, 14/14, 14/6, 15/6. From the data, the following observations can be made:

(i) Some nouns, which are uncountable, are either always singular or always plural, for example, masusu 'hair', meenda 'water'.

(ii) Most nouns in class 14 are singular abstract nouns that are not pluralized for example, bulowa 'blood', bulongo 'soil.'

(iii) Classes 16, 17, and 18 are locative classes translating some English locative prepositions; 16= 'on' (amulyango 'on the door'); 17='at/to' (kululyo 'to the right'), 18='in' (munindi 'in the hole')

(iv) Some classes are also used for derivational purposes. Thus, augmentatives/perjoratives are formed using class 7 and class 8; diminutives class 12 and 13, abstracts class 14.

(v) In some cases, the noun prefix and the concord prefix (i.e next prefix) may be different (e.g. mulizyakalumbu 'he who plays an instrument.'

1.9 LITERATURE REVIEW

The study of grammar is a wide subject. Fromkin (1993:17) states that grammar is everything speakers know about their language: the sound system called phonology, the system of meaning called semantics, the rules of word formation called morphology and the rules of sentence formation called syntax. To be precise therefore, the study of grammar is actually the study of a language.

Descriptive linguistics, as noted by Gleason (1961:iii), is the discipline which studies languages in terms of their internal structures. It is more biased to morphology. Descriptive grammar therefore, is an approach that illustrates the grammatical structure of a language without making any evaluative judgments about its repute in society.

This approach is widely used in linguistics as a standard to investigate a corpus and to describe its patterns in detail.

Since the preference to this study is to use the linguistic levels, the literature review takes the same bias in the analysis of compound nouns in the order of phonology, morphology, syntax and semantics. The researcher acknowledges scarcity of information on Tonga compound words as well as on Tonga language study. Since any language study does have similarities with other language studies, examples of words in isolation in English and other languages will be discussed as long as they are related to the subject under discussion.

1.9.1 Phonology

Sloat (1978: 141-183) and Atkinson et al (1988:93-127) agree that phonology is divided into segmental phonology (phoneme/sound) and suprasegmental phonology dealing with prosodic distinctive features of pitch, stress and length. In this study, the phonological analysis will be biased to finding phonological rules applicable to compounding and to tonal rules of the components of the compound nouns both in isolation and in compounding. The phonological rules are dealt with in the morphology section under morphophonological rules.

1.9.1.1 *Segmental Phonology*

One aspect of phonological analysis is syllabification. Katamba (1993:153) defines syllable as the heart of phonological representations which is a unit in terms of which phonological systems are organized. Katamba (ibid 153) agrees with Rubba (2000) in identifying a syllable as being neither a grammatical nor a semantic unit. According to them, syllables do not deserve any meaning-signaling function in a language. They

exist only to make speech easier for the brain to process. Crystal concurs with the duet in his statement that phonological views of the syllable focus on the way sounds combine in a language to produce typical sequences. These sequences are in consonant-vowel form. In English, the most frequently used are CV, CVC, CCVC. For analysis of syllables, Crystal (ibid 183) recommends CV Phonology. Katamba (ibid 156) gives a CV-phonology model of syllable structure which was expounded by Clement and Keyser (1983) as illustrated in Figure 6 below:

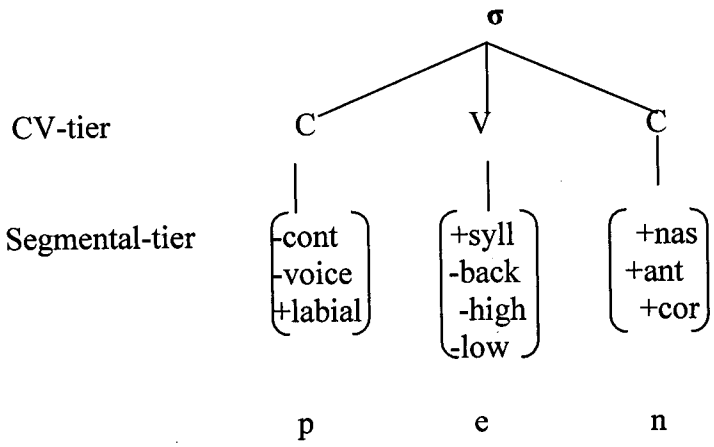


Figure 6 : Illustration of a Syllable-tier

One other phonological aspect to be analyzed is tone. Katamba (ibid: 53) elaborates on tone as one aspect in tonal languages which marks the difference in pitch. Pitch is used phonemically either to differentiate between word meanings or to convey grammatical distinctions. Usually diacritic[3] symbols are used as follows:

[±] high: (marked by (´))
[±] mid: (marked by (-))
[±] low: (marked by (ˋ))
[±] rising: (marked by (ˇ))
[±] falling: (marked by (ˆ))
[±] fall-rise: (marked by (˘))

[3] Katamba, Francis. (1993:53) An Introduction to Phonology. Longman Inc. New York

In many African languages, tone is not primarily used to distinguish word meaning: the function of tone is primarily grammatical. It is used mainly or exclusively for the signaling of grammatical distinctions.

Katamba (ibid) agrees to the grammatical function of tone to distinguish lexical meaning and illustrates this using an example from Igala, a Nigerian language as follows[4]:

a'wò 'guinea fowl àwó 'a slap
a'wō 'an increase' àwō 'a comb'
a'wò 'hole(in a tree) àwò 'star'

1.9.1.2 *Suprasegmental Phonology*

Tone, stress and intonation fall under suprasegmental (prosodic) phonology. The 'segments' of spoken language are the vowels and consonants, which combine to produce syllables, words and sentences. In articulating these segments the pronunciation varies according to the idiosyncracies of an individual. Based on one's choice and meaning to be achieved, a selection is made of a wide range of tones of voices, which change meaning of what one says in a variety of different ways. It is these effects that provide the data of suprasegmental analysis[5]. Sloat etal (1978:30-43) identify prosody as the study of (1) quantity, stress, and tone in relation to the syllable and (2) intonation in relation to phonetic phrases and sentences. Clark and Yallop (1999:343) define a tone language as a language in which tone 'is a feature of the lexicon, being described in terms of prescribed pitches for syllables or sequences of pitches for morphemes or words'. In other words, pitch 'distinguishes the meanings of words.' The following are the illustrations on tone marking.

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[4] Ibid (1993:186)
[5] Crystal D. (19 89:169) The Cambridge Encyclopedia of language. Cambridge University Press.

i. Linear Phonology: Linear phonology uses the following notation to present tone: a→ [+low]

ii. Autosegmental Phonology: Autosegmental phonology uses two tones: High (H) and Low (L). The illustration in Figure 7 below shows the procedure of tone marking of a word (Prof VM Chanda: 2005 Class Notes) using autosegmental phonology.

Word: kubona (v) 'to see'

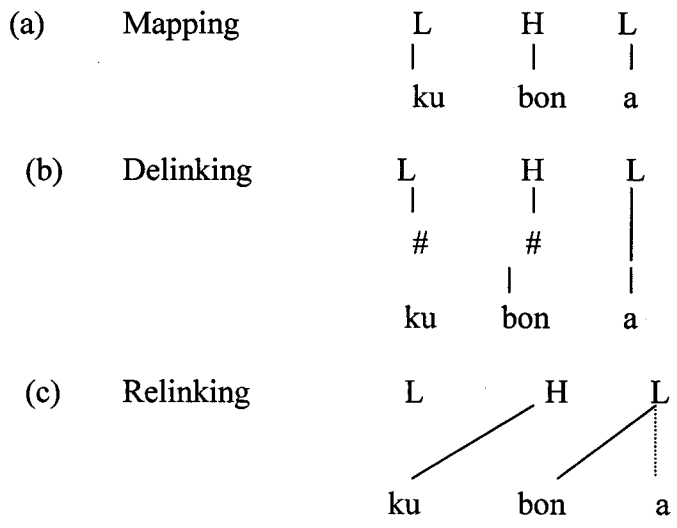


Figure 7: Illustration of Tone Marking

Length in this research is shown by doubling of the vowel. For example:

kóla 'cough' [kóla]

kòóla 'to cool down' [kŏ:la]

These are the major items which are reflected under phonological analysis of the compound nouns.

1.9.2 Morphology

It is commonly agreed upon by linguists such as Matthews (1993:15), Bauer (1989:26-41) and Bloomfield (1933:227-246) that morphological studies should deal

with morphological structures which are inflectional morphology. Inflectional morphology deals with the various grammatical forms such as grammatical number (singular and plural) and tense while lexical morphology deals with the formation of new words.

Crystal (1989:90) identifies four normal processes of word formation in English.

(i) Prefixation: a prefix is placed before the base of the word as in *dis*obey

(ii) Suffixation: a suffix is placed after the base of the word as in *kindness*

(iii) Conversion: a word changes its class without any change of form as in *the carpet* (noun) becomes *to carpet* (verb) and

(iv) Compounding: two base forms are added together as in *blackbird*

The focus of this research is on the last one: compounding.

Fromkin remarks that compounding, a part of derivational morphology, is universally recognized and commonly used for enlarging the vocabulary of any language (1993:55).

1.9.2.1 *Classification of Compound Nouns*

Different linguists have classified compound nouns differently. The most common ones are: classification by categorization (Bauer, ibid:30), structural classification (Greenbaum, ibid: 462-3) and derivational classification (Dillion 1977:50-53)

1.9.2.1.1 Classification by Categorization

Bauer classifies compound words into four categories as follows:

(a) *Endocentric compound* – the compound is a hyponym of the grammatical head as in *bee hive* is a kind of a hive.

(b) *Exocentric compound* – the compound or bahuvrihi (in Sanskrit terminology) is a hyponym of some unexpressed semantic head. The composed is frequently used as metaphorical (as in *redskin*) or synecdochic (as in *highbrow*)

(c) *Appositional compound* – as in *maidservant. Maidservant* is a hyponym of both maid and servant; a maidservant is a type of a maid and also a type of a servant.

(d) *Dvandva or Copulative Compound* – It is not clear which element is the grammatical head and the compound is not a hyponym of either elements, but the elements name separate entities which combine to form the entity denoted by the compound as in *bittersweet.*

These semantic divisions interact with syntactic divisions according to the form class of the whole compound. The form classes of the individual elements in the compounds like redskin as well as being an exocentric compound is a compound noun made up of an adjective and a noun and armchair is an endocentric compound noun made up of two nouns.

1.9.2.1.2 Structural Classification

Greenbaum exemplifies the classification of compound nouns with relationships of conjoining segments as illustrated below:

i) Subject + verb: *bee sting* (bee stings*), headache, snowfall*

ii) Verb + subject: *answer phone* (phone answers), *play boy, washing machine*

iii) Verb + object: *chewing gum* (chews gum), *cooking apple, know-all*

iv) Subject + Object: *cable car* (the cable operates the car) *hay fever* (hay causes fever)

1.9.2.1.3 Derivational Classification

Dillion (1977:50-53) agrees with Greenbaum and gives a similar list to classifying compound nouns and also how to derive their meaning as follows:

i. What one uses to VN'- (refers to animate entities) as in *woodcutter, house painter, truck driver.*

ii. One who VsN' as in. *dog chaser* (one who chases dogs), *pea classer* (one who classes peas).

iii. Slightly different is a group or set where the first noun is understood to specify the second, deverbal noun as in:

Food poisoning 'poisoning caused by food'
Sunburn 'burn caused by sun'
Storm damage 'damage caused by storm'
} N_2 caused by N_1

Other sets in this group include:

Steam cleaning
Gun fight
} N_2 done with N_1

Heart failure
Blood test
} N_2 of N_1

Home cooking
Boat ride
} N_2 at/on/in N_1

While such classifications are vital to the research, from the reading above, classification of compound words into their grammatical categories may be problematic. For instance, the meaning of a compound noun word is not always the sum of the meaning of its parts. The challenge is whether Tonga noun compounds will comply to these rules or not.

1.9.2.2 Morphophonemic Rules

Lastly, Morphology study includes morphophonemic rules. When morphemes are combined to form words, in certain contexts certain phonemes are not realized by the corresponding sounds. Sloat (ibid 141-159) illustrates the following rules:

(a) Deletion: t ___ ø/s ⟶ s

(the sound segment /t/ is deleted in the environment between an s and another s)

(b) Addition: ø ____ t/l ⟶ s

(insert a ***t*** in the environment between an ***l*** and an ***s***)

(c) Assimilatory Rules: there are two types of assimilatory processes; progressive and retrogressive or anticipatory assimilation.

(d) Metathesis: indicates that certain natural classes of sounds change in predictable ways in certain context

Sk ____ ks/ ⟶ #

The output of a metathesis rule, consists of the same two symbols as the input, but in reverse order.

(e) Rule Ordering

Sonorant nasalization: [+son] _____ [+nas]/⟶ [+nas]

Sonorant nasalization accounts for nasalization of vowels occurring directly before a nasal.

Nasal Deletion: [+nas] ____ ø/ ⟶ $\begin{bmatrix} \text{- son} \\ \text{-voiced} \end{bmatrix}$

Coalescence: the fusion of two or more phonemes into one different sound

The other morphophonological rules include devoicing, vowel raising, spirintization, lateralization and many more.

In our level analysis order, we now move to syntax.

1.9.3 Syntax

Katamba (1993) observes that the syntax of a sentence is similar to the syntax of compound nouns. However, Katamba notes some differences between sentence-syntactic phrases and compound words syntactic phrases. He specifies that "whatever internal structure a compound has, that structure is inaccessible to the rules of syntax" (299). Although a compound word is created using the syntactic rules of the language that generates syntactic phrases, the rules of syntax applicable to a sentence cannot access the internal structure of a compound word. To exemplify that, Katamba explains that the syntactic rule like wh-movement which moves the front of an item about which information is being requested and places a wh-word before it, cannot extract a part of a compound and front it, and ask for information about it (ibid).

Another aspect Katamba points out is the structure of idioms. An idiomatic expression is another way of forming new words in a language, but, these are not compound words. These are lexis without an exact meaning. Like proverbs, one has to explicate its meaning since its meaning is not obtained as the sum of its composition as in ordinary use. Many of the idioms are used the way ordinary words are: as verbs, nouns, and adverbs. And so Katamba identifies idioms as "syntactic objects whose meaning is not compositional..." (ibid:297) and yet:

(1) they always fall into one of the recognized syntactic units of a language such as:
S' : (i.e. subordinate clause)as in 'when the chips are down'
VP: rule the roost
NP: (post-modified by PP) as in 'the man on the Clapham omnibus'
PP: round-the-clock
(2) They have the internal structure of normal syntactic units, and
(3) They behave just like the other syntactic units of the same type in the syntax..
(Ibid 298)

1.9.3.1 Compound Structure

A compound structure is made up of components of parts of speech used in forming the compound. In Bantu linguistics, these structures can have concord agreement (as illustrated in item (113) kaunokasokwe 'a chair for a monkey') or be of irregular forms (as illustrated in iem (1) (ϕ)bbalampoto 'carry (on the back) a pot'). Katamba (ibid 1993:301) shows syntactic structures of compound nouns in both singular and plural forms. He proposes "an X-bar analysis of noun compounds parallel to the syntactic analysis of NPs " as shown in Figure 8 below:

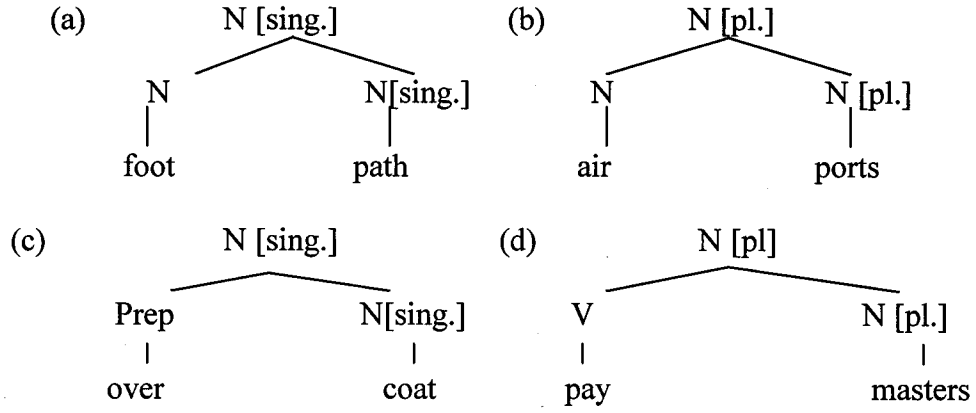
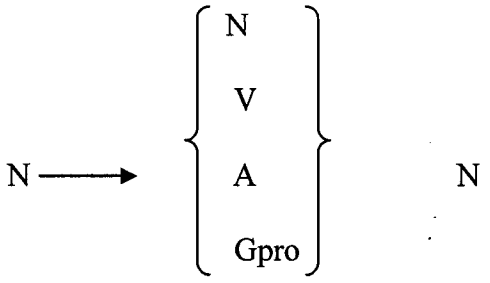


Figure 8: Illustrations of X-bar Analysis of Compound Structure

From the syntactic structures given above, the various structures do reflect grammatical relations of words in a compound formation. This leads to the formation of generalized phrase structure rules such as:



Reads: Compound noun can be formed by conjoining: Noun + Noun, Verb + Noun, Adjective + Noun, and Genitive Pronoun + Noun.

With this generalization, Katamba (1993:304) concludes well that this kind of context-free phrase-structure rewrite rule used in sentence-syntax can also be used in 'word syntax' analysis.

The 'word syntax' analysis, apart from revealing phrase-structure rules, also reflects the grammatical relationships of the conjoined words in compound formation. For example, deducing from Katamba (ibid:304) and Kolln (1990) analysis of compound word structures, the following presentations of grammatical relations become prominent:

(i) N+ V (subject + complement)

(ii) N+N (subject + object)

(iii) Noun + Adj (subject + subject complement)

It is therefore possible to give statistical facts on the type of combination which is prominent in the formation of compound nouns.

1.9.4 Semantics

1.9.4.1 The Argument Structure Theory

In recent works of linguistics, Grimshaw (1990:1) uses argument structure (a-structure) theory to explain properties of adjectival and verbal passives, middles, light verbs, constructions, verbal compounds, causatives and nominals among many other topics. Grimshaw (op cit :6) reports that with the increasingly important role played by principles such as Theta Criterion and the Projection Principle in GB theory, a new

view has emerged in which a-structure represents a complex of information critical to the syntactic behavior of a lexical item.

A-structure refers to the lexical representation of grammatical information about a predicate. According to her, the a-structure has interface with lexical semantic structure which represents lexical meaning and deep structure (d-structure). The a-structure is projected from lexical semantic structure and d-structure is projected from a-structure and principles of X-bar theory.

The a-structure takes theta-marking properties of lexical items across syntactic categories as one of its interest. For example, in a-structure, nouns, even though they have argument structures if they are of the right semantic kind, never theta-mark directly but only via prepositions. Hence nouns never take sentential arguments. The author reasons that:

(i) they are not governors since government requires theta-marking and

(ii) a-structure of a verb and a noun are different.

Radford (1997:168) supports the notion of argument structure and theta-marking roles. He says (in reference to argument from facts relating to syntax) "we noted that such an analysis would enable us to develop a principled theory of theta-marking, in which arguments are assigned a theta-role by merger with a lexical category."

Katamba (ibid 256) defines theta-roles or thematic relations in literature, as follows:

(i) **Theme (or Patient):** entity or individual that undergoes the process or action described by the verb (as in *Peter kicked the ball*)

(ii) **Agent/Causer:** (usually animate) that instigates the action identified by the verb (as in *Peter kicked the ball*)

(iii) **Instrumental** (usually inanimate) instrument used to bring about the state of affairs described by the verb (as in *she wrote with a pencil*).

(iv) **Experiencer:** entity experiencing some psychological state as in Mary was hit by Peter)

(v) **Benefactive (or goal or recipient):** an individual who gains from the action or process by the verb. (as in Mary gave an apple to Judy)

(vi) **Locative:** is the case that indicates the location, direction or spatial orientation of the event, state or action identified by the verb. (as in The bus took the southern rout out of town, or John stays in Mbala)

1.9.4.2 A-Structure in Compound Nouns

Katamba (308-317) agrees with Grimshaw (ibid 6) that compounds have a-structure in the following way:

(i) Endocentric compounds (technically known as verbal compounds) these exhibit consistent semantic readings that match the syntactic characteristics of the compounds.

(ii) Verbal compounds have the following characteristics:

(a) a complex head adjective or noun, which is a derived form from a verb.

(b) the nonhead constituent is interpreted as a syntactic argument of the deverbal noun or adjective head.

(c) the theta-role of the nonhead is that of agent, patient, etc;

(d) the meaning of the compound is transparent

Examples:

NOUNS	ADJECTIVES
a. **[Noun-verb-er]$_N$** moneylender gamekeeper	b. **[noun-verb-en]$_A$** hand-written hand-sewn
c. **[Noun-verbing]$_N$** bear-baiting brick-laying	d. **[Noun-verb-ing]$_A$** God-fearing self-seeking

There are similarities in a-structure between deverbal compounds and syntactic phrases containing the same words in that they have the same a-structure as in phrases

containing similar constituents. The semantic relationship is predictable, general and systematic as illustrated in Figure 9 below.

Compound Noun		**Phrase Structure**	
money	lender	lend	money
<theme>	<agent>	[verb]	<theme>

Figure 9: Illustration of Structure of Compound/Phrase

In the compound noun ***moneylender***, money is the theme and the deverbal agentive noun ***lender*** is the agent. The phrase **lend$_v$ money$_{theme}$** ***money*** functions as the object of the verb.

(iii) Compound adjectives: in this structure, for example, in the compound *hand-written*, the hand is the instrument that was used to write with. Compound adjectives require the same treatment as above e.g. An adjective like *God-fearing* can be paraphrased using the verb phrase fearing$_{verb}$ God$_{patient}$

(iv) Compound nouns: the noun in each compound functions as the patient argument of the deverbal noun on its right. Like *bear baiting*: baiting$_{verb}$ and bear$_{patient}$.

1.9.4.3 Theta Roles in Phrase Structure Rules

With the following theta-roles assigned to the given PS rules as follows:

a. S → NP VP
<agent>

b. VP→ V NP
<patient>

c. NP → Det N

d. N. → Nsg. Npl

e. Det → the

f. V → V trns (i.e. transitive verb)

Katamba (ibid 259) illustrates with the tree diagram to represent ***The clown tickled the children*** as presented in Figure 10 below:

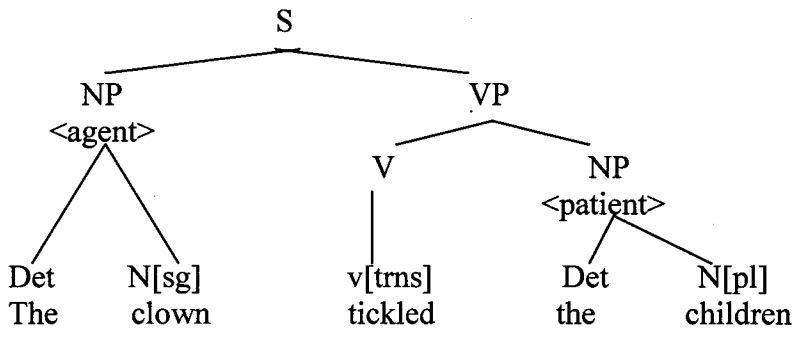


Figure 10: Theta Roles in Phrase Structure Rules

1.9.4.4 Theta Marking in Compound Noun Words

Grimshaw (1990:68) states that theta marking in compound words is possible. Firstly, she identifies compounds as being of two kinds- 'root' and 'verbal' or 'synthetic'. Root compounds are those with heads without an a-structure. Since the head has no a-structure, principles of a-structure do not govern the formation of the compound. In addition, apparent subjects or external arguments can occur as in (i) *bee sting* – bee stings and (ii) *dog bite* – dog bites

Similarly, root compounds can be formed with subject of an unaccusative predicate as in *rainfall, heartache*, and *bus stop.*

Synthetic compounds, on the contrary:

(i) Are affected by principles of a-structure representations;
(ii) Have a restriction that subjects cannot appear in compounds as in *gift-giving, flower-arranging*;
(iii) Do not take a plural; and
(iv) Have a morphological characteristic: that the compound be headed by –ing nominal e.g. *gift-giving, flower-arranging, god-fearing.*

It can be concluded, therefore, that compounds which are in fact word-syntax, like phrase structures, can be assigned theta roles similar to words in a phrase structure with the same lexical category and the same grammatical slots in sentences.

1.9.5 Conclusion

Although the literature reviewed gave enough information on the aspects of grammar and their identification in English, there was scanty information on Bantu languages in general and Tonga. From the available literature, apart from Nkolola (1997) who wrote on ***Tonga Verb Extensions***, nothing significant has been done on linguistic research on Tonga language. Nkolola's thesis emphasizes on one aspect of grammar: verbs and their extensions. Therefore, a research on aspects of grammar embedded in Tonga compound nouns becomes a viable investigation.

1.10 METHODOLOGY

In this section, the researcher identifies the methods of research and the research design suitable for this type of research.

1.10.1 Research Paradigm

Although the study of compound nouns in Tonga is a descriptive research, the investigation employed both qualitative and quantitative methods of research and analysis. Firstly, the study is qualitative in that the research is interpretive thus needing the researcher to employ descriptive techniques to elucidate and interpret the data of the corpus collected. As such, the research employs inductive analysis in order to explore data on a theoretical framework applicable to the part needing analysis. This approach helped the researcher to discover the reality in comparison to the known. theoretical perspective. In addition, questions and problems for this research come from

the observations made on compound nouns using the four linguistic levels: phonology, morphology, syntax and semantics. Secondly, the study is quantitative for it employs counting the number of occurrences of a particular analysis or observation in order to draw up inductive analysis on the corpus collected.

1.10.2 Population

Fifteen informants, (two custodians of the language, and thirteen literate respondents mainly teachers of Zambian languages in high schools in Southern Province) were purposely selected. At the time of the research, the informants, representing different schools in Southern Province, were students at the Zambia Adventist University.

1.10.3 Sample

The fifteen informants were purposely chosen after learning that they were either custodians of the Tonga language and either teachers of Tonga language, English language or both.

1.10.4 Procedure

Purposive sampling was employed to identify teachers of either Tonga or English language. At first the researcher identified five teachers within Monze district and then employed the snowball method by allowing these teachers to further incorporate other teachers of language to the research panel. This fruitfully came up with fifteen informants who willingly contributed to the corpus of compound noun words (Appendix C)

1.10.5 Research Design

1.10.5.1 Data collection

Data of compound nouns in Tonga were collected using 15 informants and secondary sources such as published materials (such as *Nakoyo, and Munzi wa Bunjaka)* other library search such as the internet, listening to Tonga radio programs, and listening to conversations in Tonga either in the community, in church or on the bus. The researcher made use of a research journal to collect information in such instances. In addition, the researcher used introspection from her native knowledge of the language as her mother tongue.

1.10.5.2 Instrumentation

To collect data from secondary sources such as published materials, radio programs and conversations in the community, in church and on the bus, the researcher recorded all compound noun words identified in the researcher's journal. Information from the informants was recorded on the Informant's Request Sheet (Appendix B).

A pilot survey was carried out to verify the reliability and validity of the Informant's Request Sheet. Two research assistants (Tonga native speakers and teachers of both Tonga and English) were used. Eighty-three compound nouns and fifteen idiomatic expressions (Appendix A) were listed. The idiomatic expressions were given erroneously as informants failed to draw a difference between a compound noun and an idiomatic expression. This helped the researcher to come up with an instrument (Appendix B) to help define what was really expected from them.

The results of the instrument clearly reflected what the research was all about: to identify and define the grammatical aspects embedded in compound noun words. With

the desired instrument, 305 compound noun words were collected. The other sixty-one compound nouns were collected from the other sources mentioned using a researcher's journal (a researcher's note book). A compilation of the list draws up the corpus of compound noun words (Appendix C).

1.10.5.3 Data analysis and theoretical frameworks

A triangulation of qualitative and quantitative methods of analysis were used. Qualitative analysis was more on describing the phonological, morphological, syntactical and semantic information as presented in the compound noun words. Specifically the following procedures were applied in the analyses:

(i) Phonological Analysis: Appendix E column 3 was used to identify the compound structure of each compound noun word for the purpose of syllabification and Appendix D *Tone Marking of Compound Nouns*, was also used for comments on tonal patterns of words in isolation and in a compound structure.

(ii) Morphological Analysis: Appendix C *Corpus of Compound Nouns* (column 6) was used for analysis of compound nouns by composition of parts of speech and their relations. Appendix E *Types of Compound Nouns* was also drawn to find frequencies of the type of compound nouns using Bauer's classification: dvandva, endocentric, exocentric, and appositional compounds. In addition, Appendix F *Morphological Aspects of Compound Nouns* was helpful in analyzing frequencies of morphophonological rules at play in the compound nouns.

(iii)Syntactical Analysis: Appendix G Analysis of Compound Nouns became very handy when analyzing syntactic structures using the composition of the compound noun (column 5).

(iv)Semantic Analysis: Appendix G was still used for this exercise. Semantic analysis was looked at using the literal meaning and the actual meaning of each compound (Column 3 and 4). In addition, column 5 was relevant when looking at the theta roles of the words in each composition.

Quantitative analysis was employed when quantifying the occurrences of either an observation made or the type of a phenomenon under discussion. Such data was presented in tables, graphs, or charts to give an enabling understanding of the discussion.

Data analysis in this paper is theory- neutral in that the paper discusses facts as they are presented in the compound nouns. However, from time to time, for clarity of the findings, reference was made to a particular theory.

1.11 ORGANISATION OF THE STUDY

This research paper comprises four chapters. Chapter One has introductory remarks and the theoretical framework of the paper. In addition, some aspects of Tonga Language are discussed as part of the introduction to the study. Literature review takes an interdisciplinary perspective in relating to the different theoretical frameworks of language study and the examples according to the linguistic level. Chapter one ends with the discussion on the methodology. This highlights the research paradigm, population, sample, sampling procedure and the recommended methods of collecting and analyzing data of a language study as this one. The study analyzes its findings in

Chapter Two (Phonology and Morphology) and Chapter three (Syntax and Semantics). Chapter Four contains the general conclusion to the study.

CHAPTER TWO

TONGA MORPHOLOGY AND PHONOLOGY

2.0 GENERAL

This chapter discusses Tonga morphology and phonology. It is justified to examine simplex words that are joined together to form a compound within the same chapter with morphology because the process of compounding usually brings in phonological changes at word boundary and also a change of tone in some of them.

In the discussion on morphology, the researcher's main aim was to look at the internal word structure of compound noun words and explicate certain principles that apply to the structure of compound noun words in Tonga. To this end, an analysis of compound noun word forms and their internal word structure was examined. This was done to classify the roots and morphemes in Tonga and also to help in describing how these morphemes combine to form words.

The beginning point of a morphological analysis is knowledge of parts of speech and their internal structures. Firstly, the researcher will give a list of Tonga Parts of Speech as presented in the language. Then the list will be compared with the parts of speech presented in the corpus of our research. The definitions of the parts of speech follow the traditional approach.

2.1 Tonga Parts of Speech

Table 1 below shows the possible parts of speech that are found in Tonga.

Table 1: Tonga Parts Of Speech

Classification	Structure	Example
Noun: A word that names a person or thing	Prefix + stem	Mu-ntu 'person', ba-ntu 'people' Mu-samu 'tree', misamu 'trees'
Personal Pronoun:	Prefix + stem	'mebo' I/me 'webo' 'you-sg'
Demonstrative Pronoun	Prefix + stem	Oyu 'this one' eci 'this'
Genitive pronoun	Prefix + Stem	u-a.wa 'of' lya 'for', a- 'on'
Relative Pronoun	Prefix + stem	Si-a. sya 'he who…'
Indefinite Pronoun	Prefix + Stem	Mu-nji.munji 'many'
Possessive Pronoun	Prefix + stem	n-i-ina. Nyina 'your'
Verb: express action done by or to the subject, or it expresses the subjects state of being.	Prefix + stem	Ku-lya 'to eat' Ku-zyana 'to dance'
Adverb	Prefix + stem	Mu-ciindi 'on time' Ma-kalanguzu "at a place of authority"
Adjective	Prefix + Stem	Ku-siya 'to be black – black Ku-tuba 'to be white – white
Ideophone	Attached to whole word	-ncu 'still', -buu 'whiten', -mbi 'black'
Onomatopoeic	Stem	Ndyangu 'limp', dingwa'thump'
Numerals	Class prefix + O+stem	Omwe 'one' batatu, 'three'

However, the research identifies eight parts of speech used in noun compounds as follows: nouns, pronouns, verb, adverb, adjective, ideophone, onomatopoeia, and numerals.

2.1.1 Noun

A noun has a structure of a prefix plus stem. The prefix denotes a pair of a singular and plural morpheme. To exemplify this, words in isolation that are used in compound nouns and at times the compound words themselves were used.

Compound Word	Class	Prefix	Stem	Word sg.	Word pl.	Gloss
(279) mwanamulumbu	½	mu/ba	mu –ana	mwana	bana	child/ren
(289) mwiindiokwale	3/4	mu/mi	-indi	mwiindi	miindi	shin(s)
(73) ibbweluuma	5/6	li,i/ma	-bbwe	ibbwe	mabwe	stone(s)
(11) ceelocenda	7/8	ci/zi	-elo	ceelo	zyelo	ghost(s)
(304) nkandamalowa	9/10	n/n	-kanda	nkanda	nkanda	wilderness
(133) lubayaluuba	11/6	lu/ma	-baya	lubaya	mabaya	kraal(s)
(104) kanakantapa	12/13	ka/tu	-ana	kana	twana	small child/ren
(260) muungwabulowa	14/6	bu/ma	-lowa	bulowa	malowa	blood

A few proper nouns in the compound nouns where identified.

(i) (14) Chapyakoku 'anthroponym' ci-apya 'it is burning' + koku 'this way

(ii) (15) Chikwelakwendo 'Anthroponym' ci-kwela 'he who drags' + ku-endo 'foot'

(iii) (104) Kanakantapa 'name of place' ka-ana 'a child' + ka-n-tapa 'of a swamp'

(iv) (270) Mwanacingwala 'anthroponym' mu-ana 'child' +ci-n-gwala 'sharp metal'

(v) (272) Mwanahiba 'anthroponym' mu-ana 'child' +hiba 'pond'

(vi) (277) Mwanampongo 'anthroponym' mu-ana 'child' +n-pongo 'goat'

(vii) (281) Mwanang'onza 'anthroponym' mu-ana 'child' +n-gonza 'duiker'

(viii) (330) Punabantu 'anthroponym' puna 'escaping' +ba-ntu 'people'

2.1.2 Pronoun: a word used in place of one or more nouns.

Four types of pronouns were identified: possessive, indefinite, personal and genitive pronouns.

Compound	WordStructure	Pronoun Type
(i) (233) munyinandumi 'brother'	n-i-ina> nyina 'your'	possessive
(ii) (222) Munjimaulu 'he who has many legs'	mu-nji>munji 'many'	indefinite
(iii) (53) hachivwulemwangu 'he who wants many things for himself'	mu-a-ngu>wangu 'mine'	personal
(iv) (248) Musemowalubulo 'type of steel'	u-a>wa 'of	genitive

Other genitive pronouns identified are shown below:

(i) (329) pobwelyabacula 'party for frogs' lya- for

(ii) (144) makuyabeetwa 'figs for goats' a- 'for'

(iii) (96) kalomokanjina 'a mouth of a louse ka- 'of'

(iv) (128) kumunzimulemu 'at a revered village' -ku 'at'

(v) (16) cibikubantu 'ugly to people' ku- 'to'

(vi) (244) musekaatala 'he who laughs on the surface' a- 'on'

2.1.3 Verb

The stem of a verb uses the prefix of any noun class depending on context. Examples:

Compound word	Pre-verb Root.	
(i) (1) Bbalampoto	Ø-bbal-a	'carry on back'
(ii) (43) Cuumpalubanje	ci-ump-a	'burn'
(iii) (10) Caangabafu	ci-ang-a	'tie'
(iv) (12) Ceendamudima	ci-end-a	'walk'

The verb roots in the above example all carry primitiva radicals with an 'a' verb ending.'

2.1.3.1 ***Verbs with Grammatical Extensions.***

Verbs can also carry grammatical extensions. Some verbs have their forms extended by adding grammatical suffix morphemes. Such verbs carry an extended verb radical.

Compound	**Extended Verb Radical**	**Verb type**
(i) (7) Bweengwaleza	eng-u-a engwa 'to be drawn'	passive
(ii) (23) Cilumyantale	lum-i-a lumya 'to cause to bite'	causative
(iii)(51) Haambilwaabana	amb-il-u-a ambilwa 'to talk about'	applied
(iv) (338) Sibonenwizyiko	bon-an-u-i bonenw 'to be seen'	completive
(v) (135) Luyandulamayoba	and-ul-a andula 'to break apart'	reverse

38 verbs with extensions were identified in the corpus. A full list is given as Appendix H *Morphological Rules on Verbal Extensions.*

2.1.4 Adverb: a word used to modify a verb, an adjective, or another verb. It carries a prefix of the word class it is modifying.

Compound word	Adverb stem
(i) (21) Cilangwabuyo 'arrogant person'	-buyo 'only'
(ii) (67) Himwalyakono 'anthroponym'	-kono 'now'
(iii) (137) Mambilambali 'satirical talk'	-mbali 'aside'
(iv) (267) Muzwakule 'a stranger'	-kule 'afar'
(v) (168) Mpolilombelamombe 'dusk'	'mpoli- 'when' (adverb of time)

2.1.5 Adjective

(i) (79) Kaand kanini 'month of May' kanini 'which is small'

(ii) (114) Kavukasalala 'graveyard' ka-salala 'which is red'

(iii) (143) makkalanguzu 'name of a place/cooperativ' nguzu 'of strength'

(iv) (214) Mulyatatete 'weakling' –tete 'soft'

(v) (228) Muntuusiya 'a person who is dark' -siya 'dark'

(vi) (235) Munzimulemu 'storage place for witchcraft' mu-lemu 'heavy, respected, or revered'

(vii) (318) Ntubyamucila 'bribery' -tubya 'make whi

(viii) (326) Payilyamucete 'name of a tree' mu-cete 'poor'

(ix) (341) Sigumwibabi 'type of a shrub' ba-bi 'ugly'

2.1.6 Numerals: Usually take the verbal concord of the class as prefix.

The Cardinals 1-4 take a verbal concord as prefix.

Class1/2	One	two	three	four	five
Mu/ba	u+o+mwe	ba-o+bile	ba-o+tatwe	ba+o+on	ba+o+sane
	omwe	bobile	botatwe	bone	bosanwe

In our corpus, the following compound words with numerals were found:

(i) (57) hikatukomwe 'with one leaf' Komwe – one The numeral *one* in the compound noun hikatukomwe 'with one leaf' uses class prefix 12 'ka' since it is referring to a thing – leaf. Thus its structure: Ka-o-mwe *komwe* 'one'

(ii) (82) Kabulamwanda – 99 'a shortfall to a hundred'

(iii) (121)Kkumaciloba: 'Ten and seven' 17 (5a/6 Ø/ma)

(iv) (362) Tulongatubili: *Tubili* takes the emphatic structure for tobile 'two'.

Tonga uses both additive structure and words in isolation for cardinals six to nine. In the corpus we found the word (19) ***cikumbilusele***. *Lusele* is a single word used for

'eight'. This can also be expressed as bosanwe mubatatu 'five and three'. Other single words for this group are: *Cisela* 'six', *ciloba* 'seven', and *fuka 'nine'*

Tonga also has a word for a hundred – *mwaanda.* The corpus has a compound word (82) *kabulamwaanda* 'a shortfall to a hundred' to denote ninety-nine. Here Tonga is using a subtractive method to come up with the figure ninety-nine.

2.1.7 Ideophone: A type of adverb used with other adverbs to imply intensity.

(171) Mucuncuculu: ncu 'to be still'

This word can be used as follows: Kwima ncu – to stand still.

Other examples of ideophones not from the corpus are:

(i) kutuba *bu* 'to be white- white'

(ii) kusiya *mbi* 'to be black black'

(iii) kumana *do* 'to finish finish'

2.1.8 Onomatopoeia: These are words derived from the sounds of nature.

(i) (284) Mwendandyangula 'a limping person'– ndyangu – Reference is to the sound of one who is limping.

(ii) (320) Ntuntumaanzi 'malaria' ntuntu- the sound made when pouring water from a container.

From the corpus of Tonga compound noun words eight parts of speech were identified. We note from the corpus that Tonga language has no equivalents for English articles (a, the). In the translations, the researcher applies intuitions as these are just implied and placed in places as thought best by the user.

Since our major study is on the word formation, under phonology syllabification was carried out in order to show the combinations of consonants and vowels to form

acceptable words in Tonga using Appendix E column 3. Secondly, Tonga being a tonal language, the importance of prosodic studies was exemplified in tone marking of the compound noun words (Appendix D) both on words in isolation and in a compound structure.

2.2 MORPHOLOGY

Morphology analysis firstly identified the parts of speech available in Tonga language, and then looked at the kinds of noun compounds these made when combined. The next step was to do an analysis on the types of morphological structures found in the compound noun words. Lastly, a morphophonological analysis was done.

2.2.1 Types of Compound Nouns

Compound nouns can be classified into four types: denominal compound nouns, de-adjectival compound nouns, deverbal compound nouns and deomatopoeic compound nouns. Using **Appendix G: Classification of Compound Nouns**, all four classes were identified in the corpus.

2.2.1.1 Denominal compound Nouns: These are nouns whose components are both nouns.Denominal compound nouns are of three types: Augmentative/Perjorative; Dimunitive, and others.

(i) Augmentative/Perjorative compound Nouns: These are formed by prefixing class 7/8 nominal prefix to the noun compound as in:

(a) (19) Ci-kumbi+lu-sele>cikumbilusele 'a big cloud eight'

(b) (37) Ci-vwula+ma-bwe>civwulamabwe 'a big hail storm'

(ii) Diminutive compound Nouns: These were formed by prefixing the nominal class 12/13 prefix ka/tu as in:

(a) (89) ka-koli 'a small walking stick' +ka-jule 'a type of an animal'>kakolikajule 'a small walking stick for Jule' (tukolitwajule)

(b) (98) ka-lungu 'a bead' +ka-moyo of a heart>kalungukamoyo (pl.Tulungutwamoyo)

(c) (118) ka-zyiba 'a small pond' +ka-mu-sana 'of the waist'> kazyibakamusana (pl.Tuzyibatwamisana)

(iii) Others: These are denominal compound nouns prefixed with other nominal prefixes other than those of class 7/8 and 12/13. The prefix can be a nominal prefix of another class or a proclitic followed by a prefix of any class as in:

(a) (161) ma-enda+ci-ula>meendacuula 'water+frog'

(b) (292) n-cili+ya+ba-etwa>nciliyabeetwa 'mortar for goats'

(c) (329) pobwe+li-a+ba-ci-ula>pobwelyabacuula 'party for frogs'

(d) (343) si-ka-ulu+ka-bu-n-zuka>sikaulukabunzuka 'one who has-a small-leg+of-wax'

2.2.1.2 Deadjectival compound nouns: These are nouns made with the use of adjectives. Usually, the compounds are nominalised either with class 1/2 mu/ba prefix to refer mainly to people, or class 7/8 ka/tu prefix to refer to things:

(i) ***To People: Use Prefix 1/2 mu/ba***

(a) (260) mu-unga+bu-lowa> Muungabulowa 'one whom blood flows from'

(b) (262) mu-unyu+wa-bu-longo> muunyuwabulongo 'one who is stingy of land'

(ii) ***To Things: use prefix 7/8 ka/tu***

(a) (24) ci-lya+ba-emb-il-a> cilyabembela 'that which is eaten by shepherds

(b) (33) ci-nyona+mu-cil-a> cinyonamucila 'that which twists the tail'

There was a recording of abstract deadjectival compound nouns like *ibbotabwebe* 'good to look at' and *cinicini* 'truly truly'- to mean 'the truth'.

2.2.1.3 Deverbal compound nouns: The deverbal compound nouns made the largest group. Classification is by suffix endings of verbal forms in the compound. As such, these were best classified according to derivational suffix used. Examples are as follows:

(i) Agentive compound Nouns – with ***-a*** ending (Reads: he who…)

(a) (1) Bbal-a+n-poto>bbalamboto 'he who carries a pot on the back'

(b) (3) bbing-a+bu-siku>bbingabusiku ''he who drives the night'

(c) (211) mu-li-a+ma-pepa>mulyamapepa 'he who eats papers'

(d) (365) U-lid-a+ku-nsi>ulidakunsi 'he who eats from the bottom'

(ii) Agentive Suffix – with –i ending (Reads: he who…/that which….)

(a) (56) hi-fwumb-i+bu-ina> hifumbibwina 'he who does not dig a hole'

(b) (58) hi-lamb-u-i+dobe>hilambwidobe ' he who is not smeared with mud'

(c) (69) hi-ta-luk-i+n-zila> hitalukinzila 'he who does not cross roads'

(iii) Deverbal compound Nouns in –u ending

(a) (44) ci-ung-u+ku-twi>cuungutwi 'he who is blocked in the ear'

(b) (308) n-kung-u+n-yeze>nkungunyeze 'that which gathers faeces'

(c) (320) n-tunt-u+ma-anzi>ntuntumanzi 'that which pours water'

(iv) Denomatopoeic compound Nouns: These are nouns derived using onomatopoeic words. The onomatopoeic words are underlined.

(a) (263) Muvwilidingwa 'name of a tree' –dingwa 'thump sound of a falling object'

(b) (285) mwendandyangula 'name of a person –dyangula 'sound of limping'

(c) (320) ntuntumaanzi 'malaria disease' –ntuntu 'sound of water when pouring'

2.2.2 Morphological Structure Of Compound Nouns

The words in isolation do have a recognizable internal structure as observed in the parts of speech. The structure of a compound noun is even more complex. It can have a pre-prefix, prefix, stem (with or without extensions), vowel endings and these parts can be duplicated in the other word conjoined to the other to form a compound noun as illustrated in Figure 11 below.

(53) Hacivwulemwangu 'selfish/greedy person'

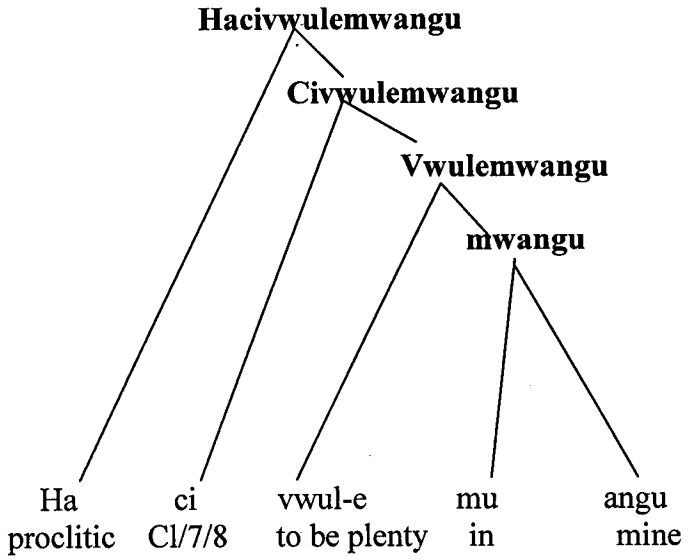


Figure 11: Compound Structure of a Compound Noun

Figure 11 above shows the affixes and stems used to come up with the compound *hacivwulemwangu*. It also shows the complexity of words in Tonga both in isolation and in compounding. This complexity led Collins to refer to words in Tonga as

Logisms because he felt 'word' does not meet their equivalence. To this, the researcher agrees with him.

In Tonga there are compounds with roots and semantic morphemes, compounds made up of roots only and compounds where one root is attached to a semantic morpheme and the other is a root only asin the following examples::

(i) ***Compound with root and semantic morphemes:***

(a) (9) Caambwabantu 'that which is said by people' 'anthroponym' ci+amb-u-a – ba+ntu (prefix +Stem)

(b) (17) Ciinicipanduzi 'a handle used to break', 'founder' ci+ini- ci+pandu-+zi (the second word has structure Prefix+Stem+Causative suffix)

(ii) ***Compound with root only***

(a) (49) Gandapati: ganda-pati 'big cold-big' month of June

(b) (77) Janzabbotu: janza-bbotu 'hand-good' 'prosperous person'

The dropping of prefixes is common with Class 5 li, i/ma noun words. For instance the first word ***gandapati*** is supposed to be ***i-ganda-li-pati*** just as ***janzabbotu*** is supposed to be ***i-janza-li-botu.***

(iii) ***Compound with root+semantic morpheme and the other with only a root***

(1) Bbalampoto 'ignorant person 'bbala 'carry on back' – n+poto 'pot'

(39) Civwibala 'grey hair' ci+vwi 'grey hair' – bala 'color'

2.2.3 Compound Nouns within the Tonga Noun Class System

One of the main features of Bantu languages, to which Tonga is part, is the classification of nouns by semantic features of the words. This semantic classification

actually yields to formal morphological patterns of singular and plural form morphemes. (See Figure 5 Tonga Noun Class Classification on p10).

The analysis of grouping compound nouns using the Tonga Semantic Class shows the frequency of each pair of word class as shown in **Appendix F** of ***Morphological Aspects of Compound Nouns***. The summary of frequencies for each semantic word class is given in Figure 12 below:

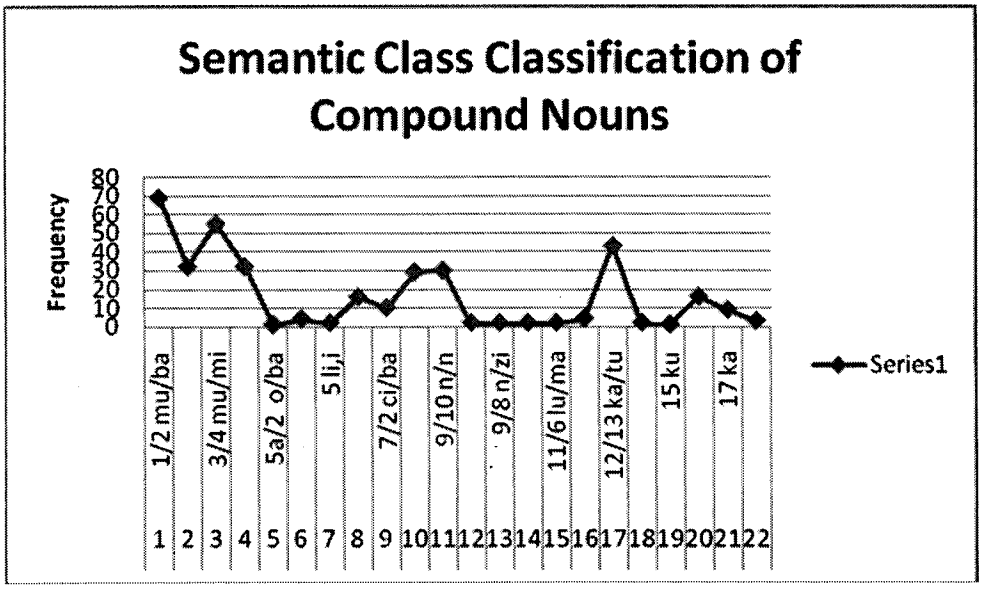


Figure 12: Compound Noun Semantic Class Classification

Figure 12 shows that nouns of class 1/2 (mu/ba) has the highest frequency of 69 (18.9%) words. If one takes recognition of class 1a/2 (ϕ/ba, 32, 8.7%), and class 1b/2[6] (16, 4.4%) as part of class ½ mu/ba noun words, then the score would be 117 words at 32%. Class ¾ is the second highest (55, 15%), while class 12/13 (43, 11.7%) takes the third position. The lowest classes are Class 14/6 (bu/ma), 11/6 (lu/ma), 9/10 (n) and 15 (lu) which all has a word or two each. The words classified under 'others' has a frequency of 8 (2.25%). These are words with no alliterative concord prefixes since the

[6] These are compound noun words that begin with a prefix si, sya, hi, and denote human beings. Mostly, such compound noun words are used as anthroponyms and therefore carry the prefix ba- for plural.

first word in the composition was a verb root (for example: (327) Pengaujane 'suffer to find' anthroponym and (330) Punabantu 'escape from people' anthroponym.

2.2.4 Structure of Stabilized Compound Nouns

Stabilization is a test used to prove a word as belonging to the noun part of speech. To stabilize a noun is to make it be in the emphatic predicative state. In this state, the noun is able to stand alone as a complete sentence on its own. Tonga has two types of stabilization.

2.2.4.1 Indefinite stabilization

This is achieved by prenasalizing the prefix consonant by applying class 9/10 n/n prefix. Apart from the other class prefixes, prefixes of **m** class (i.e.Class 1/2 ma/mu, 3/4 mu/mi) retain the **m** in the output. One problem found was on nasalizing word forms which already had a nasal consonant like [n], [ng], [ŋ] including [m]. For the output to reflect indefinite stabilization, the first vowel is lengthened. For class 5 *li,i* and Class 11 *lu*: prenasalized **l** becomes **d**. Class 16 locative prefix **a-** surfaces as **mpa-** Indefinite stabilization results in a sentence form 'it/he is a....'. This information is summarized in Table 2 below.

Table 2: Examples of Indefinite Stabilization

Class	Gloss	Stabilization	Result
1 mu-	(275) Mwanakujana 'a legal child	Mwa:nakujana	He is a fathers child
2 ba-	(365) Balidakunsi 'backbiters'	Mba:lidakunsi	They are backbiters
3 mu-	(191)Mulalansana 'name of a tree'	Mu:lalansana	It is Mulalansana
4 mi	(242)Misansamanzi 'name of a tree'	Misansamanzi	These are …
5 li-, i-	(132) Liyasacuuno 'frank talk' (72) Ibbweliyale 'foundation'	Ndiyasacuuno Ndibbweliyale	It is a frank talk It is a foundation
6 ma-	(137)Maambilambali 'satirical talk'	Ma:mbilambali	It is a satirical talk
7 ci-	(17) Ciinicipanduzi 'founder'	Nci:nicipanduzi	He/she is a founder
8 zi-	(26) Zimanamaila 'antrhoponym'	Nzimanamaila	These are …
9 n-	(323) Nzubukamulonga 'stranger'	Ninzubukamulonga	He is a traveler
10 n-	(292) Nciliyabeetwa 'name of a tree'	Ninciliyabeetwa	It is a (type of tree)
11 lu-	(134) Luumang'ombe 'type of grass;	Nduumangombe	It is a (type of grass)
12 ka-	(87) Kaingantale 'name of fish'	Nkaingantale	It is a (type of fish)
13 tu-	(364) Tusinkamatwi 'termites'	Ntusinkamatwi	They are termites
14 bu-	(7) Bweengwaleza 'natural place'	Mbweengwaleza	It is a natural place
15 ku-	(130)Kunkumunamasamu 'month of July'	Nkunkumunamasamu	It is July
16 a-	(205) Alutantambeba 'ridge of a mud house'	Mpalutantambeba	It is on a ridge of a hut
17 ku-	(129) Kumuyabanji 'grave'	Nkumuyabanji	It is death (or graveyard)
18 mu	(197) Mulilanduba 'name of a place'	Mulilanduba	It is in(name of place)

2.1.4.2 Definite Stabilization

This is formed by prenasalizing the verbal concord of the word class and affixing it in the front of the noun. This process, known as reduplication, changes **u** to **o** and **i** changes to **e**. The resulting form reads 'it is the….', he is the….', they are the…. etc). This information is summarized in Table 3 below.

Table 3: Examples of Definite Stabilization

Class	Noun	Nasalize V Con. Of Rel.Pronoun Form	Stabilized
1 mu-	(222)Munjimaulu 'anthroponym'	n-u-o>ngo	NgoMunjimaulu
2 B a-	(1)Bbalampoto 'ignorant person'	N-ba-a>mba	Mbabbalampoto
3 mu-	(173)Mufwacibuka 'name of a plant'	n-u-o>ngo	Ngomufwacibuka
4 mi-	(188)Mikusamatwi 'name of a tree'	n-i-e> nje	Njemikusamatwi
5 li,i	(72) Ibbweliyale 'foundation'	n-li-e>nde	Ndebbweliyale
6 ma-	(143)Makkabankuyu 'name of fish'	n-a-a>nga	Ngamakkabankuyu
7 ci-	(39)Civwibala 'grey hair'	n-ci-e>nce	Ncecivwibala
8 zi-	(33)Zinyonamucila 'bribes'	n-zi-e>nze	Nzezinyonyamucila
9 n-	(301)Nkalamabelo 'grandchild'	n-i-e.>nje	Njenkalamabelo
10 n-	(301)Nkalamabelo 'grandchildren'	n-zi-e>nze	Nzenkalamabelo
11 lu-	(136)Lwiinganyendo 'a trap'	n-lu-o>ndo	Ndolwiinganyendo
12 ka-	(87) Kaingantale 'name of a fish'	n-ka-a>nka	Nkakaingantale
13 tu-	(99)Tulyabayuni 'name of a tree'	n-tu-o>nto	Ntotulyabayuni
14 bu-	(6) Bukokobwajule 'name of a tree'	n-bu-o> mbo	Mbabukokobwajule
15 ku-	(128)Kumunzimulemu 'at storage place of witchcraft'	n-ku-o>nko	Nkokumunzimulemu

2.2.5 Morphophonological Analysis of Compound Nouns

Morphophonological analysis of compound noun words highlights on the structure of the word forms conjoined to form compound nouns as summarized in Table 4 below.

Table 4: Summary of Compound Noun Word Structure

		Frequency	%
1	adjective + noun	13	3.55
2	adjective +verb	1	0.27
3	adjective+adjective	2	0.55
4	adverb + any class	4	1.09
5	noun + adjective	23	6.28
6	noun + noun	60	16.4
7	noun + verb	20	5.46
8	noun + verb + noun	5	1.37
9	noun+ g.pro.+noun	15	4.1
10	onomatop. + any class	5	1.37
11	verb + adjective	7	1.91
12	verb + adverb	7	1.91
13	verb + noun	171	46.7
14	verb + verb	25	6.83
15	verb +g.pro+verb	3	0.82
16	verb+g.pro.+noun	5	1.37

Further analysis of this data proves that a combination of verb and another word class is the most frequent compounding common in the corpus. A summary of this is as follows:

Word Formation	**Frequency**	**Percent**
Verb+other	218	59.56%
Noun+other	123	33.61%
Adjective+other	16	4.37%
Onomatopoeia+other	5	1.37%
Adverb+other	4	1.09%

The internal structures do reveal the morphophonological rules that applied to the combination of affixes and radicals in order to have the resultant form of the compound nouns. Appendix F Column 3 (***Morphological structures***) and Column 4

(***morphophonological rules applied***) reveal details of the internal structure and the morphophonological changes involved.

A summary of the morphophonological rule application to the conjoining segments is presented in Figure 13 below:

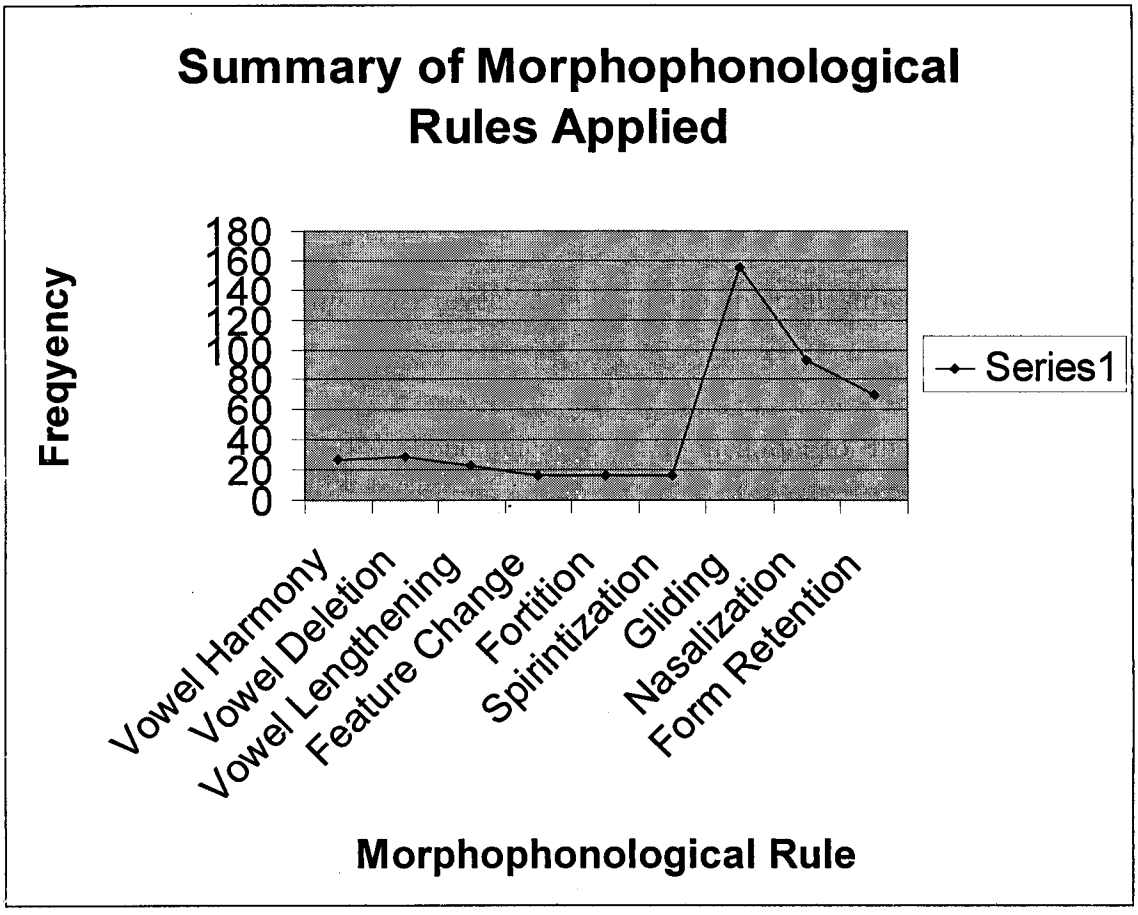


Figure 13: Summary of Morphophonological Rules Applying to Compound Nouns

2.2.5.1 Vowel Harmony (27 frequencies). This is a coalescence of two or more segments into one which takes place at word boundary. The words identified were: 9, 10, 11, 12, 13, 14, 42, 43, 44, 109, 94, 110, 121, 122, 132, 139, 144, 153, 155, 163, 172, 250, 251, 274, 322, 339, and 340. This information is summarized in Table 5 below.

Table 5 **Vowel *Harmony Rule*** (x→y/__y: Reads x is realized as y before y)

No.	Morphological Structure	V. Harmony	Resultant Compound
121	Kkum-i+a-ci-loba	i→a/__a	Kkumaciloba
139	Ma-bbu-e+a-ba-nene	e→a/__a	Mabwabanene
144	Ma-kuy-u+a-ba-etu-a	u→a/__a	Makuyabeetwa
153	Ma-sus-u+a-mu-kuwa	u→a/__a	Masusamukuwa
155	Mat-e+a-lula	e→a/__a	Matalula
322	N-zovwu+i-ta-n-jil-i+mu-nzi	u→i/__i	Nzovwitanjilimunzi
340	Si-ci-mvu-a+ba-enz-u	a→e/__e	Sicimvwabeenzu

The application of feature phonology to vowel harmony gives the following representation:

i) i + a → a

$$\begin{bmatrix} +\text{voc} \\ -\text{cons} \\ +\text{high} \end{bmatrix} + [+\text{low}] \rightarrow [+\text{low}]$$

i + a → a

ii) e + a → a

$$\begin{bmatrix} +\text{voc} \\ -\text{cons} \\ -\text{high} \end{bmatrix} + [+\text{low}] \rightarrow [+\text{low}]$$

e + a → a

From Table 5 above, we observed that when words ending with ***i, e***, or ***u*** are conjoined to words beginning with ***a***, there is vowel harmony to ***a***. Another observation with vowel harmony is that vowels i, e, and u are apocopated then the following prothetic vowel is shortened.

2.2.5.2 Vowel Deletion (29 0ccurrences) this took place in two forms:

We note that vowels are at times deleted at word boundary or word medially. The information is summarized in Table 6 below.

Table 6 ***Vowel Deletion*** (x→y/__y: Reads x is realized as y before y)

No.	Morphological Structure	V. Deletion	Resultant Compound
27	ci-ind-a 'he who bypasses +ba-bwa 'dogs'	i→i/__i	Cindababwa 'immoral person'
36	ci-sunt-a 'that which shakes +bu-oya 'fur'	u→o/__o	cisuntaboya 'hairy caterpillar'
110	ka-syu 'a vegetable' +ka-ba-ina 'for mother' +ci-ungwe 'crow'	a→i/__i	kasyukabinacuungwe 'type of a vegetable'
121	kkum-i 'ten'+a-ci-loba 'and nine'	i→a/__a	kkumaciloba 'ninteen'
139	ma-bbu-e 'stones'+a-ba-nene 'for elders'	e→a/__a	mabwabanene 'witchcraft storage place'
144	ma-kuy-u 'figs'+a-ba-etu-a 'for goats'	u→a/__a	makuyabeetwa 'name of a tree'
151	ma-and-a 'breaking through' –zi-kal-i 'fearful situations'	a→a/__a	mandazikali 'courageous person, anthroponym
153	ma-sus-u 'hair'+a-mu-kuwa 'for a white person'	u→a/__a	masusamukuwa 'name of a tree'
155	mat-e 'saliva + a-lula 'bitter'	e→a/__a	matalula 'negative prediction '
186	mu-kumb-ul-a 'that which brushes' +mi-enyo 'teeth'	i→e/__e	mukumbulamenyo 'type of shrub'
250	mu-siy-e 'one left'+a-like 'alone'	e→a/__a	musiyalike 'widow'
315	n-tent-e 'burning'+ma-ezi 'water'	a→e/__e	ntentemezi 'electric fish'
322	n-zovwu 'elephant' +i-ta-n-jil-i 'which does not' enter +mu-nzi 'village'	u→i/__i	nzovwitanjilimunzi 'baobab tree'
339	si-cimba 'it is a wrinkle'+ci-a-n-kumo 'of the forhead'	i→a/__a	sicimbacankumo 'type of a bird'

From Table 6, we observed that if a high vowel either i (front) or u (back) comes before a low ***a*** (back) or mid ***e*** (front) or ***o*** (back) vowel, it is syncopated and the low vowel is retained. This process is called ***vowel lowering*** (e.g. 186 and 36). ***Vowel raising*** also took place when a vowel was deleted while maintaining ***i or e*** (110 and 315 respectively. The other instances showed a retaining of the same vowel if it comes before a similar vowel (eg. ***a*** before ***a*** (151) or ***i*** before ***i***(27)).

Item (322) above is an exception in that both ***u*** and ***i*** are high vowels. We however note that the high back vowel ***u*** is deleted as the high front vowel ***i*** is retained.

The application of feature phonology to vowel deletion gives the following representation:

i) i + a → a

$$\begin{bmatrix} +\text{voc} \\ -\text{cons} \\ +\text{high} \end{bmatrix} + [+\text{low}] \rightarrow [+\text{low}]$$

i + a → a

ii) e + a → a

$$\begin{bmatrix} +\text{voc} \\ -\text{cons} \\ -\text{high} \end{bmatrix} + [+\text{low}] \rightarrow [+\text{low}]$$

e + a → a

2.2.5.3 Feature Change: This is a consonant changing rule. Feature change transforms a sound into another sound. Sixteen instances (1, 154, 160, 168, 169, 178, 195, 200, 205, 212, 239, 257, 261, 277, and 365) were recorded. Item no.365 ulidakunsi involves the change of consonant l to d. Fourteen instances reflected an alveolar nasal consonant ***n*** before a voiceless bilabial plosive ***p*** or voiced bilabial plosive ***b*** resulting in a voiced bilabial nasal ***m***. This then formed complex voiced bilabial nasals ***mp*** or ***mb***. This data is summarized in Table 7 below.

Table 7 Feature Change (x→y: Reads x changes to y)

No.	Morphophological structure	C.Change	Resultant Compound
1	bbal-a+n-poto	n→mp	Bbalampoto
113	n-bot-i-a+ba-ana	n→mb	Mbosyabana
365	u-li-li-a+ku-nsi	l→d	Ulidakunsi

The change of the alveolar nasal ***n*** to bilabial nasal ***m*** is more on the natural phenomenon of the morphology of speech. Usually complex consonants do have a common place of articulation although the manner of articulation may be different. Thus it is easier to use bilabial nasal ***m*** with bilabial plosive ***p*** or ***b*** to form a nasal complex ***mp*** or ***mb***.

Another feature changing rule observed was on the proclitics ***si__ha, si__hi***, and ***sya__ha***. A proclitic is a short word attached to another and it is used as an adjective or a noun. The choice between ***si*** or ***ha*** is a change occurring in dialects of Tonga. The authorized authography of Tonga, which is of Tonga Valley dialect (Southeast of Monze up to Kalomo), accepts ***si*** and ***sya*** particles. Tonga Plateau (Monze east dialect) is the main acceptable dialect in speech, uses ***hi*** and ***ha*** particle. One notices words spelt in Tonga Valley speech sounds and yet in authography, it represents the acceptable Tonga authography of the valley. The proclitics scored seventeen instances as follows:

Si__ha (meaning one who...) 50, 51, 52, 53

(50: si-a-lom-0+li-topota>Haadomolitopota 'one who has a big talkative mouth')

Si__hi (meaning one with...) 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67,68, and 70

(57: si-ka-tu+ku-omwe> Hikatukomwe 'one with one leaf')

Sya__ha (meaning one who...) 50, 51, 52, 53, 54, 55

(54) sya-ka-inda+mu-li-ango>hakaindamulyango 'one who bypasses the door'

2.2.5.4 Fortition: This is the hardening of consonants or making voiceless consonants be voiced. Fortition scored 16 instances: L→ d: 46, 47, 50, 196, 296, k→kk: 142, 143, 179, 180, 181, 182, 183, k→g: 49 and β→bb: 3, 5, 71. This information is presented in Table 8 below.

Table 8: Fortition (x→y reads: x hardens to y)

No.	Morphological structure	Fortis	Resultant Compound
5	βu-mb-u-a 'surround' + bu-uka 'ants'	β→bb	Bbumbwabuuka 'strong person'
46	Londa 'sore'-mu-aka 'year	L→d	Dondamwaka 'cancerous sore'
47	Li-undu 'mountain' + wa-ang-a '	l→d	Dunduwanga 'a type of a cacti'
49	Ka-anda 'a cold'+pati 'big'	γ→g	Gandapati 'month of June'
50	Si-a-lom-o'he who has a mouth' +li-topot-a 'which speaks'	l→d	Hadomolitopota 'talkative person'
142	Ma-kab-a 'that gobbles'+n-kuy-u 'fig'	k→kk	Mkkabankuyu 'type of a fish'

The fortition of ***l*** to ***d*** and **k** to ***g*** has an element of change of size or intensity of the noun: *londa* 'a sore, donda 'a big sore; kaanda 'a small cold', *ganda* 'a big cold'. The fortition of ***β*** to ***b*** is more on emphasis of the action. It has a marking aspect of definiteness.

2.2.5.5 Lenition or Spirintization or Fricativization): This is when a stop is realized as a fricative. 16 instances were identified: ***b→β***: 37, 78, 83, 84, 351 , and before a causative i vowel: 160, 223, 310, 288, 225. This information is summarized in Table 9 below:

Table 9:Spirintization (x→y Reads: x becomes y)

No.	Morphological Structure	Fricat.	Resultant Compound
37	ci-vwul-a 'rain'+ma-bbu-e 'stone'	b→β	Civwulamaβwe 'hail storm'
78	Ka-and-a 'cold' +bbu-e 'stone'	b→β	Kandaβwe 'midnight'
351	Suk-a 'shake'+ma-bbu-e 'stones'	b→β	Sukamaβwe 'miner'

When the word *bbwe* 'stone' is used in isolation, it maintains the plosive ***b*** sound. But when conjoined to a morpheme or another word, it is fricativized to ***β***.

The following instances of spirintization are those by the causative ***i*** extension: 160, 223, 225, 288, 310 and 348 as exemplified in Table 10 below.

Table 10 Spirintization by Causative ***i*** (x__y/__z Reads: x before y spirintizes to z)

No.	Morphological Structure	Spirintize	Resultant Compound
160	n-bot-i-a 'beautify' +ba-ana 'children'	t__i/__s	mbosyabana 'beauty spot'
223	mu-non-i-a 'sweeten' +mi-end-a 'water'	n__i/__z	munozyameenda 'name of a tree'
225	mu-tulul-i-a 'that which causes a running stomach +ma-lomba 'mermaid'	l__i/__z	Mutuluzyamalomba 'name of a tree'
288	mu-end-i-a 'to move' +ka-sak-o 'a stick'	d__i/__z	mwenzyakasako 'feeble person, elderly person'
310	n-sek-i-a 'to make laugh' +ba-fu-a 'dead'	k__i/__s	nsesyabafwa 'name of a tree'
348	mu-lil-i-a 'he who plays' +ka-lumb-u 'an instrument'	l__i/__z	Mulizyakalumbu 'anthroponym'

Table 10 reveals that voiced consonants ***n, d, l*** spirintize to ***z*** while voiceless stops ***t*** and **k** spirintize to ***s***. The other observation made is that all these instances are taking place with the verbal forms.

2.2.5.6 Gliding (or Commutation): The changing of a vowel into a semi-vowel. Gliding scored 155 instances, the second highest in the morphophonological rules. The results are summarized as follows:

i) i→y/__a: 51 instances ii) i→y/__o: 1 instance iii) u→w/__e : 25 instances

iv) u→w/__i : 29 instances v) u→w/__a : 65 instances

The rule(s) above, in linear phonology notation reads: vowel ***i*** changes to semi-vowel ***y*** when it is before vowel ***a***. in feature phonology this can be represented as:

i) i→y/__e

$$\begin{bmatrix} +\text{voc} \\ -\text{cons} \\ +\text{high} \end{bmatrix} \rightarrow \begin{bmatrix} -\text{voc} \\ -\text{cons} \\ +\text{cont} \\ -\text{ant} \end{bmatrix} / \begin{bmatrix} +\text{voc} \\ -\text{high} \end{bmatrix}$$

i → y / e

ii) i→w/__u

$$\begin{bmatrix} +\text{voc} \\ -\text{cons} \\ +\text{high} \end{bmatrix} \rightarrow \begin{bmatrix} -\text{voc} \\ -\text{cons} \\ +\text{ant} \end{bmatrix} / \begin{bmatrix} -\text{cons} \\ +\text{high} \\ +\text{bk} \end{bmatrix}$$

i → w / u

Examples of gliding are presented in Table 11 below:

Table 11: Gliding Rule (x→y/__z : Reads:x becomes y before z)

No.	Morphological Structure	Glide	Resultant Compound
8	Bu-ind-i+ma-belo	U→w/__i	Bwindimabelo
21	ci-lang-u+a+buyo	U→w/__a	Cilangwabuyo
23	ci-lum-i-a+n-tale	I→y/__a	Cilumyantale
33	ci-ni-on-a+mu-cila	I→y/__o	Cinyonamucila
81	Ka-anz-a+n-bu-ene	U→w/__e	Kanzambwene

Gliding rule was observed both word medially and word ending. Some of the other gliding instances are:

(i) i→y/__a: (51 instances) 23, 24, 31, 32, 52, 53, 54a, 54b, 55, 63, 64, 65, 86, 95, 99, 100, 117, 124, 126, 148, 149, 152, 183, 189, 206, 207, 209, 210, 212, 213, 214, 223, 225, 235, 241, 246, 251, 252, 269, 310, 318, 325, 326, 329, 331, 348, 349, 354, 355, and 363.

(ii) u→w/__e: (25 instances) 7, 15, 30, 31, 41, 42, 65, 68, 71, 72, 73, 81, 95, 106, 139, 152, 281, 284, 285, 286, 287, 288, 324, 333, and 349

(iii) i→y/__o: (1 instance) 120.

(iv) u→w/__i: (29 instances) 8, 30, 39, 41, 56, 57, 66, 70, 86, 95, 123, 125, 126, 133, 136, 169, 174, 176, 187, 188, 265, 289, 290, 299, 337, 338, 341, 342, and 344.

(v) u→w/__a: (65 instances) 6, 9, 21, 22, 31, 32, 36, 37,41, 44,45, 51, 53, 55, 60, 65, 67, 74, 75, 82, 92, 96, 97, 111, 131, 138, 140, 144, 173, 180, 183, 193, 194, 202, 224, 230, 231, 240, 243, 253, 259, 261, 263, 267, 268, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 282, 283, 300, 313, 314, 317, 334, 340, and 350

2.2.5.7 Nasalization: (93 instances) The changing of a stop into a nasal

The observation in consonants gave the information summarized in Table 12 below:

Table 12 Nasalization [-nas]→[+nas]/[+nas]
Reads: A non-nasal becomes a nasal when it comes before a nasal)

No.	Morphological structure	Nas.	Resultant compound
1	Bbal-a+n-poto	p→mp/n	Bbalampoto
74	i-n-lya+bu-lub-a	l→nd/n	Indyabuluba
87	Ka-ing-a+n-tale	t→nt/n	Kaingantale
96	Ka-lom-o+ka-n-jina	j→nj/n	Kalomokanjina
117	Ka-zi-ala+n-zubo	z→nz/n	Kazyalanzubo
120	Ka-zi-ala+n-kumba	k→nk/n	Kazyalankumba
131	Ku-pway-a+n-yindi	y→ny/n	Kupwayanyindi
143	Ma-kkal-a+n-guzu	g→ng/n	Makkalanguzu
160	n-bot-i-a+ba-ana	b→mb/n	Mbosyabana
191	Mu-lal-a+n-sana	s→ns/n	Mulalansana
196	Mu-li-la+ku-non-a	l→d/ĩ	Mulidakunona
291	n-cel-il-e+bu-la	c→nc/n	Ncelelebula

Table 12 above shows that almost all word groups: stops, fricatives, affricates, glides and vowels can be nasalized in Tonga. Item 196 shows progressive nasalization where bilabial nasal ***m*** influences the vowels after it to be nasalized too leading to the nasalization of ***l***.

2.2.5.8 Vowel lengthening: (23 instances) the doubling of a vowel. This rule happens both word medially and word boundary. Vowel lengthening is to some reality vowel deletion except the resulting vowel is elongated. This is referred to as compensatory lengthening. The process of compensatory lengthening first syncopates the vowel on the left side and thereafter lengthens the vowel attached to the stem. Some of the instances noted are as follows: i__a:/__a (9, 10). i__e:/__e (11, 12, 223), i__u:/__u (42, 43, 44, 110, 132), a__e:/__e (109, 144, 161, 162, 223, 292), u__o:/__o (18, 122, 165, 166, 165, 249), and i__o:/o (48). Table 13 presents some examples of vowel lengthening rule:

Table 13 Vowel Lengthening Rule: x→y:/__y

No.	Morphological Structure	Comp. len.	Resultant Compound
11	ci-elo 'ghost'+ci-enda 'walking'	i__e:/__e	Ceeloceenda 'weakling'
20	ci-ang-a 'tie'+ba-fu 'dead'	i__a:/__a	Caangabafu 'numbness'
42	ci-umbw-u-e 'grave'+ci-enda 'walking'	i__u:/__u	Cuumbweceenda 'weakling or sickly person'
48	Fwul-i+ci-ongo	i__o:/__o	Fwulicoongo
122	Ku-ona 'sleep'+bu-langa 'see'	u__o:/__o	Koonabulanga 'sleepless state'
161	Ma-enda+ci-ula	a__e:/__e	Meendacuula

This type of vowel deletion resulting into compensatory lengthening is more prominent in verbal forms as shown in the compound nouns above.

At times, vowel lengthening results when similar vowels follow each other either word boundary or word medially as summarized in Table 14.

Table 14: Vowel Lengthening Rule (x→x: Reads When x follows x it becomes x:)

NO.	Morphological Structure	V.Len.	Resultant Compound
20	ci-lang-a 'that which looks'+a-n-kumo 'at forehead' (wb)	a→a:	Cilangaankumo 'noontime
79	Ka-and-a 'small cold' +ka-nin-i 'small' (wm)	a→a:	Kaandakanini 'month of May'
260	Mu-ung-u-a 'he from which flows' flows' +bu-lowa 'blood' (wm)	u→u:	Muungwabulowa 'name of a tree;
339	Si-cimba 'he who has a wrinkle'+ci-a-n-kumo 'on the forehead'	i→ø/a	Sicimbacankumo 'type of a bird'
356	Ta-bon-i 'he that does not see' +i-sub-a 'one that urinates' (wb)	i→i:	Taboniisuba 'immoral person'

Observations made in Table 14 above show that in word medially, the prefix and stem had a similar vowel. For word boundary, if the ending vowel of the first word was similar to the beginning vowel of the next word, vowel lengthening took place.

Another observation made was on the affix ***a*** which could be any kind of genitive pronoun depending on the context. Whenever this affix was attached to word ending in vowel ***a***, then vowel lengthening took place and this vowel had a fall-rise (ˇ) tone.

No.	Compound Noun	G. Pronoun
20	[cìlàŋgă:nkúmò] 'which looks on the forehead'	on
7	[βwè:ñgwă:lèzà] 'drawn by god'	by
179	[múkkàlă:bwìnà] 'one who sits at the hole'	at
180	[múkkàlă:jìkwà] 'one who stays where cooking is done	where* [7]
269	[mùzyă:nyìnàn] 'one who comes with the mother	with
245	[mùsékă:tàlà 'one who laughs on the surface'	on

2.2.5.9 Fom Retention: 70 compound nouns were formed without any change in the combining word forms. Examples are given in Table 15 below:

Table 15: Form Retention

No.	Semantic Class+Morphological Structure	Retained Compound
19	7/8 ci-kumb-I 'cloud'+ 11 lu-sele 'nine' n/n	Cikumbilusele 'ninth month'
45	7/8 ci-man-a 'that which finishes'+ ¾ ma-ila 'grains' v/n	Cimanamaila 'anthroponym, lazy person'
77	5/6 Janza 'hand'+ bbot-u 'good' n/adj	Janzabbotu 'prosperous hand'
88	12/13 Ka-jub-a 'he who shortens'+ 6 ma-zuba 'days' v/n	Kajubamazuba 'witch or wizard'
141	6 Ma-ila 'grains'+ ½ mu-ceme 'shepherd' n/n	Mailamuceme 'type of grain'
327	Peng-a 'suffer'+u-jan-e 'you find' v/v	Pengaujane 'anthroponym'
336	1b/2 Si-bind-i 'I do not hurry' + 3/4mi-limo 'work' v/n	Sibindimilimo 'anthroponym'
356	Ta-bon-i 'he does not see'+5 i-sub-a 'that which urinates' v/n	Taboniisuba 'immoral person'

The rest of the instances are: 2, 25, 26, 34, 35, 38, 39, 40, 73, 86, 89, 91, 98, 102, 103, 104, 107, 113, 114, 115, 116, 119, 123, 128, 129, 133, 135, 158, 159, 164, 167, 170, 171, 177, 188, 190, 191, 192, 215, 218, 221, 226, 229, 234, 238, 247, 248, 255, 258, 265 288, 327, 328, 330, 335, 336, 346, 352, 357, 364, 366, and 362

There were no peculiar observations made but it was noted that all word classes and word forms could retain their forms, depending on agreement of the morphemes being put together.

[7] Where* Adverb of place

2.2.6 Morphophonological Rules on Verbal Radicals and Extensions

A verb has a root which is referred to as a primitiva radical. The primitive radical can be extended to get a derived radical. In the corpus collected, some verbs have their primitiva radicals extended resulting into other verbal forms. Appendix F shows the verb roots and their extensions as reflected in compound nouns. Examples are presented in Table 16 below:

Table 16: Morphophonological Rules on Verbal Radical Extensions

No	Compound Noun	Primitiva Radical	Extended Radical	Verb Type
7	bweengwaleeza	Eng-a>enga 'draw	eng-u-a> 'to be drawn'	passive
9	caambwabantu	amb-a>amba 'say, talk'	ambu-u-a>ambwa 'to be talked about'	passive
21	cilangwabuyo	lang-a>langa 'look'	langu-u-a>langwa 'to be looked at'	passive
23	cilumyantale	Lum-a>luma 'to bite	lum-i-a>lumya 'to cause to bite'	causative
41	cizingwamusako	zing-a>zinga 'surround'	zing-u-a>zingwa 'to be surrounded'	passive
51	haambilwaabana	amb-a>amba 'talk, say'	amb-il-u-a>ambilwa 'to talk about'	applied
74	indyabuluba	li-a>lya 'eat'	n-li-i-a>ndya 'to cause to eat	causative
105	kanamatilabbende	Mat-a> mata 'stick'	mat-il-a>matila 'to stick for'	applied
140	mafuswamakowa	fwus-a>fwusa 'throw'	fwus-u-a>fwuswa 'to be thrown'	passive
160	mbosyabana	Bot-a.bota 'good, beautiful'	n-bot-i-a>mbosya 'to cause to be good'	causative

One of the observations made upon reading Appendix F is that morphophonological rules do have an effect on verbal forms. Some changes of the primitiva radicals to become extended radicals were as a result of gliding and spirintization. Out of 38 extended radicals identified, 22 were as a result of ***u*** before ***a*** gliding to ***w***; six were a result of spirintization. We noticed that causative ***i*** extension applied to the radical ending in voiceless plosive ***t***, or ***k*** the consonant spirintized to ***s;*** when radical ended in a lateral consonant ***l***, it spirintized to ***z***. The other rule affecting

the extended radical was vowel harmony. E.g. Lombela – lomb-il-a>lombela. ***i*** realized ***e*** due to vowel harmony because the mid vowel of the radical is mid ***o.*** Other examples to this rule are: (186) mwendelatunji> end-il-a> end-el-a 'to walk for'.

2.2.7 Summary Of Morphology Analysis

Morphological analysis begins with the identification of parts of speech. The corpus of compound nouns has eight identifiable parts of speech used in the formation of the compound nouns. These are nouns, genitive pronouns, verbs, adverbs, adjectives, onomatopoeia, ideophone, and numerals. Articles are not identified as a part of speech in Tonga: these are usually implied in the translations.

The Chart on ***Compound Noun Semantic Noun Class Classification*** [Fig 12 p45) shows that nouns of class 1/2 (mu/ba) has the highest frequency of 117 words at 32%. Class ¾ is the second highest (55, 15%), while class 12/13 (43, 11.7%) takes the third position. Very few compound noun words of Class 14/6 (bu/ma), 11/6 (lu/ma), 9/10 (n) and 15 (lu) were collected.

The word combination in the formation of a compound noun as illustrated in Table 4 on page 48 shows that any two parts of speech can be combined to form a compound noun word. Furthermore, Figure 11 on page 43 shows that the structure of compound noun is made of different affixes which have different grammatical functions.

Having identified the internal composition of compound nouns, the analysis then moved on to the classification of compounds using different methods.

One other aspect of morphology the research went into was on the characterisitics of nouns, stabilization. Stabilization was carried out to demonstrate that

compound nouns have the same properties as of a noun in isolation. Stabilization of compound nouns yielded into sentence-like formations just as the nouns in isolation do. Like in any other noun, indefinite stabilization outcome was a sentence of forms 'it/he is a.....' while definite stabilization resulted in sentence forms 'it is the...', 'he is the...' or 'they are the...'

Finally, the morphological rules applicable in the formation of compound nouns point that gliding scored 155 frequencies with 34.8% while nasalization rule, which is prominent in Tonga scored 93 instances at 20.9%. A summary of the morphophonologial rules applying in the corpus is stated below:

Table 17: Summary of Morphophonological Rules Applied

No.	Morphophonological Rule	Frequency	Percentage
1	Vowel Harmony	27	6.1
2	Vowel Deletion	29	6.5
3	Vowel Lengthening	23	5.2
4	Feature Change	16	3.6
5	Fortition	16	3.6
6	Spirintization	16	3.6
7	Gliding	155	34.8
8	Nasalization	93	20.9
9	Form Retention	70	15.7

Observations made in Table 17 above show that 15.7% of compound nouns were not affected by any Morphophonological rule. These compounds (represented by form retention rule) were formed by joining word forms in isolation together to form compound noun words without any change in their morphological structures.

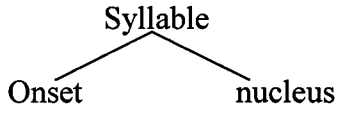
2.3 PHONOLOGY

Morphological analysis relies on the phonology of a language. A need to understand the sounds accepted in the language and its type of syllable structures is imperative knowledge to have. Therefore, the discussion of phonology in this paper examines the segmental and Suprasegmental analysis as is presented in the corpus of compound nouns.

2.3.1 Segmental Analysis

A syllable is a unit in terms of which phonotactic rules are best stated. Like in Tonga, these rules reflect the speaker's knowledge of what types of combinations of sounds are allowed in a given language. The focus was on how phones combine to produce some typical, meaningful, acceptable sequences. The following discussion reveals these phonotactic rules or structure conditions in Tonga.

A syllable in Tonga is composed of an onset (it may be a consonant or a cluster of consonants) and a nucleus (or a vowel) without a coda (consonant ending a syllable). Therefore a syllable structure in Tonga is represented as follows:



An onset made of a cluster of consonants usually has a nasal plus other consonant. For example; mp, mb, mb, nk, ng, nt, mbw, ntw, ngw. There are few incidences where an onset cluster is of other consonants other than beginning with a nasal. The few incidences recorded used the same consonant like bb and kk.

These clusters reveal that they are of a homogeneous type in that they are generated from the same place:

(i) mp Bilabial nasal + Bilabial voiceless plosive

(ii) ng Velar nasal [ŋ]+ velar stop [g]

(iii) bb Bilabial voiced stop [b]

(iv) kk Velar voiceless stop [k]

An observation made on the corpus of compound nouns collected, Tonga language has a common sequence of CV syllable structure. This is reflective in both words in isolation and in compound formation. For example, the noun ***mala*** 'nails' in compound noun (294) ***ndekamala 'left overs/outgrown person, divorcee'*** using CV Phonology has the following presentation on a syllable tier.

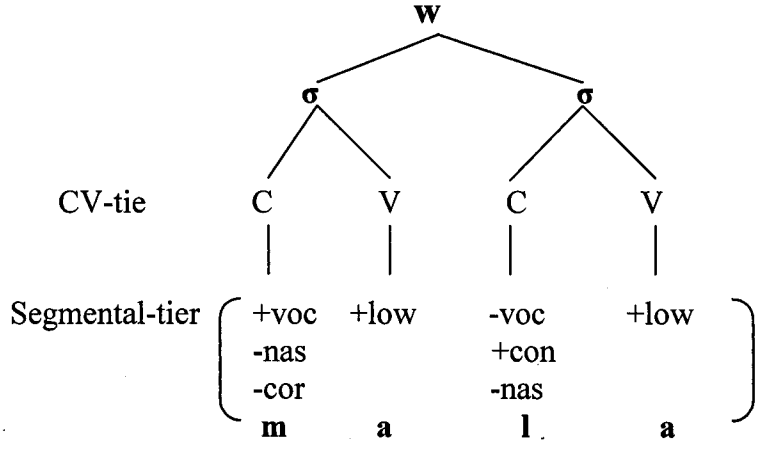
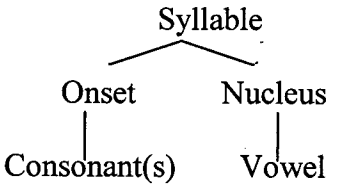


Figure 14: Illustration of Tonga Syllable Structure

Other frequent sequences included CCCV, CCV and CVV. The enlisted are some examples of syllable structure sequences in some compound noun words:

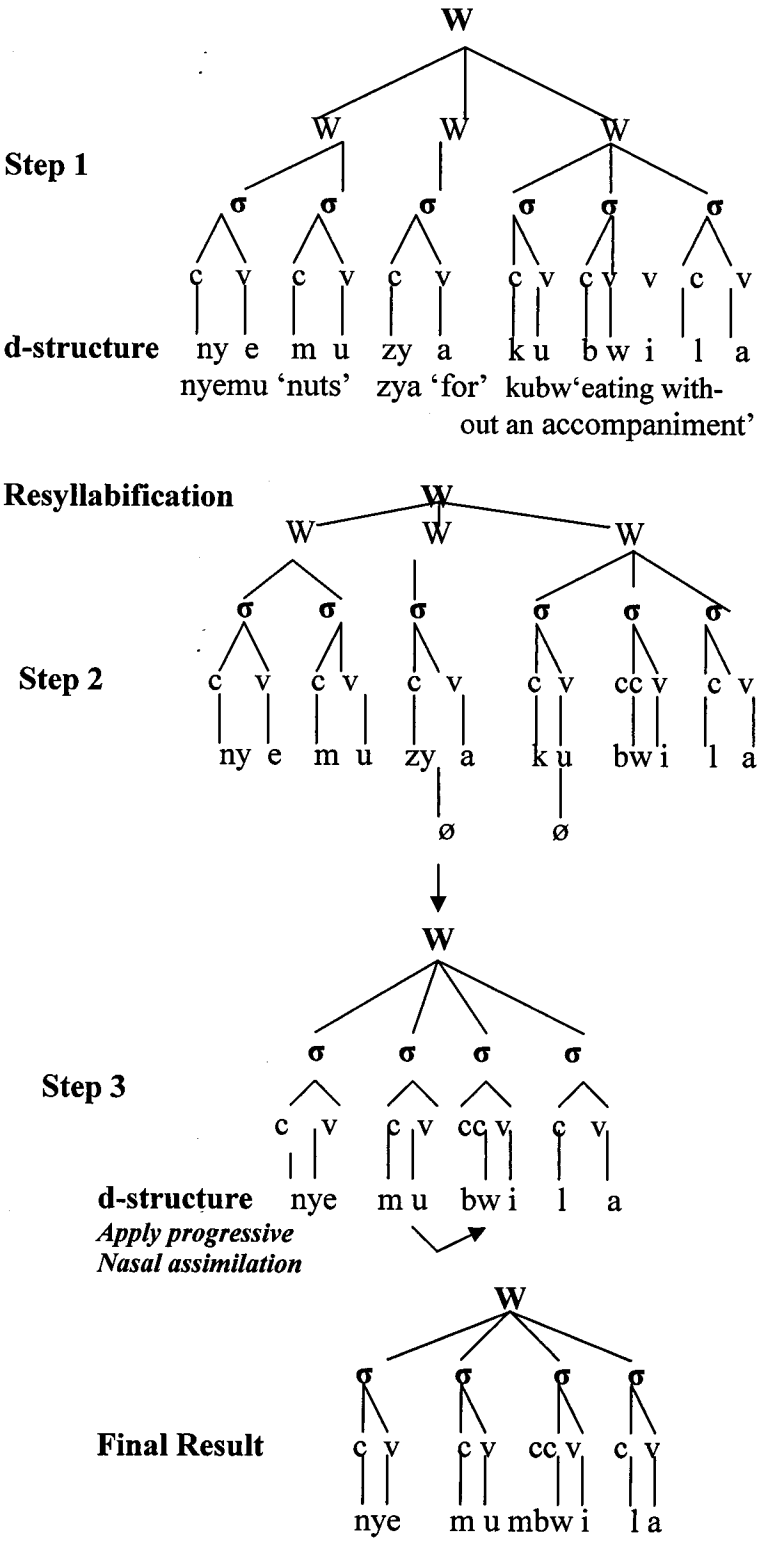
(a) (54) hacivwulemwangu 'selfish/greedyperson':ha.ci.vwu.le.mwa.ngu (cv.cv.ccv.cv.ccv.ccv)
(b) (72) ibbweliyale 'foundation' i.bbwe.li.ya.le (v.cccv.cv.cv.cv.
(c) (141) mailamuceme 'sorghum' (cvv.cv.cv.cv.cv)
(d) (137)maambilaambali 'satirical talk' maa.mbi.laa.mba.li. (cvv.ccv.cvv.ccv.cv)

An observation made confirms that a syllable structure in Tonga is made up of the following:



The onset can be a cluster of consonants or a single consonant. In addition, the syllable does not only regulate the combinations of segments but also controls the combination of features which make up the segments. For illustration, we looked at one compound noun word syllable structure.

(321) Nyemumbwila 'Nuts for eating without an accompaniment'



final compound: **nyemumbwila**

Figure 15: Illustration Syllable Structure of Compound Noun Word

An analysis of the compound noun nyemumbwila 'nuts for eating without an accompaniment':

Step 1: the d-structure of the word reveals that at the beginning, we had three words in isolation: noun - nyemu 'nuts', genitive pronoun – zya 'for' and a verb – kubwila 'to eat without an accompaniment'.

Step 2: when making the compound noun nyemumbwila, the genitive pronoun zya 'for' is dropped together with the prefix ku 'to' leaving only the radicle of the verb bwila 'eat without accompaniment.'

Step 3: After the dropping of the genitive pronoun zya 'for' and the prefix ku 'to', the resultant structure is nyemu+bwila. It is at this stage that progressive nasalization takes place leading to loss of vowel 'u' and joining of nasal 'm' to 'b' forming the word 'mbwila'. Finally, the word nyemumbwila 'nuts eaten without accompaniment' is formed.

Another main function of syllable is to provide an analysis of the internal structure of segments and to indicate the number of rhythmic units present in a syllable. The nucleus (***nu***) represent the rhythmic units. The following diagram with nodes ***w***-word node, **σ**-syllable node, **On**- onset and **nu**- nucleus node.

W is here used to denote compound word. This structure is dependent on the pronunciation of the word and not the spelling.

(72) Ibbweliyale 'spread stone'

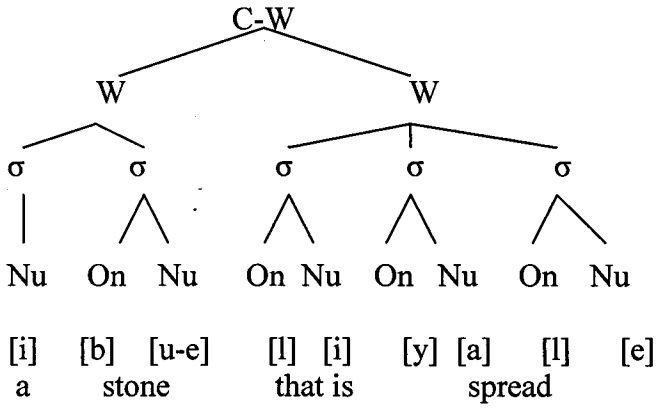


Figure 16 Illustration of Internal Structure of a Compound Noun

The syllabification exercise reveals that:

(i) Sound combination is usually with sounds made at the same point of articulation e.g. [m] and [p] are both bilabial sounds just as [n] and [t] are alveolar sounds. As a result we have combinations such as mw, nz, ng, mb, ns, nk (is combination of ŋ + k), ny, kw

(ii) If the sounds are not made at the same point of articulation, then the first sound is somehow articulated at a point before the consequent sound following it. e.g. [k] and [w] are sounds made at the velar and bilabial point of articulation. As such in this analysis, [k] is articulated at the back while [w] is in front. So the movement of the speech organs is from a contracted position at the back (velar point) to a stretched position in front (bilabial). With this analysis we have sounds such as [mf], [mfw], [gw].

(iii)The duplication of the same sound meant a geminate vowel or consonant.) e.g. makkalanguzu (Fortis [k] sound), moyobbubba (Fortis [b] sound), muungabulowa>[mu:ngaβulowa]

(iv) The syllable structure in Tonga has no coda; it usually ends with a vowel. As such it is said to be open-ended. A coda is where a consonant ends the syllable as in English language words.

Very few instances were noticed where the syllable structure was made up of only a vowel (V). The instances noticed involve [i]. The syllable was either at the beginning or as an infix. For example:

i. (72) ibbweliyale 'foundation' i.bbwe.li.ya.le (v.cccv.cv.cv.cv)

ii. (74) indyabuluba 'giraffe' i.ndya.bu.lu.ba (v.cccv.cv.cv.cv)

iii. (76) intwamasaka 'traveller' i.ntwa.ma.sa.ka. (v.cccv.cv.cv.cv)

iv. (311) nsimaitamanibabwa 'immoral person'nsi.ma.i.ta.ma.ni.ba.bwa. (ccv.cv.v.cv.cv.cv.cv.ccv)

v. (322) nzovwuitanjilimunzi 'baobab tree' nzo.vwu.i.ta.nji.li.mu.nzi. (ccv.ccv.v.cv.ccv.cv.cv.ccv)

2.3.2 Suprasegmental Analysis

2.3.2.1 Tone Marking

(i) Tone used in Contrasting Meaning

Tonga is an example of Bantu tone language. It uses tone for both distinction and grammatical purposes. Tone marking can use either linear or Autosegmental Phonology to mark tones.. A look at the words in isolation prove the distinction in these words in isolation.

Word + Tone Marking		Meaning
i)	ìntìpà n.	mud
	ìntípá n.	knife
ii)	ìnsèkè n.	hen
	ìnsékè n.	seed
iii)	kàkà demo.	this
	káká v.	refuse
iv)	kùmbà v.	sit, brood
	kúmbà v.	scrab
v)	lìnò adv.	now
	línò n.	tooth

(ii) **Marking of Tones on compound nouns**

Tone marking on both words in isolation and compound nouns was carried out. The aim was to observe tone patterns of words conjoined to form compounds. Using Appendix D, a sampling across the collected categories was done as follows:

Word Category	Gloss	(a)	(b)	Compound Word
1. **Adjective+Adjective**				
(49)	gandapati	[gàndà]	[pátí]	[gándàpátì]
2. **Adjective.+Noun**				
(8)	bwindimabelo	[bwíndí]	[màβèlò]	[bwìndìmàβèlò]
(24)	cilyabembela	[cìlyà]	[βémbèlà]	[cílyàbèmbèlà]
(78)	kaandabwee	[kà:ndà]	[bwè]	[kàndàbwè:]
(260)	muungabulowa	[mù:ngà]	[bùlòwà]	[mú:ngàβùlòwà]
3. Adjective+Verb				
(71)	ibbotabwebe	[ìmbótù]	[βwèβè]	[íbòtàβwèβè]
(170)	mubompanapenga	[múbòmbè]	[péngá]	[múβòmbànápèŋgà]
(183)	mukondwakulya	[múkóndwà]	[kúlyà]	[mùkóndwákùlyà]
4. **Noun+Adjective**				
(19)	cikumbilusele	[cìkùmbì]	[lúsélè]	[cíkùmbìlùsèlè]
(77)	janzabbotu	[jànzá]	[bbòtù]	[jánzábòtù]
(133)	lubayaluuba	[lúβà]	[lú:βà]	[lúbàyàlù:βà]
(305)	nkoliyanakaala	[nkólì]	[nàkà:là]	[nkólíyánàkà:là

(50) haadomolitopota [múlómò] [kútòpòtà] [ĥá:dòmòlìtòpòtà]

5. **Noun+Noun**

(38) civwulamabwe [ínvùlà] [màbbwè] [cìvwúlàmàβwè]
(46) dondamwaka [cìlòndà] [mwákà] [dòndámwákà]
(53) haacintumunzila [cíntù] [múnzílá] [ĥá:cìntùmùnzìlà]
(111) katombebwami [kàtòmbè] [βwàmì] [kátòmbèβwámì]
(277) mwanamucende [mwánà] [ícéndè] [mwánàmùcèndè]

6. **Verb+Noun**

(1) bbalampoto [kúbbàlà] [mpótò] [bàlàmpòtò]
(7) bweengwaleza [kwè:ngà] [lèzà] [βwè:ngwàlèzà]
(106) kanzembwemulonga [kúzèmbà] [múlòngà] [kànzèmbwémùlòngà]
(74) indyabuluba [kúlyá] [βúlúβà] [índyàβùlùβà]
(132) liyasacuuno [kùyàsà] [cú:nò] [lìyásàcù:nò]

7. **Noun+Gen.Pronoun**

(61) himukobonyina [mùkòβò] [múnyíná] [ĥìmùkòbònyínà]

8. **Gen. Pronoun+Noun**

(222) munjimaulu [búnjí] [máúlù] [mùnjímàùlù]

9. **Gen.Pronoun+Gen.Pronoun**

(52) hacivwulemwangu [kùvwúlà] [mwàngù] [ĥácìvwùlèmwángù]

10. **Noun +Verb**

(17) ciinicipanduzi [mwí:nì] [kùpàndùlà] [cí:nìcìpàndùzì]
(75) inswankwapule [ínswà] [kùkwápùlà] [ínswànkwàpùlè]
(231) munyamakubingwa [múnyàmá] [kúbíngá] [múnyámàkúβìngwà]
(274) mwanakujana [mwánà] [jánà] [mwánákújànà]

11. **Noun+Verb+Noun**

(310) nsimaitamanibabwa [nsìmà] [ítàmànì] [mùβwà] [nsímáìtàmànìβàβwà]
(321) nzovuitanjilimunzi [nzóvù] [njílà] [mùnzì] [nzòvùítànjìlìmùnzì]
(251) musozyaulyabembela [músózyà] [kúlyà] [bèmbélà] [músòzyàúlyàbèmbèlà]

12. **Verb+Adverb**

(67) himwalyakono [kúlyá] [kónò] [ĥìmwàlyákònò]
(137) mambilaambali [àmbìlá] [àmbàlì] [mámbílà:mbàlì]

13. **Verb+Gen.Pronoun**

(129) kumuyabanji [kòyá] [βànjì] [kùmùyáβánjì]
(285) mweendelatunji [kwèndà] [tùnjì] [mwé:ndèlàtùnjì]

14. **Verb+Verb**

(45) dimakwenda [kùdìmà] [kwèndà] [dímákwèndà]

(92) kalangabwaseme	[kúlàngà]	[kwàsàmà]	[kálángáβwàsèmè]
(209) mulyakubinda	[kùlyà]	[kúbíndà]	[mùlyàkùbìndà]
(326) pengaujane	[pèngà]	[kùjànà]	[pèngàùjànè]

15. **Verb+Adjective**

(68) himwendaalike	[kwéndá]	[alikke]	[hìmwé:ndálìkkè]
(173) mufwacibuka	[kúfwà]	[kúbúká]	[mùfwácìbùkà]
(214) mulyataatete	[kùlyátá]	[átètè]	[múlyàtá:tètè]

The observation shows that the left-part of the compound usually takes a different tonal parttern when used in a compound.

2.3.2.2 Representation of a Long Sound

Another suprasegmental feature Tonga language has is vowel lengthening. The lengthening of a vowel denotes a long sound of the phoneme. In orthography, this is represented by doubling of the vowel. The double consonants in the orthography should not be mistaken for lengthening. Double consonants like fortis /k/ in (143) ***makkalanguzu***, and fortis /b/ in (1) ***bbalampoto*** represent velar plosive /k/ and bilabial plosive /b/ respectively, in Tonga. These are contrasted with /k/ in (144) ***makuyabeetwa*** and /β/ in (166) ***moobolazuba*** which are a lenis velar fricative and lenis bilabial fricative respectively.

With the suprasegmentals, just as tone produces distinctive meaning to words in either isolated or compound words, vowel length does too. The next exercise shows how vowel lengthening, which denotes a long sound, also yields to different meanings when contrasted to words of the same composition but with a short vowel:

	Word	**Phonetic transcription**	**Meaning**
i.	Kaamba n.	[Ká:mbà] .	small hoe
	kamba v.	[kámbà]	clap
ii.	kaano n.	[Ká:nò]	tale
	kano demo.	[kánò]	this one

iii.	luka v.	[lùkà]	weave
	luuka n.	[lù:kà]	tsetse fly

2.3.3 Summary of Phonological Analysis

The phonological study of compound noun words proved several aspects of grammar. Firstly, it showed that a syllable in Tonga is composed of an onset (it may be a consonant or a cluster of consonants) and a nucleus (or a vowel) without a coda (consonant ending a syllable). It usually ends with a vowel. As such it is said to be open-ended.

Secondly, syllabification proved that Tonga syllables have a CV sequence. Sound combination is usually with sounds made at the same point of articulation e.g. [m] and [p] are both bilabial sounds just as [n] and [t] are alveolar sounds. As a result we have combinations such as mw, nz, ng, mb, ns, nk (is combination of ŋ + k), ny and kw. When the sounds are not made at the same point of articulation, then the first sound is somehow articulated at a point before the consequent sound following it. (e.g. [k] and [w] are sounds made at the velar and bilabial point of articulation. As such in this analysis, [k] is articulated at the back while [w] is in front). So the movement of the speech organs is from a contracted position at the back (velar point) to a stretched position in front (bilabial). With this analysis we have sounds such as mf, mfw, and gw.

The duplication of the same sound means a geminate vowel or consonant.) e.g. (143) ma<u>kk</u>alanguzu 'he who sits on power' (Fortis [k] sound), (167) moyo<u>bb</u>u<u>bb</u>a 'heart that shakes' (Fortis [b] sound), (260) m<u>uu</u>ngabulowa 'one facing danger of death'> [mu<u>:</u>ngaβulowa]

There were a few instances where the syllable structure was of only a vowel (V). These instances mainly involved [i]. The syllable was either at the beginning or as an infix. For example:

(i) (72) ibbweliyale 'a spread stone': i.bbwe.li.ya.le (v.cccv.cv.cv.cv)

(ii) (311) nsimaitamanibabwa 'nshima which cannot be finished by dogs': nsi.ma.i.ta.ma.ni.ba.bwa. (ccv.cv.v.cv.cv.cv.cv.ccv)

The third observation made is that Tonga, as a tonal language, uses tone for both distinction and grammatical purposes. For example, low and high tone in words with same spelling results in different meanings. Contrastively, similar words in isolation and compound words may change tone pattern. For example:

(i)	(183) Mukondwakulya 'greedy person'	[múkóndwà] 'he who is joyful'	[kúlyà] 'to eat'	[Mùkóndwákùlyà]
(ii)	(1) bbalampoto 'ignorant person'	[ku-bbála] 'to carry on back'	[mpóto] 'pot'	[bbalámpóto]

This proves the word environment does have an effect on the rest of the syllables of a word.

The final observation to both words in isolation and in a compound is that a difference in meaning could result by lengthening of the vowel as shown in 2.2.2.2 above.

CHAPTER THREE

TONGA SYNTAX AND SEMANTICS

3.0 GENERAL

This chapter discusses Tonga syntax and semantics. Much of semantic interpretation is dependant on syntax in that words have a more denotative meaning when used in sentences as their positioning in a sentence confirms their grammatical function and thematic role.

Under syntactic analysis, the research will show how the concept of syntax formation in sentences, clauses and phrases is similar to syntax of compound noun words through the use of structures as those of phrase structure diagrams. While these structures may seem similar, they are different in that syntactic rules cannot be applied as in phrase structures of sentences.

Another aspect of analysis is the idioms which the informants gave erroneously thinking they were compound words. The research will take a look at some of the idioms and proverbs to prove that these are different from compound words both by use and structure.

Semantics, the study of how meanings are derived, can be approached in a number of ways. For example, nouns in Bantu linguistics derive their denotative meaning according to their semantic classes. This can be a criterion for deriving meaning of the compound noun words. Secondly, words do derive their meaning either through denotative or connotative meaning. These words in isolation when conjoined to another word to form a compound can also result in a denotative meaning and a connotative meaning. In this section therefore, we shall look at meaning of compound

words using the semantic noun features and the denotative and connotative meanings given to the compounds.

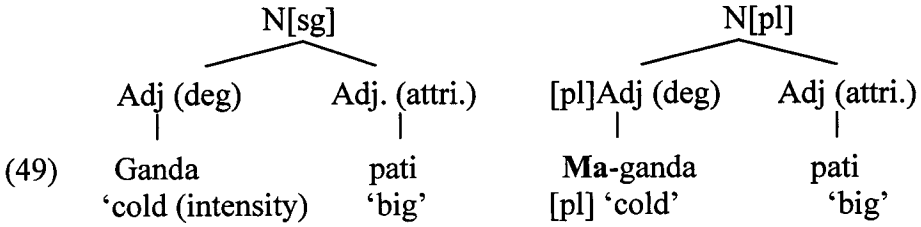
3.1 SYNTAX

This section relies more on the literal translations of the compound nouns that tend to form phrases or sentences when translated. The phrases show that phrasal components are generally shown in sentence phrase structures. In some instances, the thematic roles of the words in the compound noun will be given. The idiomatic expressions collected especially in the pilot survey carried out will be analysed too.

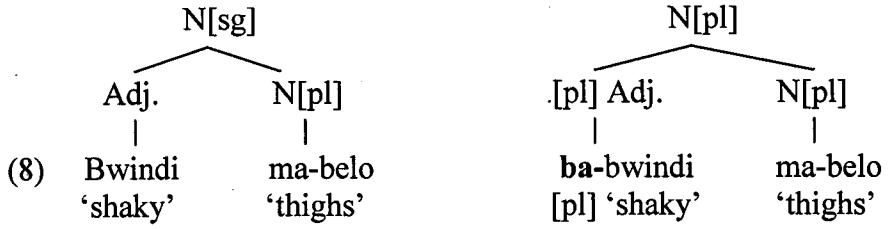
3.1.1 Syntactic Structure of Compound Nouns

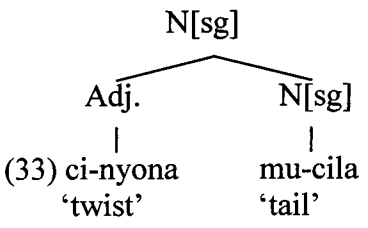
A compound structure is made up of components of parts of speech used in forming the compound. Parallel to the syntactic analysis of NPs, the x-bar analysis of compound nouns was carried out on thirteen (13) identified groupings from the corpus (Appendix C) column 5 as shown below:

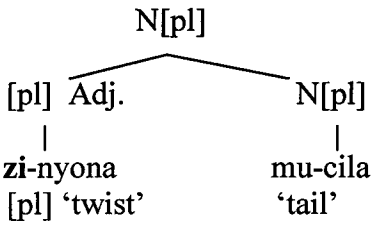
(i) **Adjective + Adjective** (the first adjective is a modifier to the second which is an attribute or property of something)



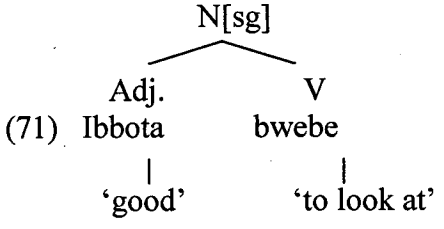
(ii) **Adjective + Noun** (The adjective is a noun modifier)

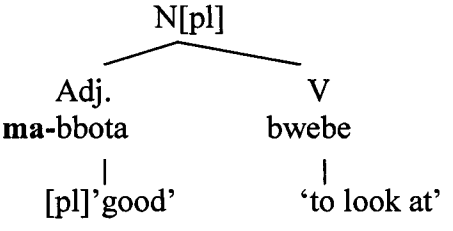




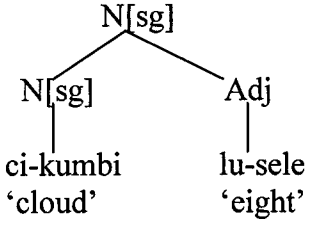


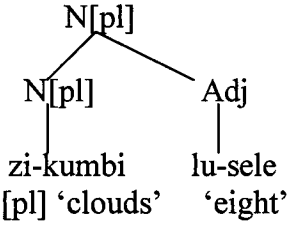
(iii) **Adjective + Verb**



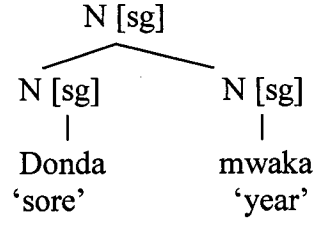


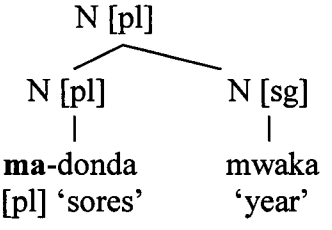
(iv) **Noun + Adjective**



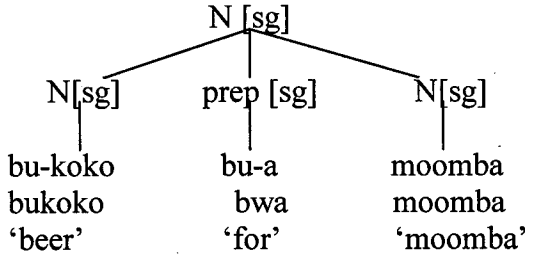


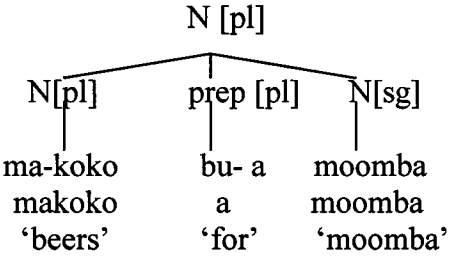
(v) **Noun + Genitive Pronoun + Noun** (the second noun modifies the subject)





In this group some compounds have the second noun as an object of a genitive pronoun in subjective complement

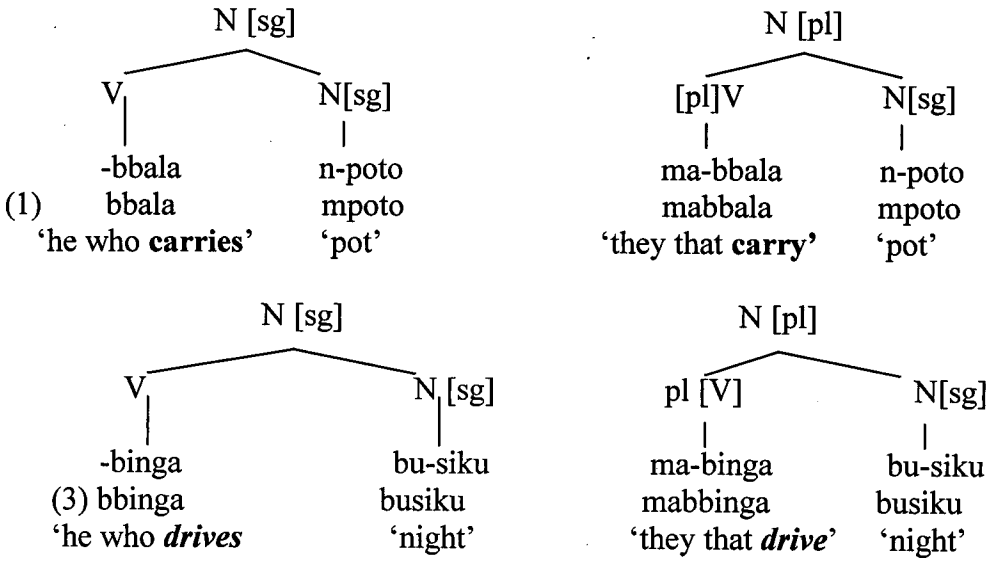




We note a structural change in the formation of the compound in that the supposedly genitive pronoun is in concord agreement with the prefix of the first noun therefore forming an alliteration.

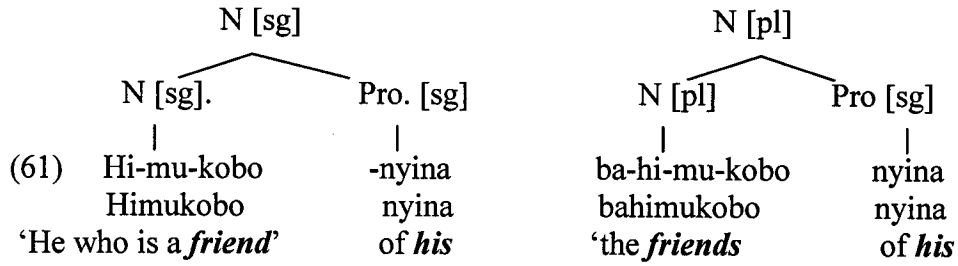
(vi) **Verb + Noun**

Transitive verbs are in the predicating state and are joined to nouns which are direct objects of the various subjects.

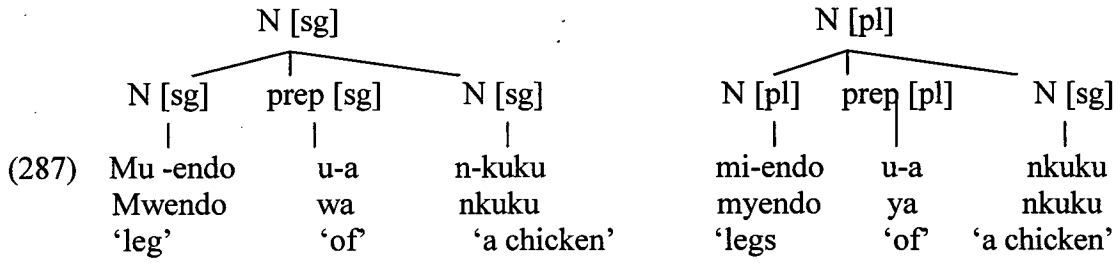


(vii) **Noun + Pronoun/Pronoun + Noun/ Pronoun + Pronoun**

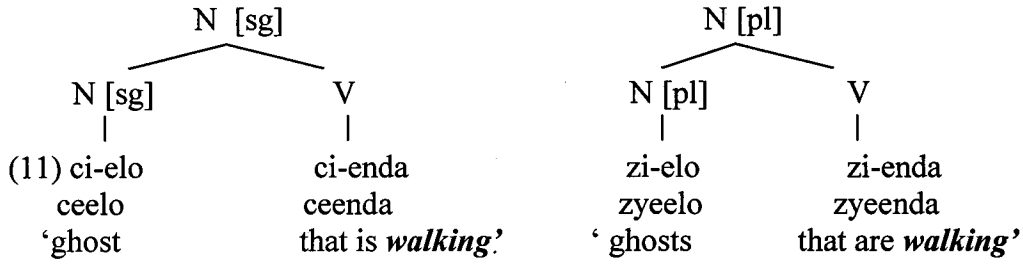
This pattern is similar to (v) above; Noun + Noun structure. The second noun or pronoun modifies the first.



The pronoun ***his*** modifies the noun ***friend*** by telling us whose friend is in question.

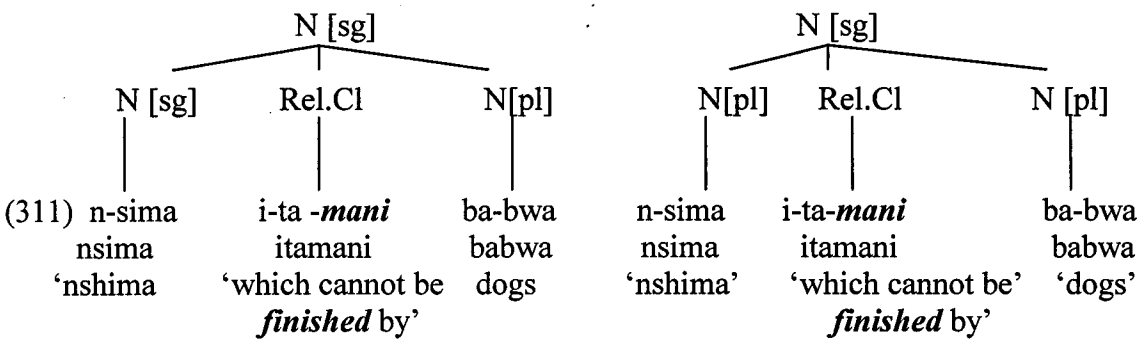


(viii) **Noun + Verb**



Action verbs are mainly used in such type of structure. The verbs tell what the noun is doing. Usually, the verbs are alliterative to the noun. Sometimes a structure that is a simile in nature can be formed. For example [42] ***cuumbweceenda*** which literally translates 'a moving grave' can be used as a simile by stabilizing the compound: ***Ncuumbweceenda*** 'He is a moving grave' to mean 'he is a sickly person'.

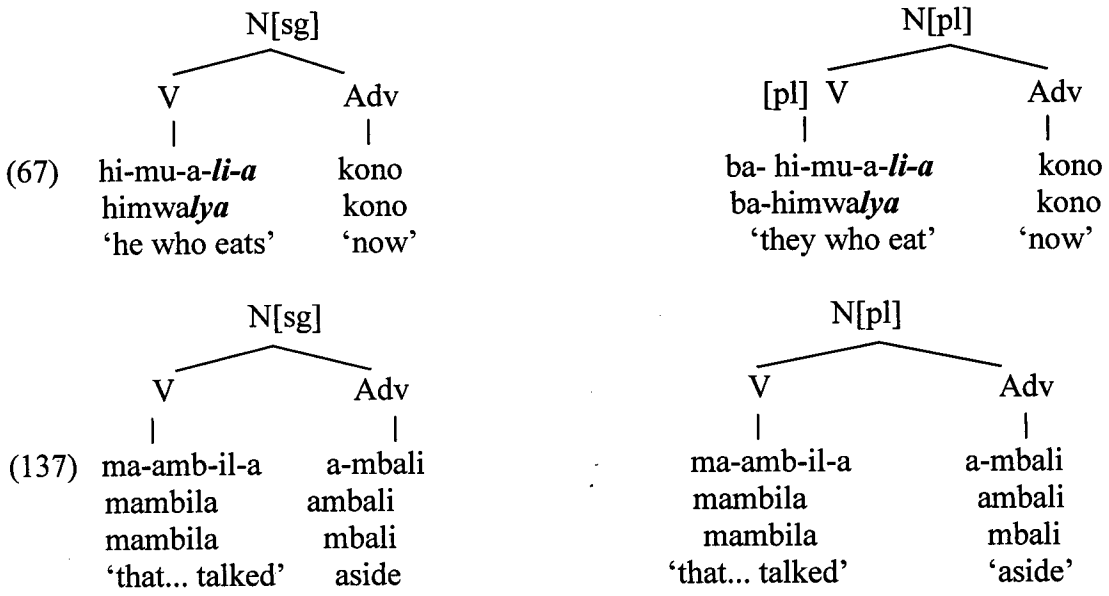
(ix) **Noun + Verb + Noun**



In this structure, particles ***i- 'which'*** and ***ta-*** (negation for '***not***' or '***cannot***') are attached to the verb radical ***–mani*** 'finish'. The two nouns insima 'nsima' and babwa

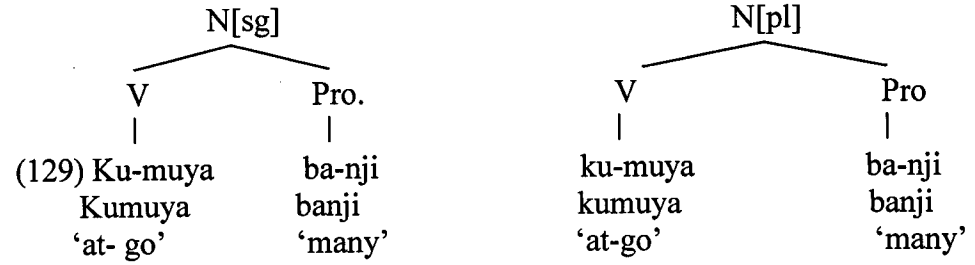
'dogs' have the same referent and they are joined by a linking verb ***itamani*** 'not finished'

(x) **Verb + Adverb**



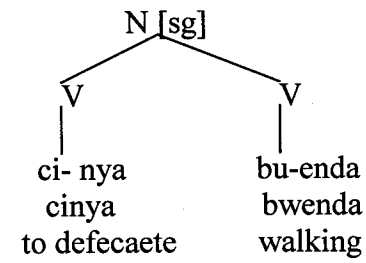
Verb radicals are attached to prefixes as of noun classes depending on the subject the verb is complementing. In the first structure, the particle hi- 'he who…' and a prefix for class ½ ***mu-*** denoting a human being as the subject, are attached to –lya 'eats' a verb radical. The plural form of the compound is formed by adding the plural prefix ba- of class ½ ***ba-***.

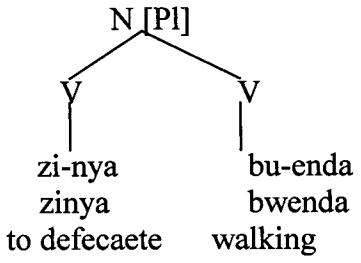
(xi) **Verb + Pronoun**



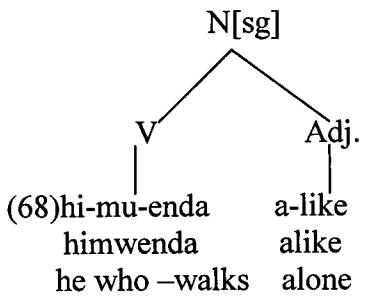
A locative prefix ku- is affixed to the verb –ya 'go' with its prefix mu- indicating that it is a genitive verb used as a noun

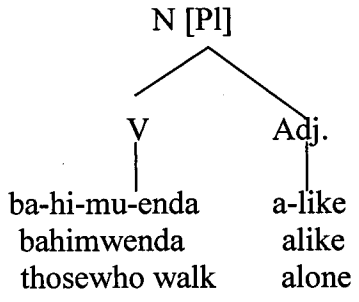
(xii) **Verb + Verb**





(xiii) **Verb + Adjective**





The syntactic structures given above show that plural inflection on the compound nouns is done on the first compound. This proves that compound nouns in Tonga are left-headed.

3.1.2 Generalized Phrase Structure Rules

The syntactic structures given above can be summarized in formation of generalized phrase structure rules as follows:

(i) A Compound noun can be made up of an Adjective + Adjective, Adjective + Noun or Adjective + Verb

(ii) Some Compound nouns can also be made by combining Noun + Adjective,

Noun + Noun, Noun + Pronoun, Noun + Verb

$$N \rightarrow \left\{ \begin{array}{l} A \\ N \\ Pro \\ V \end{array} \right\} \quad N$$

(iii) Other compound nouns are derived by conjoining of Verb + Noun, Verb + Adverb, Verb + Pronoun, Verb + Verb and Verb + adjective

$$V \rightarrow \left\{ \begin{array}{l} A \\ N \\ Adv. \\ Pro. \\ V \\ Adj. \end{array} \right\} \quad N$$

Genitive pronouns are conjoined to the whole compound word or single words in a compound. They are not given as a separate part of speech. For example in (223) ***munonzyameenda***, which literally translates as 'he who sweetens the water'. Mu- is the prefix for animate object 'he' who is the subject or agent of doing the action, -non is the radical of the verb 'sweet', -zya [i-a] points to causative, and mi- is the prefix for noun –enda 'water'. 'Who' and 'the' are implied.

From the syntactic structures given above, the various structures do reflect grammatical relations of words in a compound formation. Actually, the literal translations of the compounds proved the grammatical relations the conjoined words had.

3.1.3 Syntatic Structures of Literal Translations of the Compound Nouns

When the conjoined words in a compound are translated into English, they tend to result into syntactic structures of a sentence, phrase or clause. These structures do show some grammatical functions of the conjoined words.

Although the research is more theory-neutral, for the sake of clarity, some aspects of Government Binding Theory and Transformational Generative Grammar were used in order to get the grammatical analysis and relationship of words in the structures.

In order to facilitate syntactic analysis of the translations, *Appendix G: Analysis of Compounds*, was drawn. *Appendix G* is used in conjunction with *Appendix C Corpus of Compound Nouns and Appendix F: Morphological Aspects of Compound Nouns.* The beginning point was the grammatical classification of compound noun structures.

3.1.3.1 Grammatical Classification of Compound Noun Structures

Grammatical classification of compound noun structures started with the identification of parts of speech represented in the corpus (see Table 1 *Tonga Parts of Speech p34).* Classification also looked at derivational types of words and identified similar derivations in the corpus presented in Figure 17 below:

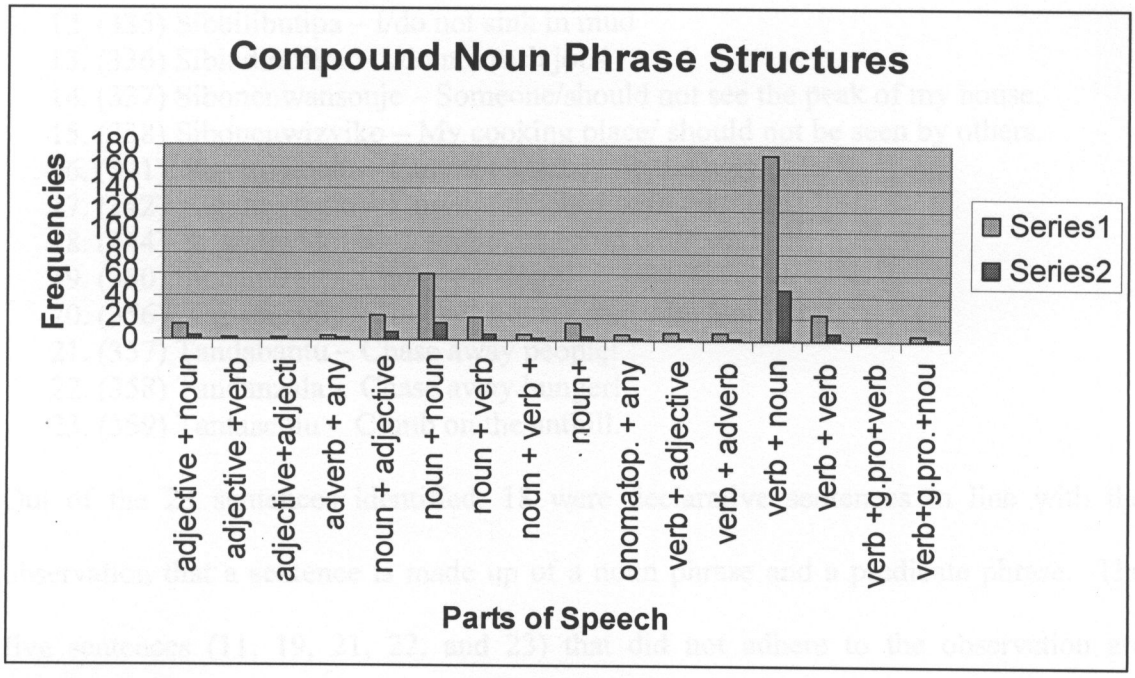


Figure IV: Compound Nouns Formation using Parts of Speech

With the parts of speech, this exercise yielded 16 adjective+other compounds, 4 Adverb+others compounds, 123 Nouns+other compounds, 5 onamatopoeic compounds +others and 218 Verbs+others compounds.

3.1.3.2 Compound Phrase Structures

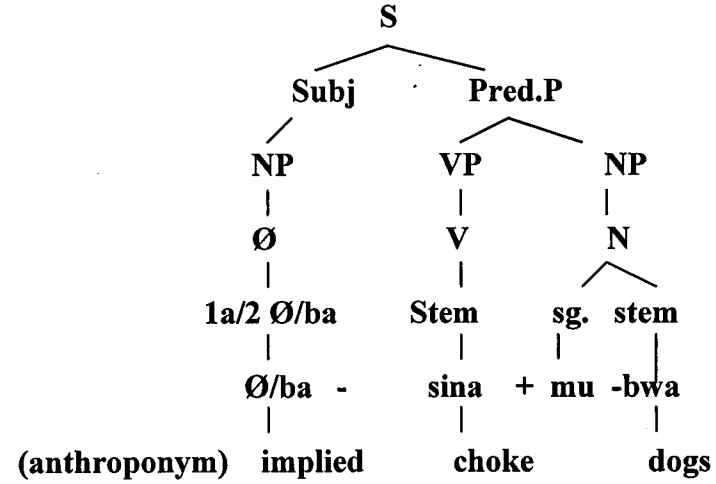
A syntactic investigation on the components of a sentence being made up of a noun phrase (NP) and a Predicate Phrase (Pred. P) was carried out. An extract of 23 sentences from the corpus was drawn as follows.

1. (51) Haambilwaabana – I am /not mentioned in the presence of children.
2. (56) Hifwumbibwina – I/do not dig a hole.
3. (58) Hilambwidobe – I/am not smeared with mud
4. (59) Himanifwuko – I/do not finish a smoking pipe
5. (69) Hitaalukinzila – I/do not cross roads
6. (70) Hiyaswimuumba – I am/not pierced by a spear
7. (134) Luumangombe – It/beats the cattle.
8. (291) Ncelelebula – let me/gather for the stomach.
9. (313) Nsubabwaca – I/urinate at dawn
10. (313) Nsubabwaca – I/urinate at dawn
11. (330) Punabantu – Escape from people!

12. (335) Sibbilibutipa – I/do not sink in mud
13. (336) Sibindimilimo- I/do not rush jobs
14. (337) Sibonenwansonje – Someone/should not see the peak of my house.
15. (338) Sibonenwizyiko – My cooking place/ should not be seen by others.
16. (341) Sigumwibabi – I am/not touched by the ugly
17. (342) Sigumwitako – I am/not touched with buttocks
18. (344) Silambwidobe – I am/not smeared with mud
19. (350) Sinaambwa – Choke the dog!
20. (356) Taboniisuba – He/does not see that which urinates
21. (357) Tandabantu – Chase away people!
22. (358) Tandanzala - Chase away hunger!
23. (359) Tantaaculu - Climb on the anthill.

Out of the 23 sentences identified, 18 were declarative sentences in line with the observation that a sentence is made up of a noun phrase and a predicate phrase. The five sentences (11, 19, 21, 22, and 23) that did not adhere to the observation are exclamatory sentences. The extraordinary sentences have a zero prefix and cannot be classified in the semantic noun class. The slot of the zero prefix is the slot for the subject. Classes 1/2 ma/mu, 7/8 ci/zi and 12/13 ka/tu can be affixed in the zero prefix slot. For example:

24. (350) Sinaambwa – Choke the dog!

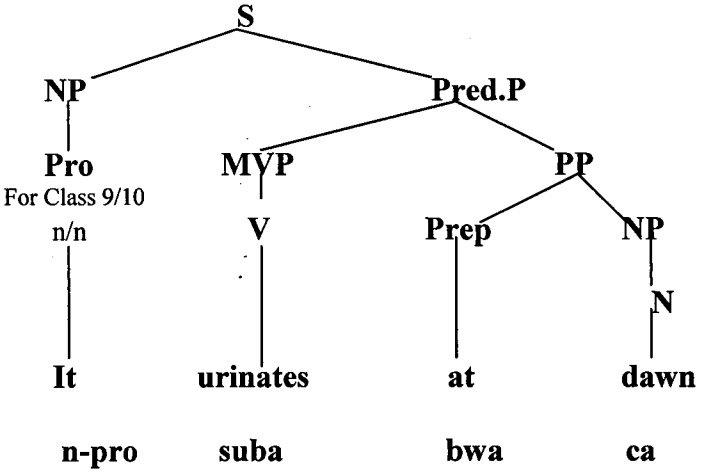


Exclamatory sentences are impact packed. In adherence, these only showed the action needed. Mostly, the subject of an exclamatory sentence is implied.

In these declarative sentences, the noun phrase functions as the subject of the sentence. The subject (a pronoun in these cases) is the one who or what is doing something (agent), or who or what is being talked about (patient).

Another tree diagram of a sentence showed the following components.

10. (313) Nsubabwaca – I/urinate at dawn



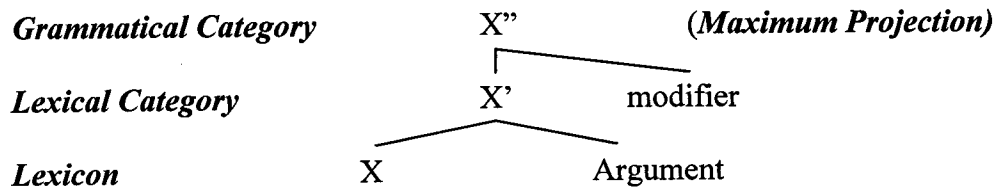
The sentence structures above agree that a sentence is made of a subject and a predicate. In syntax, we refer to them as noun phrase (NP) and verb phrase (VP) respectively.

The research went on further to classify the phrases derived when compounds were literally translated.

3.1.4 Phrase Rules and Structures

Using the native speakers grammatical competence as was reflected not only in intuitions about grammaticality, but also in intuitions about interpretations, the researcher identified twenty- four phrase rules in the corpus. The researcher chose Transformational Generative Theory in triangulation with Government Binding Theory to present these phrase rules. A general schema of a phrase will be used to show the headedness of each phrase category. This schema as provided in X'-theory contains principles for the projection of phrasal categories from the lexical categories and

principles for the projection of the clause from a grammatical category. A general representation of Tonga phrase structures is as follows:



The slot for specifier (determiner) is not applicable in Tonga since the language has no morpheme for an article (either ***a*** or ***the***).

This schema identifies:

(i) The grammatical categories of the phrases

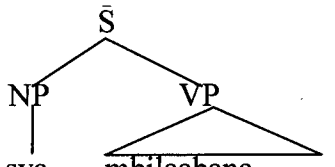
(ii) The lexical categories of parts of speech used

(iii) The lexicon

In addition, a summary of the functions of the lexicon of each lexical category as used in the phrase will be given.

The notation in (1) below reads: a *sentence is composed of a noun phrase and a verb phrase*. The rest of the phrase rules read in the same manner. The following is the summary:

1. **S→ NP, VP** [50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65,66, 67, 68, 69, 70, 334,335, 336, 337, 338, 341, 342, 344.... =43 instances] The numbered items above proved that a sentence can be made of a noun phrase and a verb phrase. They have a common schema of a sentence as shown below:

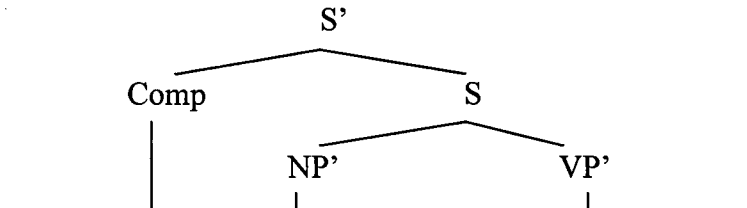


(51) sya mbilaabana
I am not mentioned in presence of children
(56) si fumbibwina
I do not dig a hole

The subject (which is the NP) is what the sentence is about – its topic. The predicate (which is the VP) is what is said about the subject. In short these two parts can be thought of as the topic and the comment.

2. **S'→ Comp**, S [57, 62, 63, 69, 80 86, 87, 92,101,106,109, 112,116,120, 132, 134,148, 149,160, 165, 172... =45 instances]

S' is a phrase which begins with the expletive ***that***. The phrase structure is as follows:

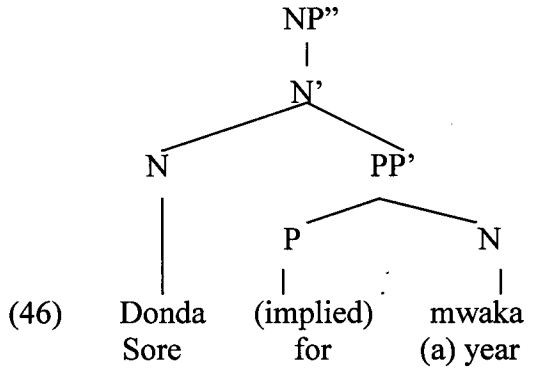


(57) hi (unstated) katu komwe
that it has one leaf

(117) ka (unstated object) zyala nzubo
that it bears clan/family

The expletive, referred to as the complementizer, enables us to embed one sentence as a nominal in another sentence.

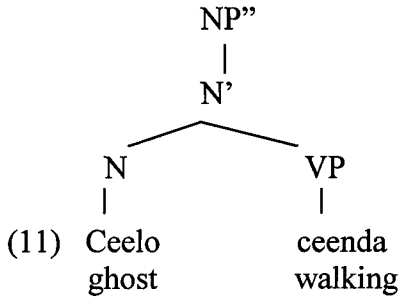
3. **NP→ N, N** [30, 37, 46, 52, 82, 83, 84, 85, 89, 90, 98, 104, 107, 111, 113, 118, 121, 125, 139, 141, 144, 147, 153, 158, 161, 176, 184, ... = 59 instances].



(61) Himukobo (implied) nyoko
friend (of) yours

When two nouns are used in succession, the second noun takes the prepositional function of modification. In (46), the prepositional behaves as an adverbial providing the duration of the sore: a year. In (61), ***of*** is a possessive pronoun answering the question '*whose friend?*': yours.

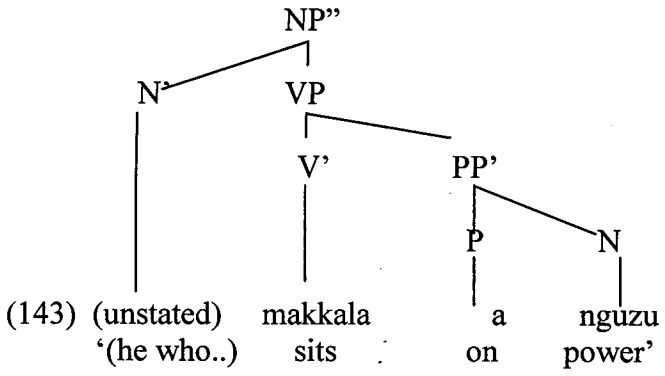
4. **NP→ N, VP** [11, 17, 42, 47, 72, 75, 97, 150, 177, 183, 200, 231, 321, 324, 360 = 15 instances] The structure is as follows:



(12) ci-(implied) endamudima
he (who) walks in darkness

In this noun phrase, the noun is the agent instigating the action mentioned in the verb phrase.

5. **NP→ N, VP, PP, NP** [16, 142 143, 145, 152, 158, 183, 190, 191, 194, 196, 208, 212, 220, 234, 244,.....: 33 = instances] The structure is as Follows:

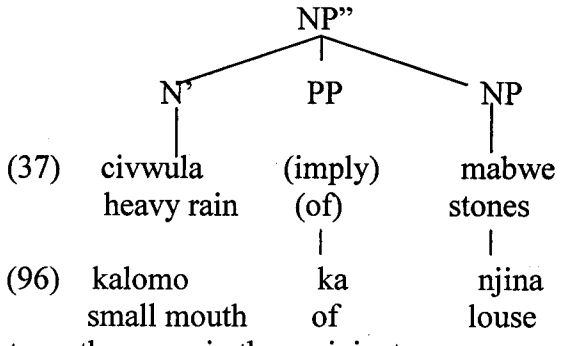


In these instances, the noun is the experiencer. For example, (143) the noun is the experiencer of the physical state of being in power while in (323) the noun is the experiencer of the physical state of being pushed by wind

6. **NP→ N, VP, PP, Adj.P** [1 instance]

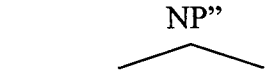
(18) Cikakakoobwa 'That which refuses to be hooked.'

7. **NP→N, PP, NP** [37, 40 41, 61, 64, 75, 79, 84, 85, 89, 90, 96,..... = 57 instances]



In such a structure, the noun is the recipient or possessor of some entity. The prepositions in these structures are adverbial in that they define the entity or kind of the noun. This phrase do have a variation where the noun slot has a proclitic (Si- Meaning: He who....) affixed to the whole compound. This is reflected in item (339).

8. **NP→N, Adj.P** [19, 39, 49, 50, 57, 73, 77, 114, 115, 133, 155, 162, 167, 169, 226, 228, 232, 235, 275, 276, 328, 362, 366 = 22 instances]. The structure is as follows:

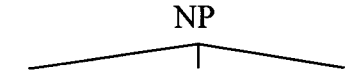


(49) Ganda pati
'Cold big' = a big cold

(114) kavu kasalala
'soil (which is red) red = a red soil

This type of noun phrase is in fact an adjectival phrase. Unlike English, in some instances in Tonga, an adjective follows the noun it modifies.

9. **NP→NP, VP, NP** [8, 10, 20, 34, 35, 40, 43, 62, 63, 69, 74, 76, 87, 88, 92 ... = 79 instances]. The structure is as follows:



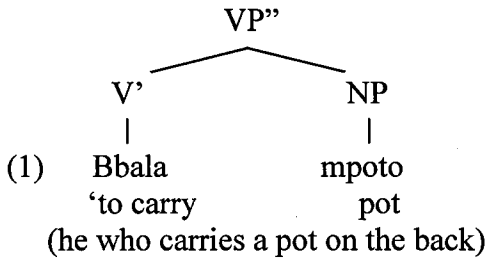
(62) Hi- mukonga bajika
'he who threatens cooks'

(157) ma- tongola nyangu
'those who peel beans'

In all the instances above, the noun on the left is the agent while the noun on the right is the recipient of the action. For example, in (62) the pronoun 'he/she...' is the agent while the noun bajika 'cooks' is the recipient of the action 'to threaten'. The verb reveals the goal – to threaten.

You will notice that the compound nouns in this instance are deverbals which are agents, experiencers, or themes. These deverbals have vowel ending either in ***–a, -e, or -o***. As such, these deverbals are read as: '*he who*' followed

by the argument given in the verb phrase. Otherwise, these structures, if the above rule is not followed, would have the following structure:



(1) Bbala mpoto
'to carry pot
(he who carries a pot on the back)

(3) Bbinga busiku
drive the night
(he who drives the night.)

This phrase structure has four variations:

Variation A: NP→ N, VP, Adj.P, N [No. 50, 93]

(50) Ha-domo-litopota > 'He who has a talkative mouth'

Variation B: NP→ N, VP, Adj.p, VP [178]

Mukaubukampemo> 'spouse of one whose nose /is /foremost/ seen'

Variation C: NP→ N, VP, Adj.P, PP, NP [82]

Kabulamwanda >'That which is short to a hundred'

Variation D: Another interesting thing noted is on six instances which also belong to this structure. These six [189, 310, 311, 312, 339, 343] structures when translated into English, give a totally different structure:

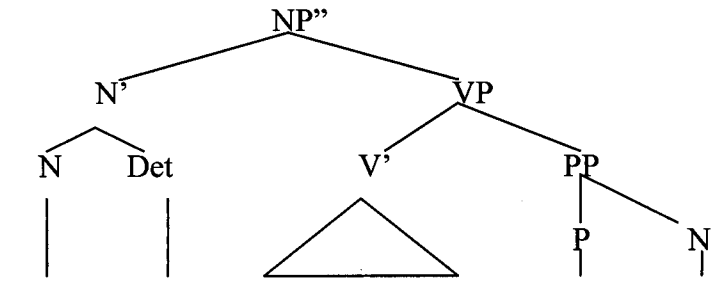
NP→NP, VP, NP, PP, VP.

(310) Nsesyabafu 'He who makes the dead to laugh'

(311) Nsimaitamanibabwa 'Nshima which cannot be finished by dogs'.

These two structures, though not very common in Tonga prove that Tonga, like any other language, has the ability to form new structures of utterances leading to the

speaker's addition of NP's, VP's PP's and VP's ad infinitum. This structure proves the creativity aspect of language.



	i-n-sima	i	ta-man-i		ba-bu-a
	insima		itamani		babwa
(311 Trans.)	Nshima	which	cannot be finished	by	dogs

10. **NP→ N, PP, Adj.P, NP** [230 = 1 instance]

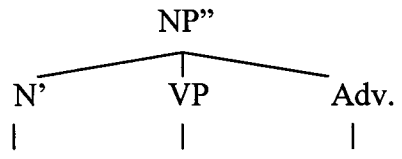
Mununkwangubo> 'one with a stinking hide'

11. **NP→ N, PP, Adj.P, NP, PP, NP** [265 = 1 instance]

Muyotabalozi 'that which witches/wizards use to warm themselves at the fireside'.

This noun clause is a good example of how the intuition of speakers show competence in being able to join a variety of phrases ad infinitum.

12. **NP→NP, VP, Adv.P** [65, 67, 174, 180, 183, 209, and 224 = 7 instance]



(65)	hi	mwalya	kono
Meaning:	'he	who eats	oftenly'

(180)	(unstated)	mukkala	ajikwa
Meaning;	'he who	stays	where there is cooking'

The subject in all these structures is the experiencer of either a psychological or a physical state. For example, the subject in (65) the N' is the experiencer of some psychological state, hunger leading to eating oftenly.

In addition, the next two adverbials show manner of doing things:

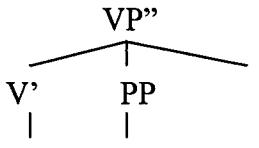
(209) Mu lya ku-binda
'he who eats hurriedly'

(224) munsi utwa konse-konse
'pestle which pounds everywhere
= pestle which pounds on both ends

13. **VP→ VP, NP** [2] bbalangombe> 'carry cow'

Meaning: carry[8] a cow

14. **VP→V, PP, NP** [5, 21, 41, 24, 129, 179, 244, and 269 = 8 instances]



(21) cilangwa a nkumo
looked at forehead = that which looks at forehead

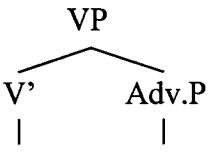
(41) cizingwa a musako
surrounded by rod = that which is surrounded by a rod

15. **VP→V, PP, VP** [180, 214, 327 = 3 instances]

Pengaujane > strive to find.

16. **VP→V, Adv.P** [14, 21, 67, 105,137, 174, and 267= 7 instance

[8] Tonga uses two lexemes which are synonyms of carrying but are used differently depending on where the carrying is taking place. For example, if one carries an object on the head, the verb used is 'kutwika', while carrying on ones back is 'kubbala'.



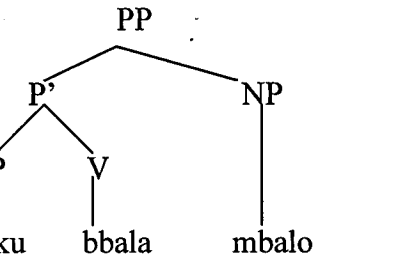
(21) Cilangwa buyo
'looked at only' = that which is looked at only

(105) kanamatila bende
'stick unwittingly' = that which sticks unwittingly

17. **VP→ V, Adj.** [68, 92, 151, 173, 206, 250, 307, and 341]

(92) Kalangabwaseme > 'looked at openly' which means: 'which is looked at with mouth open.' The adjective is a modifier to the verb. It tells how the subject carried out the action of ***looking***.

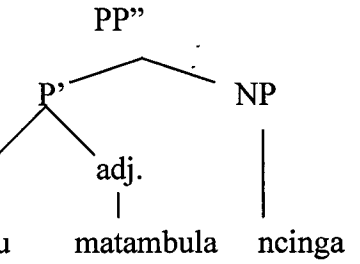
18. **PP→P, VP, NP** [122, 123, 124, 125, and 126 = 5 instances]



(123) ku bbala mbalo
'To count roofing poles'

These structures form infinitives. The prepositional phrase allows a transitive verb and an object in the subjective complementary.

19. **PP→ P, Adv.P, NP**, [127, 146, 197, 198 = 4 instance]

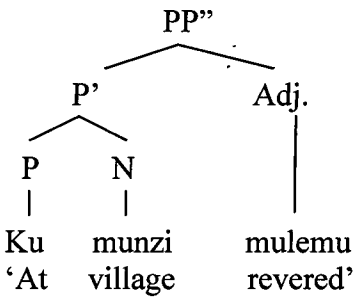


(127) Ku matambula ncinga
At welcome bicycle

(146) ma lila Ngoma
'in crying drums = Where drums are beaten'

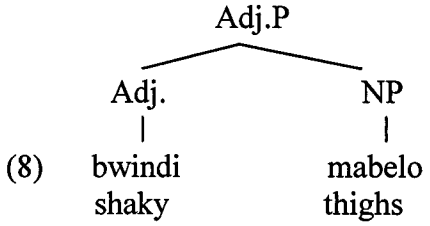
Both these instances show adverbs of place. A variation to an adverb of place is when the adverb is modified by an adjective as follows:

PP→ P, Adv., Adj [128]



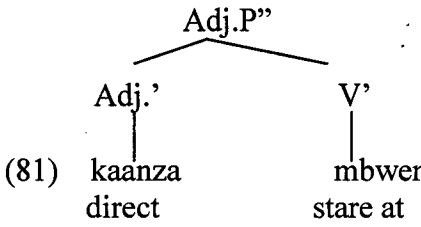
The prepositional phrase *ku-munzi* 'at village' is an adverb of place which has an adjective *mulemu* 'revered' modifying it. The adjective tells us the type of the place. So, the word order does change in the translation to read: '*at a revered village* or *at a respected village*.'

20. **Adj.P→Adj, NP** [8, 16, 24, 25, 28. 29, 33, 78, 225, 230, 234, 262, and 310, = 13 instances]



This structure gives another alternative of an adjectival phrase where the word order is as of English: adjective + noun.

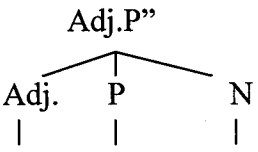
21. **Adj.P→Adj, VP** [81 = 1 instance]



= 'he who has frank speech one-on-one'

Adjectival phrases of this structure act as noun clauses.

22. **Adj.P→ Adj. PP, NP** [119, 169, 234, 252 = 4 instance]

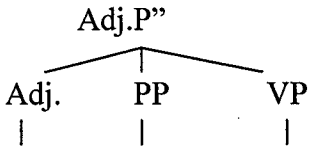


(119) kazyi (unstated) moyo
'Known by heart'

(234) muunyu wa bulongo
stingy of land = 'he who is thrifty of land'

(169) mpwita (unstated) mamina
'naughty like mucous'

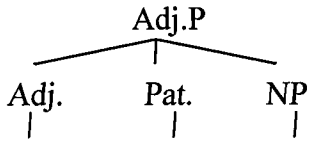
23. **Adj.P→ Adj. PP, VP** [No.71, 183]



(71) ibbota (unstated) bwebe
' beautiful to look at'

(183) Mukondwa ku lya
'joyful to eat = 'he who is joyful to eat'

24. **Adj.P→ Adj. Adv.P, NP** [No.170]



Mubomba na penga
'Humble when suffering
= he who is humble when suffering

The particle ***na*** 'when' is used as an adverb of time.

The phrase structures revealed syntactic categories: Noun Phrase (NP), Verb Phrase (VP), Adverbs P (Adv. P), Preposition Phrase (PP), and also lexical categories:

Pro(Pronoun), Adv. (Adverb), V(Verb), P (prepositions), N(noun). The lexical items are the words written below the lexical category. The frequency of phrase structure rules in literal translations of compound noun words are summarized in Table 18 below.

Table 18: Summary of Phrase Structure Rules

	Rule	Frequency	%
1	S--> NP, VP	43	10.2
2	S'--> comp, S	45	10.7
3	NP--> N, N	59	14.0
4	NP--> N, VP	15	3.6
5	NP-->N,VP,PP, NP	33	7.8
6	NP--> N, VP,PP, Adj.P	1	0.2
7	NP-->N,PP,NP	57	13.5
8	NP-->N, Adj.P	22	5.2
9	NP-->NP,VP,NP	79	18.8
10	NP-->N,PP,Adj.P, NP	1	0.2
11	NP-->N,PP,Adj.P, NP	1	0.2
12	NP-->NP,VP,Adv.P	7	1.7
13	VP-->VP,NP	2	0.5
14	VP-->V,PP,NP	8	1.9
15	VP-->V,PP,VP	3	0.7
16	VP-->V,Adv.P	7	1.7
17	VP-->V, Adj.	8	1.9
18	PP-->P,VP,NP	5	1.2
19	PP-->P,Adv.P,NP	4	1.0
20	Adj.P-->Adj, NP	13	3.1
21	Adj.P-->Adj.VP	1	0.2
22	Adj.P-->Adj.P,PP,NP	4	1.0
23	Adj.P-->Adj.,PP,VP	2	0.5
24	Adj.P-->Adj.Adv.P,NP	1	0.2

Table 18 above shows that NP→NP, VP, NP (79 scores) is the most translated Phrase structure when compound nouns are given a literal translation. This is seconded by the NP→N, N (59 scores) and thirdly NP→N, PP, NP (57 scores).

3.1.5 Compound Nouns and Idiomatic Expressions: Erroneous Identity

During the collection of the corpus, idiomatic expressions were erroneously given as compound noun words. The pilot survey showed that many people had problems in defining a compound word in Tonga and also differentiate it from an idiom.

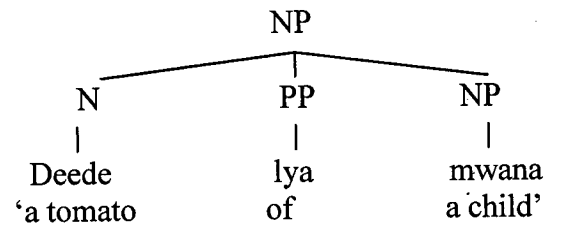
Firstly, idioms are a succession of words whose meaning is not the sum total of the knowledge of individual meanings of constituent words but of a whole. It is a phrase with a special meaning. Secondly idioms have a similar structure of compound noun structure in that they have syntactic structures like a phrase or clause and like other words, appear in appendices of dictionaries

Idioms are similar to compound nouns in that they have characteristics of formal fixation and do not, like words in isolation, enjoy positional mobility. Idioms fall into one of the recognized syntactic units of a language such as a subordinate clause, a noun phrase, a verb phrase, or a prepositional phrase.

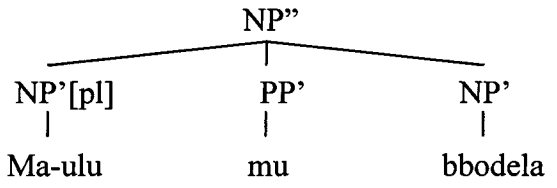
Idioms have an internal structure of normal syntactic units, and behave just like the other syntactic units of the same type in the syntax.

The 11 idioms collected during the pilot survey can be syntactically analysed as follows:

1. Deede lyamwana [NP]
   Literal: a tomato of a child
   Gloss: a child who is like a tomato
   Meaning: 'beautiful woman'



2. Maulu mubbodela {NP]
Literal: legs in a bottle
Meaning: 'being in trouble'



3. Kaluba mwambi [VP]
Literal: it is forgotten by the sayer
Gloss: the sayer forgets it
Meaning: it refers to a matter taken seriously by the hearer which might be forgotten by the one saying it.

4. Mwalya manyokwe [VP]
Literal: You have eaten your mothers
Gloss: 'threat'

5. Wazula mulonga [Adj.P]
Literal: it is full, the river
Gloss: the river is full'
Meaning: 'The end of grace period'

6. Kupa nkwazika [VP]
Literal: to give is to hung
Gloss: When you give someone you are investing
Meaning: 'investment'

7. Zyeembela beelene [VP]
Literal: shepherding the similar
Gloss: shepherding some one of the same characteristics or traits
Meaning: Crookery meets with crookery

8. Kufwida Mucamba [VP]
Literal: to die in the chest
Gloss: failing to express oneself
Meaning: unexpressed moment

9. kufwundilwa kunze [VP]
literal: to be skinned aside
Gloss: oppression of not allowing someone to express ones views
Meaning: oppressive act

10. Kuvwidwa vwuma {VP]
Literal: to be fallen by a palm tree
Gloss: a palm tree has fallen on me
Meaning: a rare happening event to some one

11. Inyonka moombe [VP]
Literal: it suckles the calf
Gloss: the dependent syndrome of a parent to a child
Meaning: helpless state

The given idioms prove that idioms like any other phrases have phrasal structures that are similar to compound words but have different grammatical functions. The meaning of an idiom is not the sum total of its components. Like a proverb, the meaning is hardly implied. Unlike a compound word, an idiom demands for ones linguistic intuitions together with the understanding of that language usage to arrive at its intended meaning.

3.1.6 *Summary of Syntactic Analysis*

Syntactic analysis involved a look at the syntactic structures of compound nouns as presented and analysis of the literal translations of these compounds. The exercise proved that just as sentences reveal phrase structure rules, the components of compound nouns also reflect similar phrase structure rules thus leading to an analysis of grammatical relationships and functions of each word in the compound.

The analysis of compound word structures revealed that different parts of speech can be used to form compounds as follows:

(i) Adj. + Adj., Adj. + N, Adj., + V

$$A \rightarrow \left\{ \begin{matrix} A \\ N \\ V \end{matrix} \right\} \quad N$$

(ii) N + Adj., N + N, N + Pro., N + V

$$N \rightarrow \left\{ \begin{matrix} A \\ N \\ Pro \\ V \end{matrix} \right\} \quad N$$

(iii) V + N, V + Adv., V + Pro., V + V, and V + Adj.

$$V \rightarrow \left\{ \begin{matrix} N \\ Adv. \\ Pro. \\ V \\ Adj. \end{matrix} \right\} \quad N$$

This proved why compounding is not only universal but one of the major forms of word formation leading to new lexicon in any given language.

The parts of speech used in any given compound also showed the grammatical function of each word in a composition. For example,

(iv) N+ V (subject + complement) e.g. Ceeloceenda 'unconcerned person',

subject	+	complement
|		|
ceelo		ceenda
'ghost'		'walking'

Ceelo 'ghost' is in the noun phrase subject slot and so it is complemented by a verb phrase ceenda 'walking'.

(v) N+N (subject + object) e.g. Civwulamabwe 'hailstorm

Subject	+	Object
Ci-vwula		mabwe
'Rain'		'stone'

The word ***civwula*** 'rain', is used in the perjorative form to show the abundance of rain which has ***mabwe*** 'stones'.

(vi) Noun + Adj (subject + subject complement) e.g. janzabbotu 'prosperous hand'

subject	+ subject complement
janza	bbotu
'hand'	'good'

Janza 'hand' is the subject taking the complement ***bbotu*** 'good'. Despite the word order, this is an adjectival phrase. ***Bbotu*** 'good' is an adjective shading light on what type of ***janza*** 'hand' this is. The whole construction is a metaphorical one. It is an example of synecdoche in that a part of the body—hand, is taken to represent the whole individual who is prospering.

In the classification of compounds by words conjoined in the formation of the compound, the summary presented in Table 4 on page 49 revealed that words formed with verb+noun are the leading class. This classification scored 171 words at 46.7% of the total words. The noun+noun class was second highest with 60 (16.4%) scores, and verb+verb 25 (6.83%) scoring third highest.

The literal translations of the compound nouns also resulted in 24 phrase structures with a few having some variations. These phrase structure rules showed that NP→NP, VP was the frequent result of the translation at 18.8%. The next was NP→N,N at 14% followed by NP→N, PP, VP with 13.5%. This still proves that the conjoining of nouns and verbs is still the largest contributor to formation of new words in Tonga.

Lastly, idioms are different from compound noun words in that they differ in their grammatical functions. An idiom does not derive its meaning by sum total of its components. Instead, it demands for ones' linguistic intuitions together with the

understanding of that language usage to arrive at its intended meaning. As such, idioms should not be confused with compound words, a derivational process of forming new words in any language by combining different parts of speech to come up with a totally new word with its own meaning.

3.2. SEMANTICS

3.2.1 Derivation of Meaning Through Semantic Noun Features

Bantu classification of nouns is based on the semantic noun features of the prefixes attached to the stem or radical of the part of speech. The prefixes affixed to the stem or radical indicate the semantic class of noun words assummarized in Table 19 below:

Tables 19: Classification of Compound Nouns: Semantic Noun Features

Class	Semantic Meaning	Examples
½ mu/ba	inclusive of nouns denoting human beings	mwanamucende/bamwanamucende 'malechild/children –anthroponym'
¾ mu/mi	includes among others, names of trees	mulyambeba/milyambeba 'name of a tree'
5/6 li/i/ma	includes among others objects appearing in pairs or collections	ibbweliyale/mabbwemayale 'foundation/foundations
7/8 ci/zyi	miscellaneous; in particular includes words for things, languages, objects. these prefixes can also be affixed to words of other classes to show augmentative/pejorative aspects	➢ cilyabembela/zilyabembela 'offal/offals ➢ cifuswamakowa 'a big useless person' (augmentative) ➢ zifuswamakowa 'ugly useless person'
9/10 n/n	includes big animals and birds	nkungunyeze 'type of insect'
11 lu	miscellaneous; includes names of languages	luumangombe 'a name for shooting grass'
12/13 ka/tu	class is used on all existing nouns in place of their own respective prefixes to indicate dimunitives. it is also mainly used for small things.	kacembelegundu/tucembelegundu 'mantis/mantis (pl).' kakowambala/tukowambala 'a small type of cucumber/many small types of cucumbers
14/6 bu/ma	class contains normal abstract and collective nouns	bweengwaleza (bu-engwa aleza) 'natural thing/place'
15 ku	generally it is a class for infinitives	kupwayanyindi *lit. to break a fist* 'boxing'
16 a	locative prefix 'on'	bikka atala 'put on top'
17 ku	locative prefix at/to	kumuyabanji 'lit-at go many' trans. at (place) many go' graveyard
18 mu	locative prefix 'in'	mulutantambeba'lit- in the climbing of a rat' 'ridge of a hut'

Apart from classes 16, 17, and 18 which are locative prefixes, the rest of the semantic classes do denote a semantic feature of the word. Using this criterion, the analysis of compound nouns using the semantic noun classes has the following results shown in Figure 18 below:

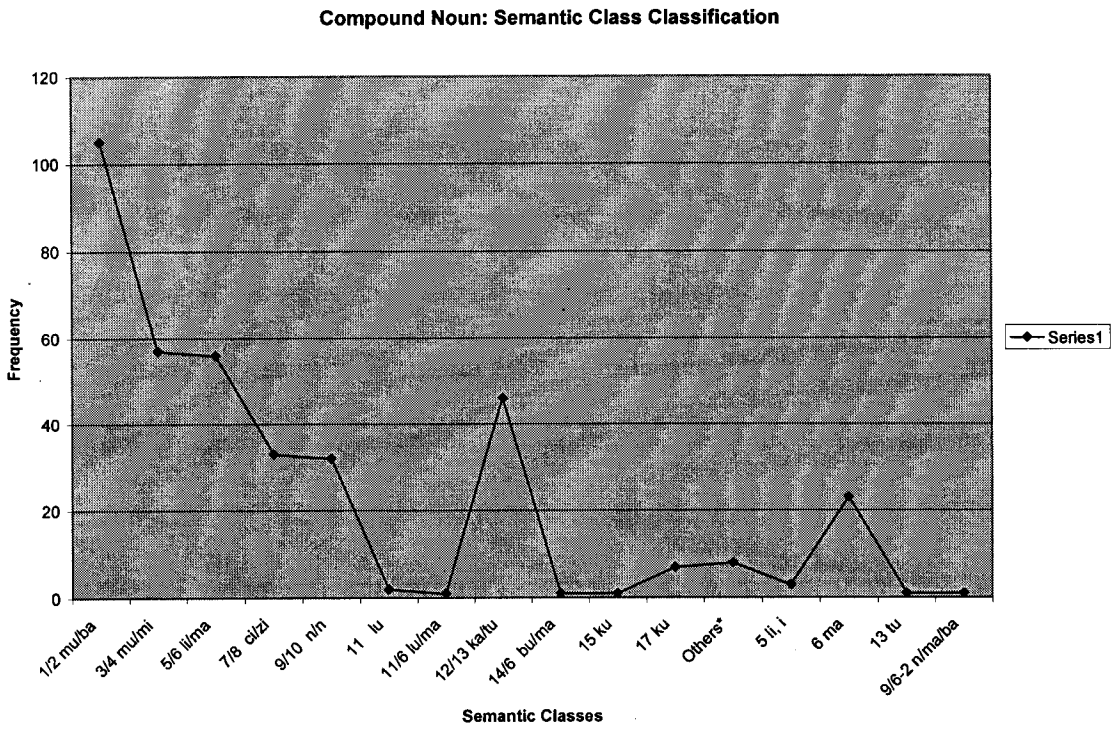


Figure 18: Compound Noun Semantic Classification

This classification of semantic meanings to compound noun words proved that class ½ mu/ba, denoting human beings, scored 117 out of a corpus of 366 compound nouns at 32%. Class ¾ mu/mi, denoting trees, scored second highest with 55 frequencies at 15% while class 12/13 ka/tu had 43 instances at 11.7%. The class classified as 'others' comprised portmanteau compounds formed using roots or stems only. Only eight of these were recognized at 2.25%.

3.2.2 Semantic Senses

In some instances, the linguistic meaning of words in isolation and the resultant linguistic meaning of a compound formed is not easily derived by the conjoining

morphemes of the word. For example a compound word *ulidakunsi* has morphemes in isolation: *u-li-li-a-ku-nsi 'he who eats at bottom.'* The analysis of this compound word morpheme by morpheme reveals the following information:

U: is a proclitic morpheme for 'he who'; ***li*** is a present tense marker for the verb root ***lya*** 'to eat'; while ***ku*** is a preposition 'at', a locative prefix attached to the adverbial of place- ***nsi*** a root meaning 'bottom'. In this derivation, the two morphemes, which do stand as lexemes, are *lya* 'eat' and ***nsi*** 'bottom'. These are usually in the infinitive kulya 'to eat' and kunsi 'at bottom.' Going by these lexemes in isolation, without the intuitive knowledge of the language, it is hard for one to derive its compound meaning (365) ***ulidakunsi*** to refer to a ***backbiter.***

Some of the other Compound words in this category are:

Compound	**Literal Meaning**	**Actual Meaning**
(10) Caangabafu	That which ties the dead	***numbness***
(127) Kumatambulancinga	where bicycles are welcomed	***a brothel***
(46) Dondamwaka	a sore for a year	***cancerous sore***
(111) Katombebwami	a dirt of a lordship	***humanness***
(139) Mabwabanene	stones for the elderly	***witchcraft storeplace***

While the above words give some difficulty in deriving their meaning, other compound words do give a hint to their meaning. For example, the compound word:

(57) ***Hikatukomwe*** 'that which has one leaf' is a type of a plant with only one leaf.

(87) ***Kaingantale*** 'that which chokes a crocodile' *is* a type of fish (skwiker) that derives its name from its characteristic of choking a crocodile. (88) ***Kajubamazuba***

'he who shortens one's lifespan' refers to a witch/wizard who kills others. (126)

Kulyankwela 'to eat sex' refers to sexual intercourse.

We conclude therefore that depending on ones linguistic knowledge and competence, one is able to derive the meaning of compound words as well as words in isolation.

3.2.3 Sociolinguistic Aspects of Meaning Derivation

Sociolinguistic cues on deriving the meanings of words can be applied to any word form. A society does have words they label as vulgar words or taboo words. While words are just words and only derive meaning given to them by the society using them, once agreed upon that a word should be isolated as a taboo or vulgar word, it remains so in that society. Several sociolinguistic aspects were identified and applied to compound noun words categorized by usage as follows:

3.2.3.1 Vulgar

Vulgar words are words whose use people are not comfortable with in certain circumstances. These are words, which are displeasing and are against the accepted standard of politeness in society. In the collected corpus, the words listed in Table 20 were classified as vulgar.

Table 20: Vulgar Compound Noun Words

No.	Compound Noun	Literal translation	Gloss
27	Ciindababwa	He who bypasses dogs	'immoral person'
55	Handyabantu	He who eats from other people	'lazy person'
86	Kadinanyo	That which presses the anus	'yoga position'
108	Kapentamilomo	She who paints her lips	'prostitute'
126	Kulyankwela	To eat sex	'sexual intercourse
140	Mafuswamakowa	He/she on whom cucumbers are thrown at	'useless person'
152	Manyabwenda	He/she who defecates as he/she walks	'obese person'
156	Matobelanjanji	She who follows the railway	'prostitute'
157	Matongolanyanju	They that peel cow peas.	'illiterate/unskilled people'
169	Mpwitamamina	Naughty mucuous	'a child'
170	mubombanapenga	He/she who is humble when in trouble	'crafty person'
193	Mulekwaciwena	He/she who is left by a crocodile	'survivor (from war)
194	Mulekwansengo	He/she who is left by horns	'survivor (from witchcraft)
196	Mulidnona	He/she who eats for taste	'greedy person'
210	Mulyamabelo	He who eats thighs	Immoral person
214	Mulyataatete	He/she who steps on soft ground	'weakling
217	Mundyankute	He/she who eats to be satisfied	'greedy person'
231	munyamakubingwa	An animal which is driven	'supervised person/person with no vision'
243	Musatankwela	He who is sick of sex	'immoral person'
244	Musekaatala	He/she who laughs on the surface	'pretender'
246	Musekelakulya	He/she who is happy on food	'greedy person'
266	Muzambinyoko	Your adulterer(ess) partner	''adulterer(ess) partner
267	Muzwakule	He/she who comes from afar	'a stranger'
291	Nchelelebula	Let me gather for my stomach	'selfish person'
294	Ndekamala	She who is left by nails	'outgrown person {for marriage)/divorcee
298	Njolamafuwa	He/she who gathers bones	'caretaker for elderly people'
299	Nkakakwiitwa	He/she who refuses to be called	'uncontrolled person'
311	Nsimaitamanibabwa	Nshima which cannot be finished by dogs	'immoral person'
317	Ntonkwamuwo	He/she who is pushed by wind	'weakling person'
319	Ntukumunamuzindo	That which pressurizes the anus	'name of a tree'
356	Taboniisuba	He who does not see one which urinates	'immoral person'

3.2.3.2 Onomatopoeic

These are words formed from imitated sounds. For example:

(i) (226) Muntumu***pilizizi*** 'not straight' - criminal, crook
(ii) (239) Mupele***mpemfwa*** 'ground to powder' – name of tree
(iii) (263) ***Muvwili-ndingwa*** 'sound of throwing – sound of falling' – name of tree
(iv) (284) Mweenda***ndyangula*** 'sound made on limping' –anthroponym

3.2.3.3 Euphemism

These are words, which are more pleasant in comparison to other terms thought to be unpleasant. Examples of such words are listed in Table 21.

Table 21: Euphemism Words in Compound Nouns

No.	Compound Noun	Literal translation	Gloss
1	bbalampoto	carry a pot on the back	'ignorant person'
23	cilumyantale	that which makes a crocodile to bite	'unwanted habit'
27	cindababwa	he who bypasses dogs	'immoral person'
42	cuumbweceenda	a walking grave	'a weakling'
43	cuumpalubanje	he who burns dagga	'smoker'
45	dimakwenda	bend on walking	'famous person'
80	kaandulankanya	that which breaks the waist	'firstborn child'
114	kavukasalala	a soil that is red	'grave'
126	kulyankwela	to eat sex	sexual intercourse
127	kumatambulancinga	at a place where bicycles are welcome	brothel
128	kumunzimulemu	at a revered village	witch/wizard's residence
129	kumuyabanji	at a place where many go	'graveyard'
138	maangwaloozi	that which is tied fiber	'confidential matter'
139	mabwabanene	stones for the elderly	'witchcraft store place
143	makkalanguzu	at a place where one sits on power	'cooperative'/name of place
145	maleyampika	he who dodges trouble	'anthroponym'
154	matankulampemo	that which lifts the nose	'cooked dried maize'
155	matealula	bitter saliva	'negative prediction
156	matobelanjanji	he/she who follows the rail-line	urban worker/prostitute
161	meendacuula	water for frogs	plain/pure water
162	mendamabi	bad waters	'death'
175	mugamanzila	he/she who follows the road	'prostitute'
195	muleyampongo	he who ducks a goat	'anthroponym'
199	mulokwanyama	he who drops his flesh	'person who loses opportunity'
227	muntususu	human hair	'mankind'
253	mutabwajulu	he who is hedgedby heaven	'a tall person'
267	muzwakule	he who comes from afar	'a stanger'
288	mwenzyakasako	he who walks with a walking stick	'elderly person'
298	njolamafuwa	he who gathers bones	'caretaker for old people'
301	nkalamabelo	he who sits on thighs	'great grand child'
306	nkombabula	one who scraps the womb	'last born'
307	nkongabatolo	that which threatens lazy people	'very light rainfall'
311	nsimaitamanibabwa	nshima that cannot be finished by dogs	'immoral person'
329	pobwelyabacula	a party for frogs	'abundant things'
331	sakalyamali	a sack of money	'wealthy person'
351	sukamabwe	he who shakes stones	'miner'
356	taboniisuba	he who does not see that which urinates	'immoral person'

3.2.3.4 Gender preferences

In every given language, there are words, which are more frequently used by either men or women only. These may be in form of praise, attributes, or pejoratives. Words preferred by the different gender are discussed under the following headings: words women use on men and words men use on women as follows:

(i) Words women use on men.

(a) ***(3) Bbingabusiku*** 'he who drives the night' – anthroponym. This refers to a strong man who braves danger. This word is synonymous to (12) ***ceendamudima*** 'he who walks in darkness' – anthroponym.

(b) **(14) Chapyakoku** 'it is burning this way'. It is an anthroponym with reference to a person who is not steady in doing things. He is a benefit seeker who has no patience to observe what he has begun.

(c) **(27)Cindababwa** 'he who bypasses dogs' is a synonym with (311) ***nsimaitamanibabwe*** 'nshima which cannot be finished by dogs', (356) ***taboniisuba*** 'he who does not see that which urinates', (243) ***musatankwela*** 'he who talks about sexual intercourse' and (210) ***mulyamabelo*** 'he who eats thighs' in that they all refer to an immoral man.

(d) ***(52) Hacintumunzila*** 'he who claims status on the way'- a boastful person. The word is used to a man who is not wealthy but is boastful when outside his home of the things he cannot do or does not own.

(e) ***(63) Himuleyatwambo*** 'he who dodges issues' – a cunning person. This is in reference to a man who plays his cards smartly especially in terms of

sexual relations with other women that at the end he is not held responsible for anything.

(f) ***(64) Himulyampondo*** 'he who spends a pound' – a miser. Reference is made to a man who spends carelessly on himself but is very careful when it is the rest of his family to benefit.

Other words women use to describe positive attributes in men are: (176) ***mukamwinikazyiba*** - owner, (314) ***ntengwamubili*** – slender but strong bodied. (76) ***Intwamasaka*** 'he who pounds the forest' – traveler. A handsome man is called (281) ***mwanang'onze***, while a steady, decisive man is referred to as (181) ***mukkalatongo***.

There are also compound words that describe negative attributes in men for example: (343) ***sikaulukabunzuka*** 'a trouble shooter'. (183) ***Mukondwakulya,*** (196) ***mulidakunona*** and (209) ***mulyakubinda*** are synonyms denoting greediness or a gluttonous behaviour.

Tonga compound words also include anthroponyms usually for male children as follows: (279) Mwanamucende, (145) Maleyampika, 176) Mukkalabwina, (270) Mwanacingwala, (277) Mwanampongo, (195) Muleyampongo, (245) Musekaatebula, and so forth.

(ii) Words men use on women:

(a) <u>Words showing positive attributes or praises</u>:

(17) Ciinicipanduzi 'a handle used to break...' In a polygamous setting, the first wife is referred to as ***ciinicipanduzi***. This is an honored reference in that it shows she is the foundation of the homestead. A woman who takes risks and succeeds is referred as (345) ***simbilombe***.

(b) Words showing negative attributes

(50) Haadomolitopota 'one who has a talkative mouth'. Although this term can be used on a talkative man, it is commonly used in reference to a woman who talks uncontrollably, even in circumstances she is expected to be quiet. (152) ***Manyabwenda*** 'obese person', (294) ***ndekamala*** 'left over' (127) ***Kumatambulancinga***, refers to a brothel. The synonyms, (156) ***matobelanyanja*** and (108) ***kapentamilomo*** both refer to a prostitute.

(c) Other words used by men to give praise to beauty are: (75) ***inswankwapule*** for 'a beautiful lady'. Like the English idiom 'an apple of my eye', Tonga has a compound word (98) ***kalungukamoyo*** 'a desire', a term men use to refer to the lady of their choice.

3.2.3.5 ***Metaphorical Aspects***

These are compounds which unfold into a phrase when translated and the words describe something by stating another thing which it can be compared to without using the words 'as' or 'like'. The following compound nouns have some form of metaphorical aspects:

(i) (7) Bweengwaleza 'drawn by God – a natural place. The description of a natural place to a drawing done by God is metaphorical.

(ii) (10) Caangabafu 'that which ties the dead – numbness. The feeling of being numb is compared to the state of the dead in that in both situations, the sense of touch and pain is not experienced.

(iii) (46) Dondamwaka ' a sore that lasts for a year' – cancerous sore. The comparison of a cancerous sore to a sore that lasts for a year is in the sense of longevity of the sore.

(iv) (96) kalomokanjina ' a mouth of a louse' – drunkard. A drunkard is compared to a louse' mouth in that once it takes a bite, it is hard for it to stop sucking the blood. In the same way when an alcoholic starts drinking, it is hard for him to stop or break the habit.

(v) (224) Munsiutwakonsekonse 'a pestle that pounds on both ends' – double tongued person. A double tongued person is compared to a pestle that can be used on both ends depending on the circumstance.

(vi) (248) Musemowalubulo 'foundation of steel' – a man of a firm character that cannot be moved is compared to a foundation made of steel that is able to stand all weather,

(vii) (273) Mwanakasuwa 'a child of an anthill' – girl/boy friend.

(viii) (318) Ntubyamucila ' that which whitens the tail' – pride

(ix) (329) pobwelyabacula 'a party for frogs' – abundant things

(x) (156) matobelanjanji 'he/she who follows the rail line' – urban workers/prostitute. It is believed that the rail line leads to where one can find wealth. This wealth can be gotten through hard work as an urban worker or through prostitution.

(xi) (270) Mwanacingwala 'a child of metal', (277) Mwanampongo ' a child of a goat', (272) Mwanahiba ' a child of a pond' are all anthroponyms which give a metaphorical description to the type of a child one is.

(xii) (211) mulyamapepa 'he who eats papers' – a bookworm. A literate or educated person is described as one who eats papers. The eating of papers is metaphorical to accruing education through persistent study.

3.2.3.6 Marked Compounds

Markedness of a text or word depicts the impact of its specification or particularization. A marked form is distinctive; it does stand out from its surroundings, and draws attention to itself. Some terms are morphologically marked for maleness or femaleness. At times markedness can sometimes be extended to wider typological characteristics of language and also to social situations, to distinguish between normal (unmarked) behaviour and a less common variant (marked).

In the corpus, the following words can be said to be 'marked'.

(i) (269) muzyanyina 'he who comes along with the mother'step child to the father'
(ii) (273) mwanakasuwa 'child of an anthill' girl/boy friend
(iii) (275) mwanakujana 'child who is found' step child to the mother'
(iv) (276) mwanakuzyalwa 'a child who is born' – legal child
(v) (280)mwanang'anda 'a child of the house' – legal child

Words like in i, iii, iv, and v, are commonly used in the society to differentiate between a legal child and a child out of wedlock or outside the current marriage. ***Muzyanyina*** marks the child who is of the mother but not of the father of the house. Just as ***mwanakujana*** is a child of the father but not of the mother in the house

3.3 SUMMARY OF SEMANTIC ANALYSIS

Meanings of Compound noun words can be analyzed in several ways; using semantic noun classes, semantic sense of words or sociolinguistic aspects of meaning. The semantic features of nouns in Bantu linguistics assign denotative meaning to words in those classes. Class ½ mu/ba denoting nouns of human beings scored 117 at 32%

seconded by class ¾ mu/mi denoting trees with 55 frequencies at 15%Class while class 12/13 ka/tu had 43 instances at 11%. The class classified as 'others' is a group of words which are formed using roots or stems only. Only eight of these where recognized at 2.25%.

Using semantic senses of lexemes, it was noted that lexemes are given meaning using the intuitive knowledge of the language user. Therefore, it is the users linguistic knowledge that helps one to assign meaning either for words in isolation or in compound nouns.

Other ways of assigning meaning to words is by sociolinguistic acceptance of words and usage as assigned by the society using them. Words can be classified as vulgar or taboo words to refer to things or characteristics which are not acceptable in society. At times onomatopoeic device: the way of assigning meaning to things and objects from the natural sounds attached to them can be used. Also gender preferences of word usage help to assign meaning to some words too. Lastly, metaphorical aspects and markedness of words do help to assign meanings too.

CHAPTER FOUR

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

4.0 GENERAL

This chapter presents the summary of the findings, conclusion and the recommendations arising from the analysis of the Grammar of Compound Nouns in Tonga. The exercise is based on the research objectives as raised in the respective linguistic levels of the study applied to the analysis of the corpus of compound noun words.

4.1 SUMMARY OF FINDINGS

The study has proved that since compounds embed the grammar of a language, it is possible to write a grammar of a language using a corpus of compound nouns. These findings were observed from the four linguistic levels: phonology, morphology, syntax and semantics.

4.1.1 Morphology and Phonology

The morphological structures of the compound nouns composed of different parts of speech agglutinated to form up a compound and the verb + noun structure was more prominent at 51%.. Every compound derived became a different lexeme in its own right. The compound formed had its own morphological structure and was more complex than structures of words in isolation. The compounds did not only conform to the Bantu class system but also proved that most of the derivations were of class ½

mu/ba, denoting humans. The derivations were either denominals, deadjectivals, deverbals or denomatopoeic.

For the morphophonological rules at play in the compound nouns, Table 22 below summarizes the occurrences of each rule.

Table 22: Summary of Morphoponological rules.

	Morphophonological Rule	Frequency	%
1	Vowel Harmony	27	6.1
2	Vowel Lengthening	23	5.2
3	Vowel Deletion	29	6.5
4	Fortition	16	3.6
5	Gliding	155	34.8
6	Spirintization	16	2.2
7	Nasalization	93	20.9
8	Feature Changing	16	3.6
9	Form Retention	70	15.7

Under Phonology, the findings were that Tonga uses CV open ended syllables which at times had a cluster of sound combination usually made at the same point of articulation. It uses tone for both distinction and grammatical purposes. This was proved on words with the same spelling but different meanings and contrastively on similar words in isolation and compound words. Tone marking did prove that the environment does have an effect on the rest of the syllables in a word. Lastly on phonological findings, it was observed in both words in isolation and in a compound that vowel lengthening resulted in difference in meaning.

4.1.2 Syntax and Semantics

The syntax of the compound nouns show three groupings of syntactic structures derived from compound nouns as follows

a) $A \rightarrow \begin{Bmatrix} A \\ N \\ V \end{Bmatrix} N$

b) $N \rightarrow \begin{Bmatrix} A \\ N \\ Pro. \\ V \end{Bmatrix} N$

c) $V \rightarrow \begin{Bmatrix} N \\ Adv. \\ Pro. \\ V \\ Adj. \end{Bmatrix} N$

The tree diagrams drawn by using both the composition of the compound noun and the resultant phrases of their translations do show grammatical relations of the agglutinated lexicon. 24 phrase structure rules were drawn of which NP→NP, VP was highest with 18.8% usage followed by NP→N, N at 14% with NP→N, PP, NP scoring 13.5% in third position. These phrase structures were similar in composition to the phrase structures of sentences.

The agglutination of the parts of speech also certified the universal assumption that compounding as a word formation process does introduce new lexicon in any given language.

In semantic analysis, we note that assigning of meaning does not only need ones linguistic intuitions but that the society that uses the language do have a part by giving connotative and denotative meanings to words through accepting some words, giving restrictions to some, and also preferring other words to be used in or on certain objects and not on the other.

4.2 CONCLUSION

The study of the ***Grammar of Compound Nouns in Tonga*** did prove the assumption that compound noun words embed the grammar of a language. The study observed the grammatical categories and functions of words in compound nouns which provided ground for analysis of the grammar as provided by the compound structures. The analysis was achieved through the four linguistic levels: phonology, morphology,

syntax, and semantics. The findings agree to the proposition that a study of a language grammar can be done using a grammar of compound nouns.

4.3 RECOMMENDATIONS.

Based on the corpus of compound nouns, the researcher recommends further studies of the following topics:

(i) *Theta- roles of nouns and verbs in compounds.*

(ii) *The Grammatical Aspects and Presentations of Nouns in the Subject, Subjective complement, and Subjects of Generative Pronouns,* and

(iii) *A Contrastive look at Aspects of Grammar in Idioms and Compound Nouns*

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