

**THE STRUCTURE OF SESOTHO  
DEVERBATIVES**

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**SUBMITTED IN ACCORDANCE WITH THE PARTIAL  
REQUIREMENTS**

**FOR  
THE DEGREE OF MASTER OF ARTS**

**IN THE DEPARTMENT OF AFRICAN LANGUAGES  
AT VISTA UNIVERSITY**

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**DATE SUBMITTED  
DECEMBER 1995**

**PLACE:  
BLOEMFONTEIN**

# DEDICATION

TO MY FATHER GEORGE MOTHUPI

AND

MY MOTHER ALICE MATHABO MOTHUPI



## ACKNOWLEDGEMENTS

This research project is a result of the genius and moral support of several people. Firstly, I would like to thank Prof B.T. Khoali my supervisor, who helped and guided my academic activities throughout my study at Vista. I would also like to thank Victor Moeketsi and E.J. Mohatlane who encouraged and motivated me during the hard times. Lastly, a special word of thanks to my parents Alice and George Mothupi as well as my sister Mokone who were the driving force behind me. I really appreciate it, Bakubung!

## DECLARATION

I declare that THE STRUCTURE OF SESOTHO DEVERBATIVES is my own work, that all sources used and quoted have been indicated and acknowledged by means of complete references, and that this dissertation was not previously submitted by me for a degree at another university.

## ABSTRACT

The aim of this study is to expose the morphological structure of deverbatives in Sesotho. Firstly, it is shown that affixes are not mere morphological objects, they are also syntactic objects. The use of verbal extensions namely the reciprocal, the applied, the reversive, the causative and the passive are extensively discussed and how these impact on the structure of deverbatives. The phonological changes involved in the formation of deverbatives are also discussed. Syntactic theories like the theta role are also employed and their relevance to morphology discussed. An interface between morphology and syntax is thereby thoroughly demonstrated and established.

ABBREVIATIONS

AF	AFFIX
AUG	AUGMENTATIVE
CL	CLASS PREFIX
DIM	DIMUNITIVE
FEM	FEMININE
IP	SENTENCE
N	NOUN
RHR	RIGHT HAND HEAD RULE
V	VERB
VR	VERB ROOTS
DO	DIRECT OBJECT
REC SUF	RECIPROCAL SUFFIX
APP SUF	APPLIED SUFFIX
REV SUF	REVERSIVE SUFFIX
CAUS SUF	CAUSATIVE SUFFIX

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CHAPTER 1  
INTRODUCTION

1.1 BACKGROUND

Sesotho is a language spoken in different parts of South Africa and Lesotho. It is related to two other languages which are Setswana and Sepedi. All three languages form the Sotho languages group. Sesotho is classified as an agglutinating language that is, one in which words are typically composed of a sequence of morphs with each morph representing one morpheme (See Satyo 1985:7). When further explaining agglutinating languages, Matthew 1974:17 says:

" the word is taken as a complex but more loosely knit, and categories are not so closely associated with the word individually".

1.2 AIM

My purpose in this study is to examine the syntax of words, in particular, the structure of deverbatives in Sesotho.

I argue that word-formation is actually split between phonology and syntax, which means both principles of phonological and syntactic well-formedness play a role in the formation of words.

I further argue that in any approach to morphology, certain kind of information should be given to all affixes and what the properties of the resulting form are. This information I argue, is encoded in the lexical entry of the affix concerned by a subcategorization frame.

### 1.3 THEORETICAL FRAMEWORK

Specific principles to be exploited in this analysis are:

- (a) morphological theory
- (b) x-bar theory
- (c) subcategorization
- (d) theta theory

#### 1.3.1 Morphological theory

Two approaches to morphology within generative theory can be distinguished: morpheme (affix) based and word based (Posthumus 1994) The first assumes that morphemes as well as words have lexical entries and therefore, words are formed by putting morphemes together. The latter, assumes that words and not morphemes are listed in the lexicon and therefore, words are formed from other words. It is however, difficult to define the study of morphology in a universally valid way. To decide upon one appropriate base form is one of the fundamental problems within the study of morphology. This is in consistent with the claims by Bloemfield (1970:207) and Matthews (1989:154).

According to Lyons (1990:101) the base form is that form from which all the other forms of the lexeme can be derived by morphological rules of the language. However, the realization of morphological processes within a particular language determines the appropriate base form.

In keeping with the Dokean tradition, the terms stem, root and affix will be used as morphological objects applicable at the different levels of the X-bar scheme (Doke & Mofokeng 1957). STEM will imply the 1st order projection while the ROOT and AFFIX will be objects at the lowest level, and affix being the head that subcategorizes for the root. Since the head of the projection is the right most symbol dominated by the STEM (bar 1 level) the ROOT can then act as an argument of the AFFIX (See Khoali 1993:9).

The relationship between AFFIXES and ROOTS can therefore be expressed in terms of the X-bar theory. These are the aspects of the theory of word structure we will assume.

### 1.3.2 X-bar theory

X-bar theory makes predictions about hierarchical organization of phrases. However, certain notions of X-bar theory, a theory of syntax, are required for an insightful characterization of word structure. This means that the relationship between the different affixes and roots can be represented in terms of the X-bar scheme.

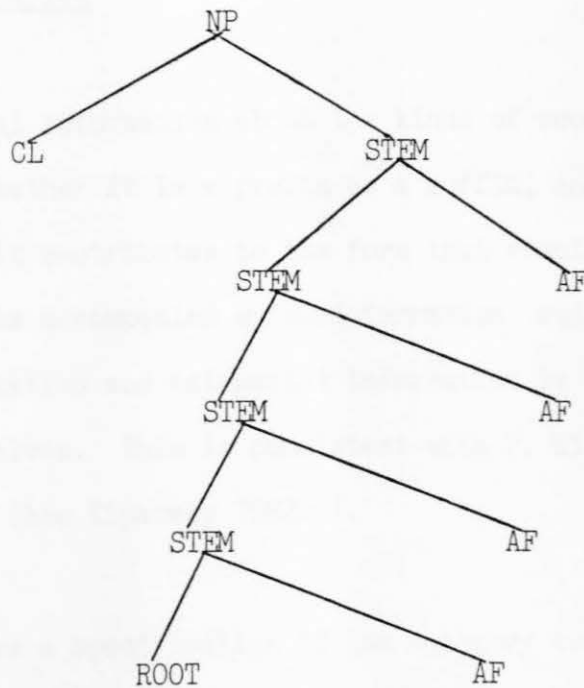
STEMS represent the intermediate level of projection (Bar 1) whilst the ROOT in turn represents Bar 0. The root also acts as the argument of the affix involved. Affixes in turn, will remain meaningless without roots that is, when on their own. This is generally the idea of the theory of word structure as it evolved over the years (Aronoff 1976, Siegel 1974, Selkirk 1986, Di Sciullo and Williams 1987).

The earlier version emphasizes a context-free constituent structure grammar whereby word structure rules assign a labelled tree to every word of the language (Aronoff 1976, Siegel 1974, Selkirk 1986, Di Sciullo and Williams 1987).

This sort of grammar thus captures the intuition of native speakers of different languages, that words have an internal constituent structure, the constituents of which may be assigned to different categories. A context free rewriting system by itself is capable of generating all of the words of a language. Members of a certain class of morphemes, the affixes, display idiosyncratic distributional properties.

For every word of a language then, there exists a derivation via the word structure rules of the language. This condition then allows us to treat existing words and possible words in uniform fashion. IF A WORD IS TO BE WELL-FORMED, ITS STRUCTURE MUST BE AMONG THOSE GENERATED BY THE WORD STRUCTURE RULES OF A LANGUAGE.

A context-free rewriting system also always allows for the recursiveness of self embedding evidenced by morphological structure. It embodies the claim that there is no principled upper bound on the length of words. In other words, a word can be expanded and infinitive as illustrated below.



IT EMBODIES THE CLAIM THAT MORPHOLOGICAL STRUCTURES ARE LABELLED TREES WITH POSSIBLE SELF EMBEDDING. IT ALSO EMBODIES THE CLAIM THAT AFFIXES BELONG TO A MORPHOLOGICAL THEORY.

A context free phrase structure grammar as explained is fundamentally different from the grammar assumed in this study. In this thesis, we assume that each word has a universal structure which can be measured by the universal template namely the X-bar scheme.

In the organisation of the mental dictionary the morphemes are listed in terms of their category features as well as their sub-category features. Affixes select their members from the list of roots. An affix such as the verbal ending (VE) always selects a verbal root. An affix such as verbal extension also selects from verbal roots. In some cases, such affixes select an extended verbal root and therefore select more than a complex morpheme.

### 1.3.3 Subcategorization

Morphological information about the kinds of roots an affix is added to, whether it is a prefix or a suffix, and the kind of properties it contributes to the form that results from its affixation is accompanied by word formation rules and that subcategorization and categorial information is encoded in the rules themselves. This is consistent with P. Kiparsky's assumptions (see Kiparsky 1982:6).

This involves a specification of the category to which the affix may be sister in morphological structure. This includes both the category and its categorial features, syntactic and diacritic. These two specifications govern the distribution of the affix in morphological structure. Syntactic are those features that incorporate distributional properties of lexical morphemes such as Roots. Diacritic refers to idiosyncratic properties typical of any Root.

This can be best be illustrated by the example below:

- (i) \* morutisani
- (ii) bamathisani

- (i) above is ill formed because the -an- morpheme actually subcategorizes for the agent and the patient (reciprocity). The class prefix "ba" in (ii) above makes the noun to be regarded as well-formed that is, subcategorization by this morpheme is satisfied.

#### 1.3.4 Theta theory

Theta theory regulates the assignment of theta roles whether internal or external. A theta role provides essentially semantic information. It mainly has to do with roles which are played by participants like agents and patients.

An argument can never perform the duty of being an agent and a patient at the same time. This then, is made clear by the theta criterion. (Sells 1985:37), which states:

EACH ARGUMENT BEARS ONE AND ONLY ONE THETA ROLE AND EACH THETA  
ROLE IS ASSIGNED TO ONE AND ONLY ONE ARGUMENT

#### 1.4 HYPOTHESIS AND METHODOLOGY

Employing the above-mentioned theories in my analysis, I hypothesize that:

- (i) Affixes are not just mere morphological objects. They are are also syntactic objects.



- (ii) As a principle, X-bar scheme will be assumed to be applicable in morphological representation. I will therefore argue that the affix, which is the head is the rightmost affix. This is consistent with Di Sciullo and Williams's claims on morphology (Di Sciullo and Williams 1987).

I will further show that certain fundamental notions of the X-bar theory of phrase structure can be profitably extended to the theory of word structure.

Our data will be based on Sesotho as spoken in the different parts of South Africa. Intuitions of native speakers in judging well-formedness of words will be used extensively.

### 1.5 MOTIVATION AND SCOPE

The study concentrates on Sesotho deverbatives only. In going through the Indexes for African languages (1966-1992), nothing on Sesotho morphology has been written. The only materials available are those by Koopman A (Volumes 4,10,12) on Zulu morphology, hence the need for an insight on this.

Previously, the structure of words was considered on a flat structure basis, that is, a word comprising of a prefix, a root and a suffix. The theory of word structure to be assumed here will be a modified version of Kiparsky (1982), Selkirk (1986) and Di Sciullo and Williams (1987).

While much has been said about the syntactic structures which are composed of words, less has actually been said about the structure of words themselves. It is however, an error to view word structure as merely a lower portion of syntactic representation. The space of words have a rich structure, imposed first by the rules of word structure and second by the paradigmatic matrices that words enter into.

The principles I will employ will be generative as compared to those which have been traditional as found say in Matthews (1974).

## 1.6 SURVEY OF CHAPTERS

### 1.6.1 Chapter 1: Introduction

Contents as outlined above

### 1.6.2 Chapter 2: The structure of the noun (non-derived) and deverbative in general.

This chapter comprises the morphology of the noun (non-derived) as well as deverbatives in general using generative principles.

### 1.6.3 Chapter 3: The structure of the reflexive deverbatives.

In this chapter we discuss issues pertaining to the structure of the reflexive deverbatives in different contexts - which phonological changes can be observed.

#### 1.6.4 Chapter 4: Complex/compound deverbatives.

The focus in this chapter will be on what I consider to be the essential features of Sesotho complex/compound deverbatives and their relevance to word structure outlined previously. The assignment of theta roles will be dealt with.

#### 1.6.5 Summary

CHAPTER 2

THE STRUCTURE OF NOUNS (NON-DERIVED AND DEVERBATIVES) IN GENERAL.

2.1 INTRODUCTION

In both this chapter and chapter 3 I present an analysis of the structure of non-deverbatives and deverbatives in general. The concept of the structure of words in general is fundamental to the study of morphology. It is important to know the constituents that compose words. Morphemes are constituents which form words. The concept of morpheme is hereby understood as a minimal unit of sound that carries meaning. (See Satyo 1985:92 Bloomfield 1933).

How can then we tell that a sequence of morphemes is a morphological entity or not? Morphologists have maintained that words are built out of different structural elements than phrases. The morphological constituents of words are lexical and sublexical categories, that is, stems and affixes while the syntactic constituents of phrases have words as minimal units (Mchombo 1989:30).

Pesetsky and Kiparsky have presented evidence suggesting that the structure of words and their interpretation are not always characterized by a unique labelled tree (Pesetsky 1979, Kiparsky 1982). A natural principle governing the assignment of structures to words is the compositionality requirement; the requirement that semantic units (like the prefix and verb) form morphological constituents (Pesetsky 1982:201).

However, as indicated in this study words will be analysed mainly using the x-bar scheme. I will also be considering the syntactic behaviour of these forms, but mainly with an eye at uncovering their morphological structure.

The reflexive deverbative will be thoroughly dealt with in chapter 3 also concentrating on how the phonological aspect impact on their structure.

## 2.2 TYPES AND STRUCTURE OF THE NON-DERIVED NOUN

It is important to keep in mind the reason why the investigation in this chapter is necessary for my purpose. Since I will be discussing the structure of deverbatives which are nouns formed from verbs, it is therefore important to also look at the structure of nouns in general that is, including those which are non-derived.

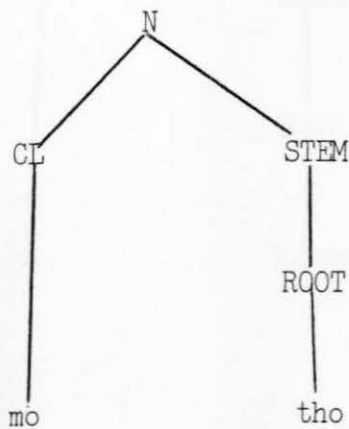
By non-derived nouns I refer to words that fall under the noun category that is, those indicating names of people, places or objects without having used other categories or part(s) of other categories in their formation (See Khoali 1991). These are what I call basic or common nouns.

In line with morphological assumptions stated in chapter 1, the structure of underived nouns in Sesotho is as shown in 1 (a -c) below.

1(a) motho (person)

mo-: CL

-tho: lexical morpheme

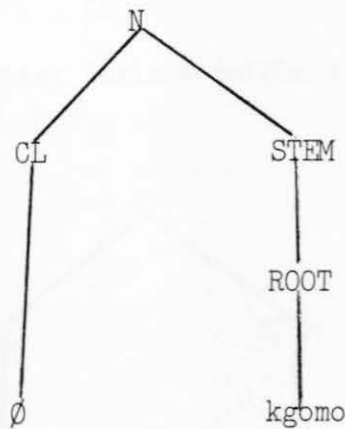


1(a) above is non-derived because "tho" is nominal and non-verbal in its syntactic feature composition. The specifier remains class 1 marker, confirming the fact that "tho" is also human. Humans in singular are in class 1 (See Doke and Mofokeng 1957).

In some cases the specifier is without any phonetic content as in 1(b) below:

1(b) kgomo (cow)

kgomo: lexical morpheme



In 1(b) the "∅" indicates clearly that the specifier is not pronounced unlike in 1(a) where it is pronounced. The class prefix in 1(b) is phonologically null (∅).

Examples 1(a) and 1(b) respectively indicates that "motho" has a specifier that has phonetic content whilst "kgomo" does not have a specifier with phonetic content.

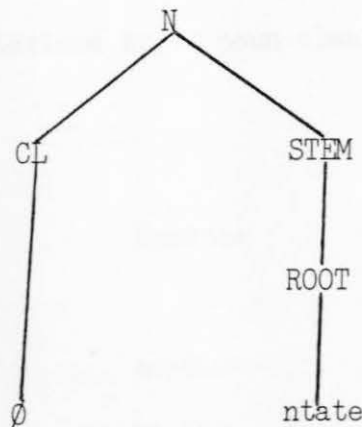
The root (lexical morpheme) is in both the head because it is the rightmost morpheme (Di Sciullo 1987).

Certain nouns are however, morphologically marked only for the plural whilst others may not be marked at all for either singular or plural. Example 1(c) below indicates a noun which is totally not marked for the singular.

1(c) ntate (father)

- : CL

ntate: lexical morpheme



It is interesting to note that whilst in 1(b) the specifier does not have phonetic content which means it is unpronounced, and is indicated by  $\emptyset$ , the noun in 1 (c) does not have a specifier or is not marked for the singular. Nouns not marked for either singular or plural in Sesotho are usually those indicating kinship.



Bantu languages are all characterized by the fact that all nouns are grouped into different noun classes which are morphologically and not semantically well-defined (See Bokamba: 1988).

A noun class is defined as one of the distinct patterns of prefix agreement that a particular language may have, with the actual number of noun classes for such a language being determined by the distinct patterns of agreement exhibited (Bokamba: 1988:29).

Generally, for each noun stem there are two corresponding noun prefixes, one corresponding the singular and the other the plural.

Sesotho nouns are characterized by 12 noun class prefixes as in (2) below:

(2) Class prefix	Example	Gloss
1. mo-	mo-tho	person
2. ba-	ba-tho	people
3. mo-	mo-tse	village
4. me-	me-tse	villages
5. le-	le-leme	tongue
6. ma-	ma-leme	tongues
7. se-	se-fate	tree
8. di-	di-fate	trees
9. n-	podu	goat
10. din-	di-podi	goats
14. bo-	bo-hobe	bread
15. ho-	ho-ja	to eat

Phonetically, the class 1 prefix "mo-" can be realized or have different variants;

[mo~m~]

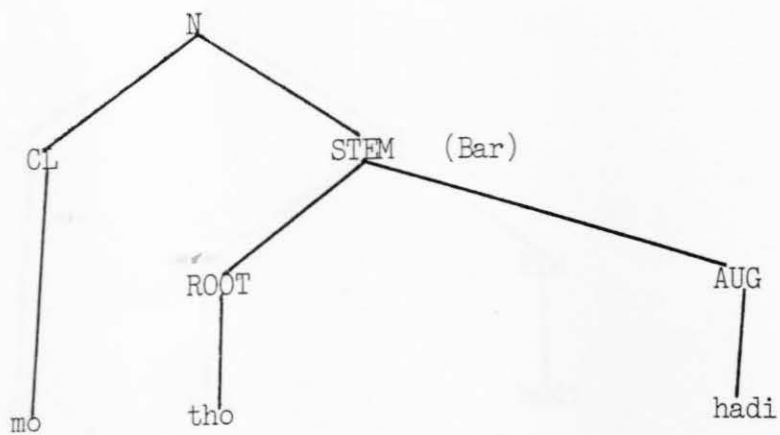
These are allomorphs that is, they are morphs realizing a particular morpheme and which are conditioned (See Guma 1971: Doke and Mofokeng 1957). These allomorphs will be discussed further when looking at the structure of deverbatives in general.

In all cases, the prefix determines the class to which the particular noun belongs. In the syntactic context, the prefix of the noun is a governing element in the sentence, determining the form of the concords which appear in the words that are brought into concordial relationship with the noun.

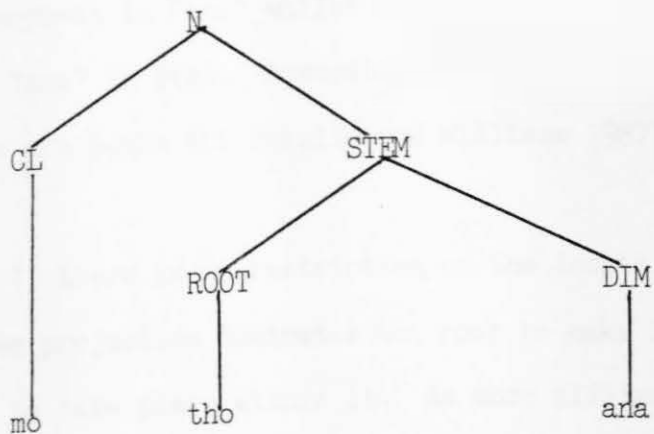
The root is the lexical part. It carries the core meaning of the word. Nouns can be given inflectional suffixes like those indicating gender, augmentation or diminutive. Features associated with these inflectional categories may be borne by a simple affix or each by a single affix or any other combination.

These different inflectional suffixes are indicated in examples 3(a - c).

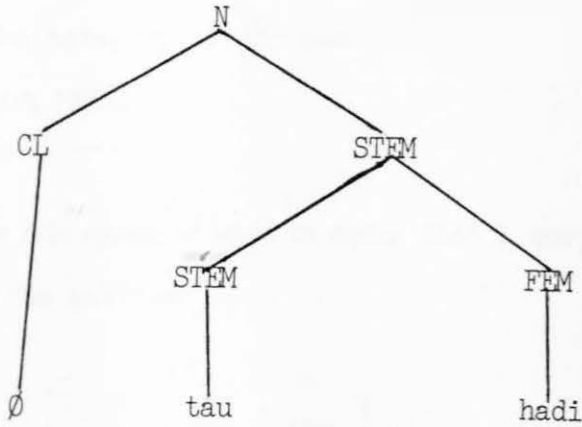
3(a) motho - mothohadi ( a big person)



3(b) motho-mothoana (small person)



3(c) tau - tauhadi (a female lion)



The diminutive suffix in Sesotho can either be - ana or -nyana. These two suffixes can also be used to denote derogation.

In 1(a) the rightmost morpheme is "tho" whilst in 3(a) and 3(c) the rightmost is "hadi" and "ana" in 3(b). According to Di Sciullo and Williams these morphemes are heads (Di Sciullo and Williams 1987).

As mentioned in chapter 1, there is no restriction on the length of words. The stem as the 1st order projection dominates the root to make it possible for affixation to take place within it. As more affixes are added, another stem is added to dominate the first one until the final affix. In this way, the stem remains the intermediate level that acts as the mother node for each head affix on the right hand of the projection and the daughter stem on the left.

A distinction is made between two basic classes of word formation processes which are compounding and affixation. I assume that all word formation is endocentric. By this I mean that the category of a derived word is always non-distinct from the category of its head which is the rightmost constituent (See Selkirk 1986).

According to the re-write rule system we would be saying that a morphological rule then obligatorily insert the suffix:

$$\left. \begin{array}{l} \text{aug} \\ \text{dim} \\ \text{fem} \end{array} \right\} \text{after the noun}$$

However in terms of the X-bar scheme, the template clearly projects the suffixal morphemes to be the rightmost morpheme and therefore the head. The language can thus manifest any of the following distributions of inflectional diacritics. This would be assumed to be the way the organisation of the lexicon is in generative morphology.

N	[NOUN	AF]
		+dim

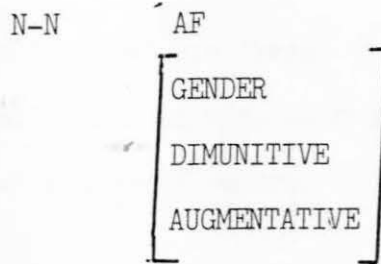
N	[Noun	AF]
		+Fem

N	[Noun	AF]
		+Aug

+ implies marked for a particular feature.

The morphological component of a language must be able to specify the distribution of diacritic features within the word. This is done, at least in part by the word structure rules themselves.

These could be written as:



### 2.3 THE STRUCTURE OF THE DEVERBATIVE.

In this section I will mainly concentrate on the structure of deverbatives. Sesotho has a system of suffixing as well as prefixing certain morphemes to verbal roots in order to form nouns.

Morphological units mentioned will be used with the following meaning:

ROOT: a morpheme which functions as the core meaning of a word and bears the meaning of it. The root is the core of the verbal, it is a central morpheme around which all other peripheral morphemes (whether prefixal or suffixal) concatenate in a specific order. (Satyo 1985:47).

Note that this linear definition of the Root is different from the generative morphological definition given in Chapter 1.

AFFIX: A morpheme which modifies the meaning of the root.

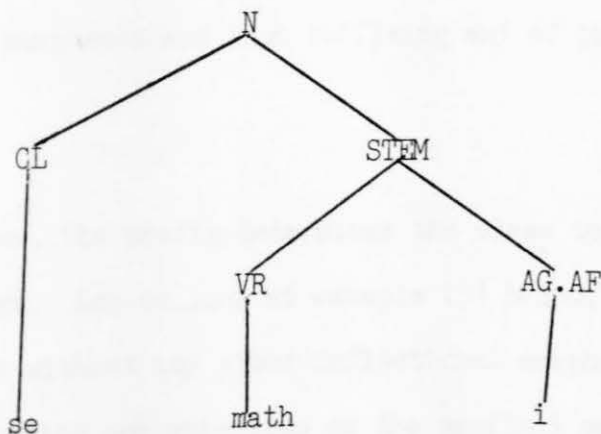
Affixes which precede a root are prefixes whilst those that follow the root are called suffixes.

Deverbatives are those nouns that are formed from at least a verb root or a verb phrase. A distinction is made between simple and complex deverbatives. The latter will be discussed in chapter 4.

Simple deverbatives are nouns not formed by a verb phrase but by at least a verb root together with nominal derivational morphemes (prefixes and suffixes) or a verb root plus one or more affixes together with derivational morphemes.

An example of a simple deverbative is as illustrated below (4).

4. semathi (runner)



From example (4) above, the right-most affix is the agentive morpheme -i. This affix is therefore the head since it subcategorizes for the root on the left. Example (4) is a simple deverbative for it is made up of the class prefix, the verbal root and the agentive suffix -i.

Simple deverbatives can be further divided into two major categories that is, those which are personal and those which are impersonal.

Of more concern will be the derivational and inflectional affixes involved.

### 2.3.1 Personal deverbatives

Semantically, a noun is a word that denotes the name of a thing.

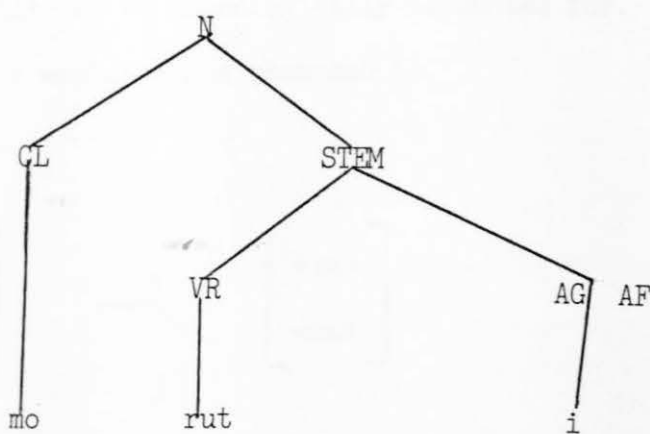
Personal deverbatives are therefore nouns formed from verbal roots together with derivational affixes indicating the agent/doer.

Any verbal root can be used in forming a deverbative. This is done by affixing a class prefix to a verbal root with or without verbal extension morphemes and then suffixing any of the vowels as will be shown.

In all cases, the prefix determines the class to which the particular noun belongs. Let us look at example (5) below, indicating a personal deverbative without any other inflectional morpheme used but for the moment focussing our attention on the prefixal morphemes (noun classes) involved.



5. moruti (teacher)

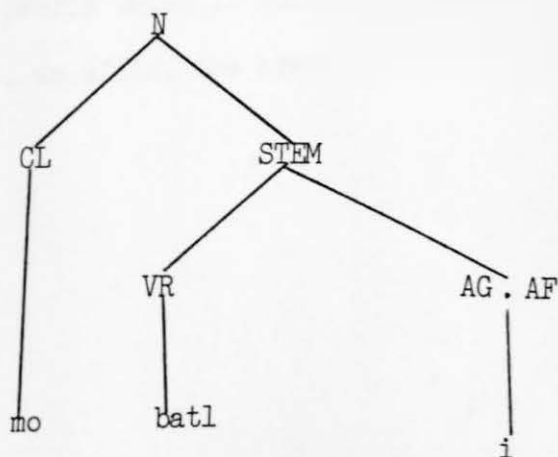


The prefix "mo" helps place the noun in perspective. The noun belongs to class 1. Its plural form "baruti" will then belong to class 2. As mentioned earlier, a noun should have a class prefix, it is obligatory even if it can be phonologically null ( $\emptyset$ ) (See Guma 1971, Doke and Mofokeng 1957).

Allomorphs which we mentioned earlier in this chapter also do occur with deverbatives. Example (6) below illustrates this:

6. mmatli (someone searching for something)

(mobatli)

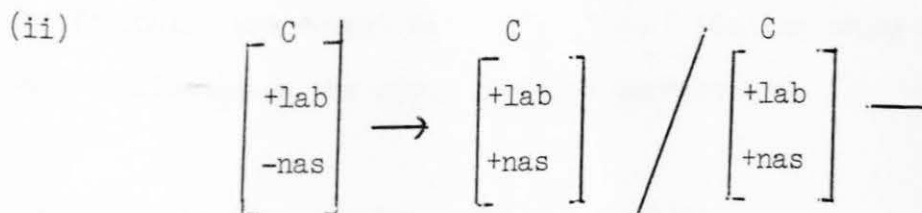
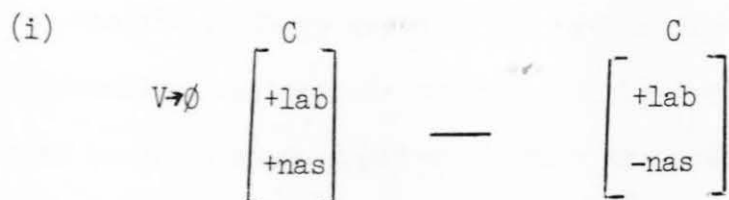


The prefix "m" is an allomorph with the "mo-" (class 1).

This means they are realizations of the same morpheme.

The structure of mmatli can be phonologically accounted for.

This phonological rule explains the phenomenon.



From the above representation, the implication is that the vowel /o/ between /m/ which is a +labial and nasal consonant and a /b/ which is +labial but -nasal was first deleted.

The second rule then follows with the /b/ assimilating to the /m/. This is regressive assimilation. The whole process will only occur for deverbatives formed from verbal roots with their initial sound being a bilabial if and only if it takes the class 1 prefix.

Together with the class prefix which is obligatory in the structure of personal deverbatives, an affix, the agentive suffix is also found.

Most of the personal deverbatives take the agentive suffix as [-i ] a high front vowel. More on the suffixes will be discussed in 2.3.4.

Other affixes (verbal extensions) can also be used in forming personal deverbatives. There are 8 verbal extension suffixes in Sesotho. Alternative realizations sometimes within certain environments will also be given where applicable after the major extension suffix.

The following are verbal extensions that I will be using in detecting their influence on the structure of deverbatives:

/-an-/ ; /-is-/ ; /-el-/ ; /-oll-/ ; /-uw-/

Each verbal extension will be used with the aim of detecting whether such an extension is capable in forming a grammatically acceptable noun in Sesotho. Those which are morphologically ill-formed will be marked with an asterick. Later, an investigation into possible and impossible combinations will be looked into.

#### 2.3.1.1 The reciprocal extension /-an-/

This verbal extension is generally known as the reciprocal morpheme.

The reciprocal form of verbs denotes that the action is reciprocated, that is, it is carried out mutually by two individuals or group of things. Semantically, its occurrence is restricted to those verbs whose meaning permits the notion of reciprocity, i.e. the reading "each other" (See Bokamba: 1988:60)

To illustrate the use of this morpheme in forming deverbatives, let us compare the following set of words as in (7) below:

7. (a) \*moratani  
(b) \*diratani  
(c) baratani

From the three nouns above, we make the following observations:

- (i) word 7(a) is ungrammatical since its class prefix is in the singular form. It was indicated that the action should be reciprocated thus, two agents have to be involved.
- (ii) word 7(b) is also ungrammatical. Even though the class prefix "di -" has been used and is in the plural form, the environment should be that for human.
- (iii) 7(c) is grammatical since it satisfies the requirements for reciprocity i.e. two agents and human.

To explain this further, let us use the idea of reciprocity syntactically as in the set in (8) below:

8. (a) Ntja e rata katse  
(A dog likes a cat)

(b) Di a ratana  
(They like each other)

(c) \*Ke diratani  
(They are lovers)

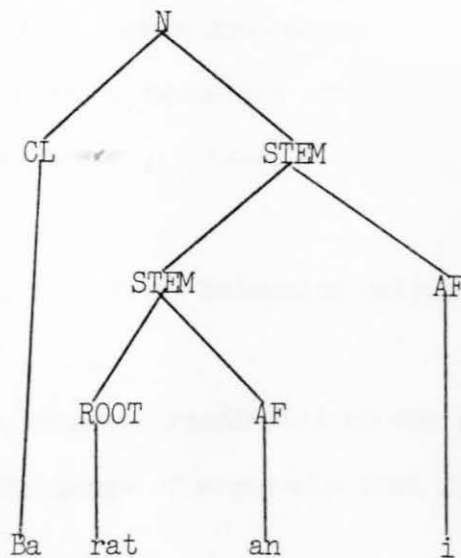
Even though syntactically 8(a) and 8(b) are acceptable, 8(c) is morphologically unacceptable due to the fact that the use of the reciprocal morpheme morphologically accomodates only prefixes used for humans.

The whole process can be summed up as follows:-

THE RECIPROCAL MORPHEME -AN-, WHEN USED IN THE FORMATION OF DEVERBATIVES, REQUIRES A PLURAL CLASS PREFIX AND IT SHOULD BE USED IN THE ENVIRONMENT WHICH INVOLVES HUMANS.

Example (9) below illustrates the representation of a grammatically acceptable deverbative with the reciprocal extension.

9. Baratani (lovers)



Satyo refers to the reciprocals as illustrating the standard reciprocal meaning of mutual action by which he means that the agent is the patient while the patient is also the agent. Thus, only a root taking both animate subjects and objects may have a standard reciprocal meaning of "do mutually to each other". (See Satyo 1985:154).

Thus, the semantic function of the /-an-/ - extension is that of indicating an action that is done together by two or more persons. This implies joint action or doing something together.

2.3.1.2 The causative extension /-is-/

As previously indicated, there are phonetically governed allomorphs for the Sesotho causative morpheme /-is-/.

These are /-tsh-/ ; /-is-/ ; /-ts-/.

Generally speaking, the verbal extension morphemes in Sesotho have two functions:

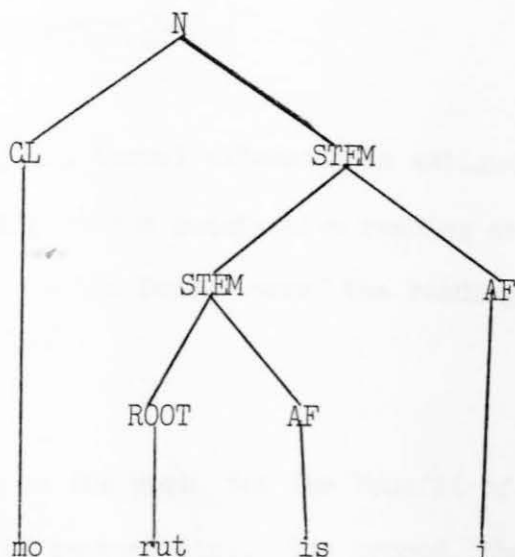
- (i) to extend the semantic reading(s) of the simple verb.
- (ii) to increase the range of arguments that it may take.

Any causative situation involves two component situations, the course and its effect (result).

THE MEANING OF NOUNS WHICH MEET THIS REQUIREMENT ARE SUCH THAT THEY PARTICULARIZE THE EXTENT TO WHICH THE ACTION OR STATE REFERRED TO BY THE MAIN VERB APPLIES TO THE PATIENT.

The concept of "process" is involved. The agent makes other people believe that the causee does what the verb (the underived form) denotes. This can best be illustrated by example (10) below:

10. morutisi (teacher)



Example (10) above, illustrates a noun "morutisi" which means a teacher. This then implies that the noun (teacher) does what the verb 'ruta' (teach) implies. Satyo refers to the primary meaning of the causal morpheme as:

"the activity to get a certain task done" (Satyo 1985:203).

This then means that the primary function of the causative morpheme in Sesotho is to cause someone or something to perform the action of the verb.

The causative affix then contrasts a syntactic and semantic relation with its NPs. These syntactic-semantic relations do not exist in isolation but should always be viewed as closely knit relations between the /-is-/ extended verb and the relevant NPs.



2.3.1.3 The applied verbal extension /-el-/

Semantically, the applied verbal extension is ambiguously interpretable as having both a benefactive reading and a directional reading. In the former case, the reading corresponds to the English:

to perform the action on the verb for the benefit of or in place of or even on behalf of someone else. The second, the directional reading corresponds to:

perform the action of the verb to or towards  
someone.

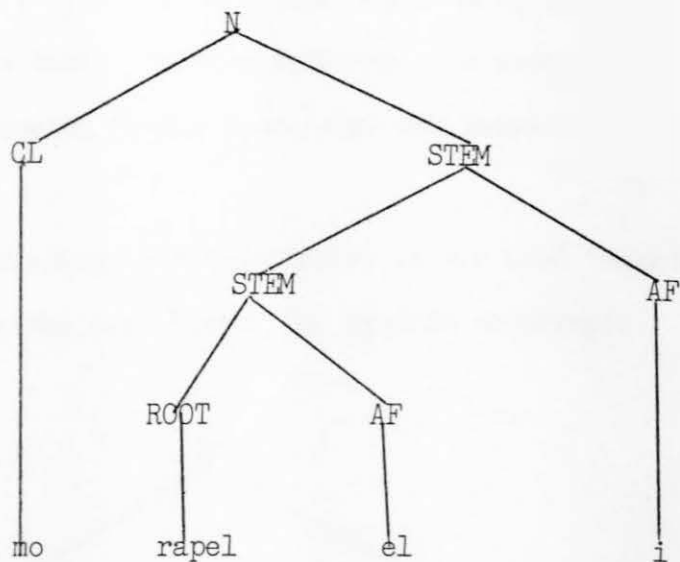
In explaining the applied, Satyo (1985:187) says that the /-el-/ indicates that the action is performed on behalf of someone or in his stead.

Syntactically, /-el-/ extended verbs involve the addition of an extra NP to the basic subcategorization of a verb.

THIS MEANS THAT THE APPLIED VERBAL EXTENSION TYPICALLY OCCURS IN ENVIRONMENTS WHERE THERE ARE TWO OBJECT NOUN PHRASES: A DIRECT OR PRIMARY OBJECT AND AN INDIRECT OR SECONDARY OBJECT (SEE BOKAMBA 1988:50).

Example (11) below indicates a deverbative formed with the applied morpheme and indicating semantically that the action is performed on someone's behalf.

(11) Morapelli (one who parays for someone).



Like other extensions, /-el-/ is systematically ambiguous for a set number of meanings. The exact meaning can only be specified on context by means of numerous strategies that the Sesotho language provides.

#### 2.3.1.4 The reversive extension /-oll-/

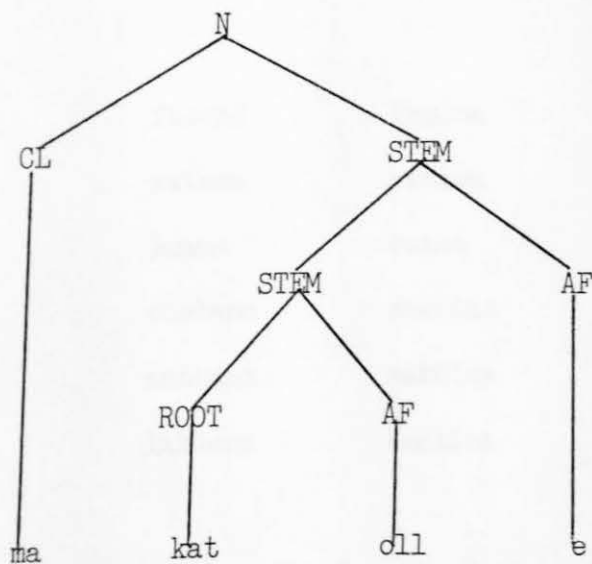
Very few deverbatives can be formed using the verb with this verbal extension in Sesotho. This can be attributed to the fact that there exist quite a number of nouns indicating the opposite or reversive of certain words, which is actually the same function performed by this affix.

THE SEMANTIC FUNCTION OF THE REVERSIVE VERBAL EXTENSION IS TO REVERSE THE ACTION DENOTED BY THE VERB.

This means that this extension indicates that the subject of the verb undoes or nullifies the results of the action expressed by the basic verb or performs some action opposite in function to that expressed by the basic verb or performs some action opposite in function to that expressed by the base (also see Satyo 1985:308).

A good example illustrating this deverbative is the word "makatolle" which is derived from the verb "kata" (to provide security).

(12)



As indicated, most of the Sesotho verbs (basic forms) do not accommodate the use of this affix even in cases where it is affixed not with the purpose of forming a deverbative.

The set of verbs given below in (13) clearly indicates this:

(13).	fasa	fasolla
	rata	*ratolla
	sheba	*shebolla
	bua	*buolla
	matha	*matholla
	lahla	*lahlolla

When the verbs listed in (13) above are used with any other verbal extension previously discussed in this study, the resulting words will be grammatical.

Let us compare the list given above (13) with the one provided below in (14):

14.	fasa	fasana	fasisa	fasela
	rata	ratana	ratisa	ratela
	bua	buana	buisa	buela
	sheba	shebana	shebisa	shebela
	matha	mathana	mathisa	mathela
	lahla	lahlana	lahlisa	lahlela

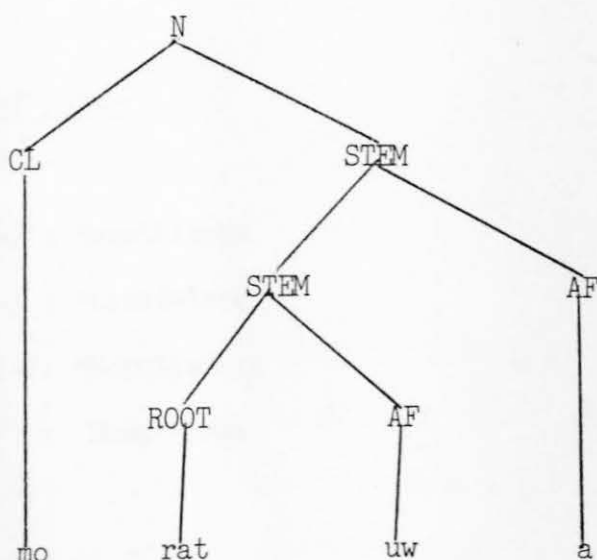
The above in a way indicates or accounts for the fact or the minimum usage of the reversive, Hence very few deverbates formed using this extension affix are found in the language.

2.3.1.5 The passive affix /-w-/ or /-uw-/

Syntactically, where the verb occurs with a direct object (DO), the DO is placed in sentence initial position. In other words, the syntactic positions of NP1 and NP2 are reversed.

Using this affix, deverbatives can be formed especially with transitive verbs. Example (15) below illustrates a deverbative formed using this extension.

(15) moratuwa (loved one)



It should be mentioned at this stage that all Sesotho deverbatives formed using the passive extension as one of the morphemes, the resulting form will always take an [a], a low, mid vowel as its suffix as compared to the agentive [i] that is taken as the suffix by forms using other verbal extensions. The suffixes will be further discussed in 2.3.4.

### 2.3.2 Combinations of extensions

This section deals with the question of rules that govern the combinations of certain extensions and the rejection of others. Where the reflexive morpheme is involved, such morphological structures will be excluded and discussed in Chapter 3.

Below (16) I am going to list all combinations. The ungrammatical ones will be indicated with an asterick.

#### (16) (i) Combinations of /-is-/

/-is-/ + /-an-/ : Bamathisani

/-is-/ + /-el-/ : \*Bamathisedi

/-is-/ + /-oll-/: \*Morutisolli

/-is-/ + /-w-/ : Bamathiswa

#### (ii) Combinations of /-an-/

/-an-/ + /-is-/ : \*Baratanisi

/-an-/ + /-el-/ : \*Baratanedi

/-an-/ + /-oll-/: \*Baratanolli

/-an-/ + /-w-/ : \*Baratanwa

#### (iii) Combinations of /-el-/

/-el-/ + /-an-/ : Bangwathelani

/-el-/ + /-is-/ : \*Bangwathelisi

/-el-/ + /-oll-/: \*Bangwathelolli

/-el-/ + /-w-/ : Bangwathelwa

(iv) Combinations of /-w-/

/-w-/ + /-an-/ : \*Moratuwana

/-w-/ + /-is-/ : \*Moratuwisi

/-w-/ + /-el-/ : \*Moratueli

/-w-/ + /-oll-/: \*Moratuwolli

(v) Combinations of /-oll-/

/-oll-/ + /-an-/ : \* Motlamollani

/-oll-/ + /-is-/ : \*Motlamollisi

/-oll-/ + /-w-/ : \*Motlamollwa

/-oll-/ + /el-/ : \*Motlamollela

It is worth mentioning that the ordering of extensions in a structure is also important. The combination of acceptable structures (verbal extensions) also allows a particular extension to be followed by another but not the latter to be followed by the former.

This can best be illustrated with /-is-/ and /-an-/. The causative always precedes the reciprocal in a structure and not vice-versa.

### 2.3.3 Impersonal deverbatives

Impersonal deverbatives are nouns derived from verbs but have nothing to do with the doer (agent) of the action. They are characterized by two factors:

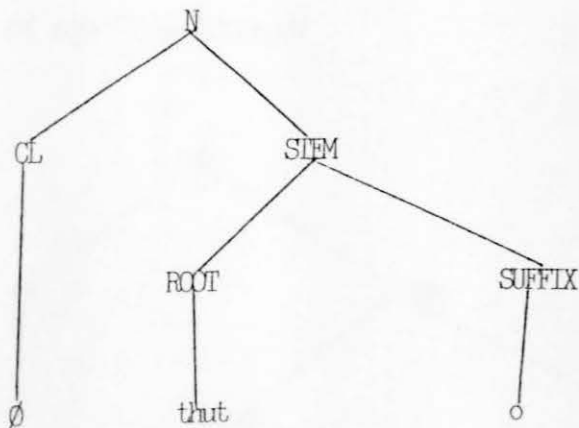
(i) They do not require class prefixes.

This means they do not take a specifier.

(ii) They do not take the agentive suffix -i-.

Example (17) below illustrates a simple impersonal deverbative formed from a verbal root and a suffix. The suffix is the head and it subcategorizes for the root.

(17) Thuto (lesson)

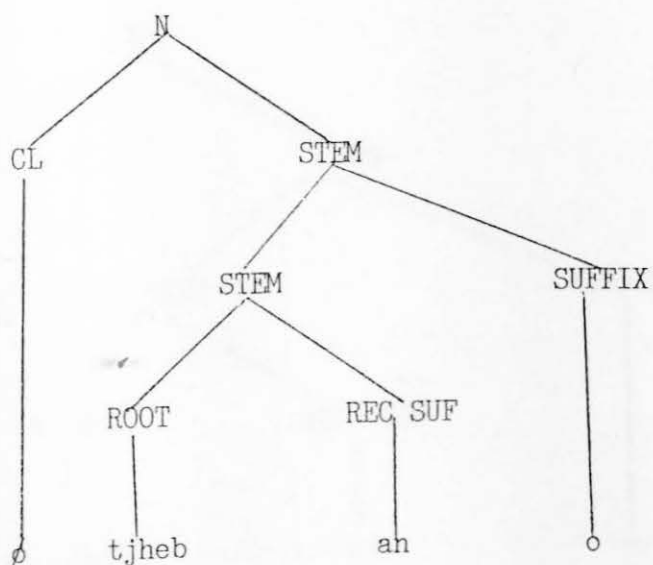


Verbal extensions can also be inserted in the formation of these nouns. Examples 18 (a -d) illustrate the different verbal extensions which were discussed under 2.3.2.1 - 2.3.2.5 and now used in the formation of these nouns.

(18) a. The reciprocal /-an-/.

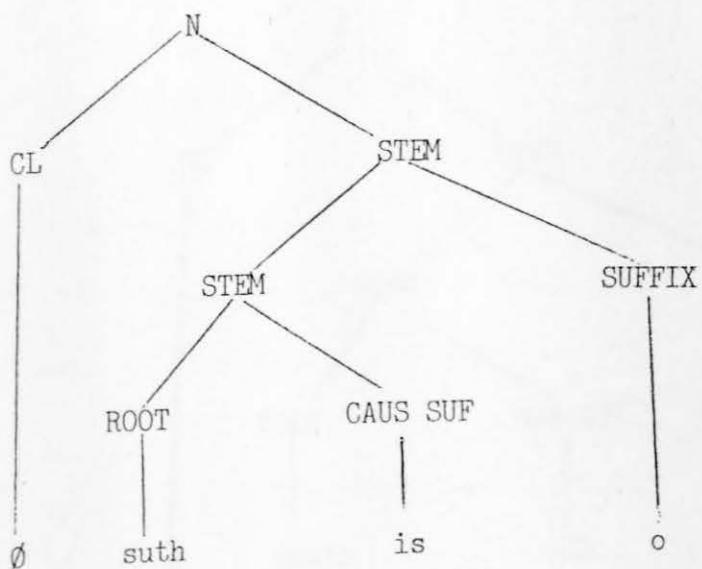
Tjhebano (the act of looking at one another)





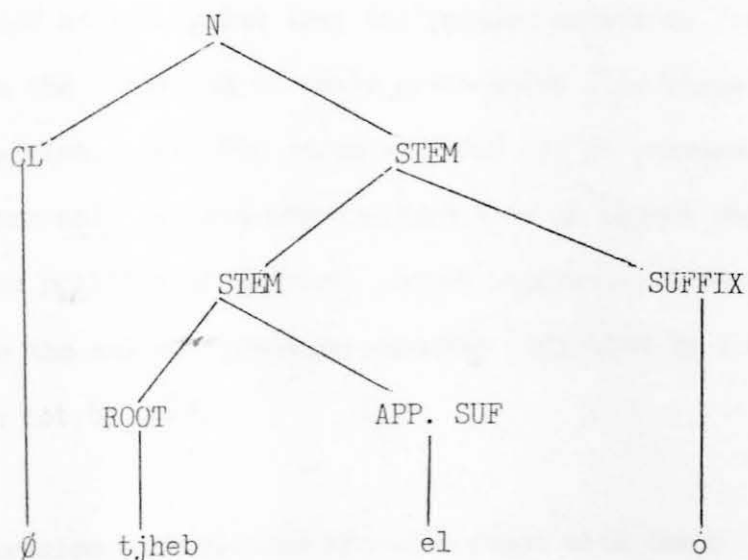
b. The causative /-is-/

Suthiso (the act of shifting things)



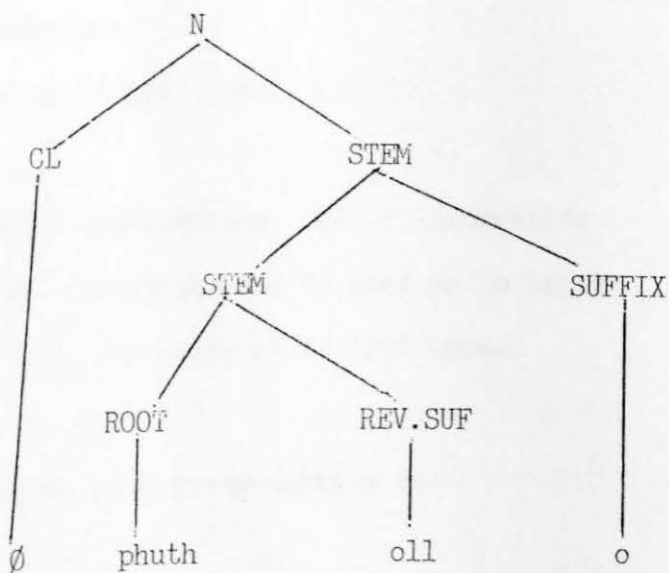
c. The applied /-el-/

Tjhebelo (the act of looking for someone)



d. The reversive /-oll-/

Phuthollo (the act of unwrapping)



Examples 18(a-d) clearly indicates the claim made before. No class prefix is seen and the suffix -o is used instead of the agentive -i.

It should be mentioned at this point that the passive extension /-w-/ has not been used in the formation of these nouns as in (15) above. The reason for the exclusion of this morpheme /-w-/ is, as previously mentioned, that it can only be used where a verb have an object which should be used in the position of subject. Since impersonal deverbatives do not accommodate the subject position normally indicated by a CL, then the -w- morpheme can not be used.

Different verbal extension combinations are also found with these structures. Only possible combinations will be illustrated here in (19) below.

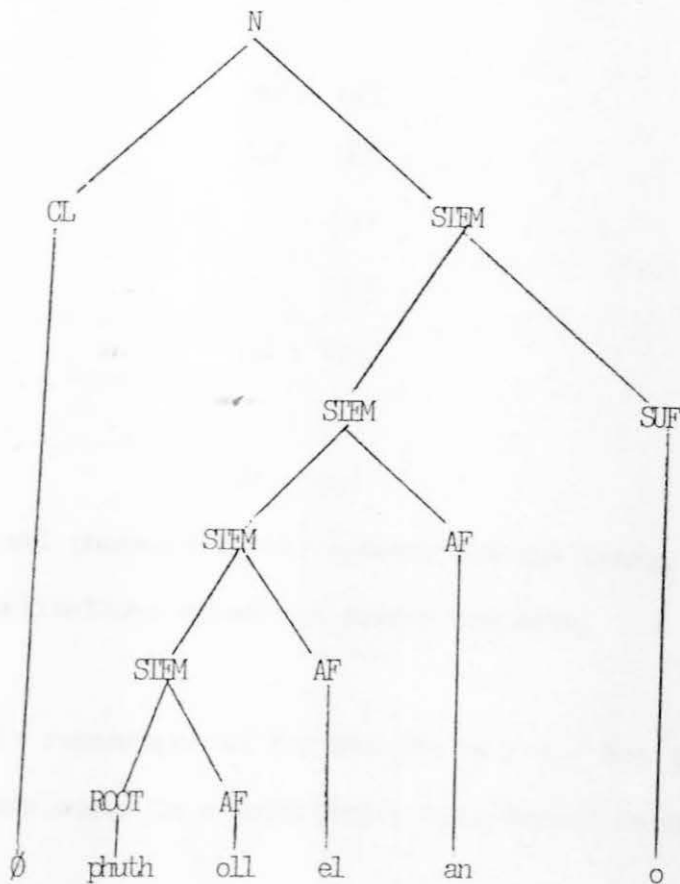
- (19) (i) /-is-/ + /-an-/ as in Tjhebisano  
(ii) /-el-/ + /-an-/ as in Tjhebelano  
(iii) /-oll-/ + /-el-/ + /-an-/ as Phuthollelano.

These are grammatically acceptable combinations. It is interesting to note that more than two verbal extensions can be used as in (iii) above. Let us briefly look at this structure as in (20) below.

"Phuthollelano" with the meaning as used syntactically in:

Phuthollelano ya difuba ke ntho e ntle. (Sharing of secrets is appreciated).

(20)



The above example (20) clearly shows that the word can be expanded and infinitive. The stem (bar 1) also dominates the root (bar o).

#### 2.3.4 The noun suffix

In addition to the occurrence of noun class prefixes, Sesotho also have noun suffixes. These occur especially in the formation of agentive nouns in most Bantu languages.

There are five underlying vowels in Sesotho. These however, correspond to seven phonetic realizations as seen below:

/a/ : [a]  
/e/ : [ɛ]  
      : [e]  
/i/ : [i]  
/o/ : [ɔ]  
      ; [o]  
/u/ : [u]

The underlying vowel phonemes appear between oblique lines, while phonetic vowel realizations appear in square brackets.

The agentive suffix reconstructed for Sesotho is /-i-/ but the actual form that may occur in a deverbative will depend on the form constructed.

As mentioned, the agentive suffix is "-i-" a high front vowel and "a" a mid low vowel for deverbatives formed with the passive verbal extension used whereas for impersonal deverbatives the suffix "-o-" is found.

#### 2.3.5 SUMMARY

Just as class prefixes play an important role in the formation of non-derived nouns, they also feature in deverbatives especially if one concentrates on personal deverbatives. It is these affixes (CL) that help to change a verb to a deverbative though not overlooking the importance of the suffix.

Verbal extensions in Sesotho serve not only to extend the morphological structure of roots but also its semantic and syntactic features.

The combination of different extensions in the formation of deverbatives highly depends on the meaning of the particular extensions hence the unacceptability of certain combinations in a word.

CHAPTER 3

THE STRUCTURE OF THE REFLEXIVE DEVERBATIVE

3.1 INTRODUCTION

This chapter deals with the reflexive deverbative only. Reflexive deverbatives are a type of deverbatives consisting of a class prefix, the reflexive morpheme -i-, a verb root and an agentive suffix -i-.

I will also be looking at the different verbal extensions discussed in chapter 2 with the aim being to discover those that can be used coupled with the reflexive morpheme.

Lastly, I will be looking at the different phonological changes involved and how these impact on the morphology of the structures.

3.2 SIMPLE REFLEXIVE DEVERBATIVES

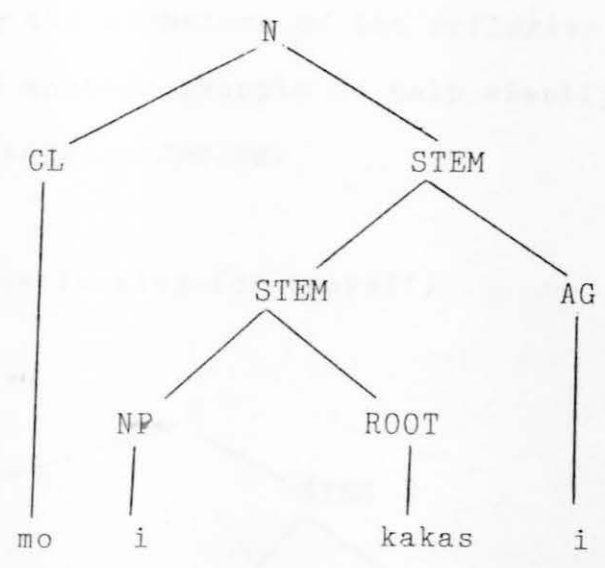
Simple reflexive deverbatives are a type which takes only the class prefix, the reflexive morpheme, the verbal root and the agentive suffix without any other verbal extension. Their structure can be represented as

[CL + REFL + VR + SUF]

The agentive suffix is still the head since it is the rightmost affix and subcategorizes for the root.

Example (21) illustrates this:

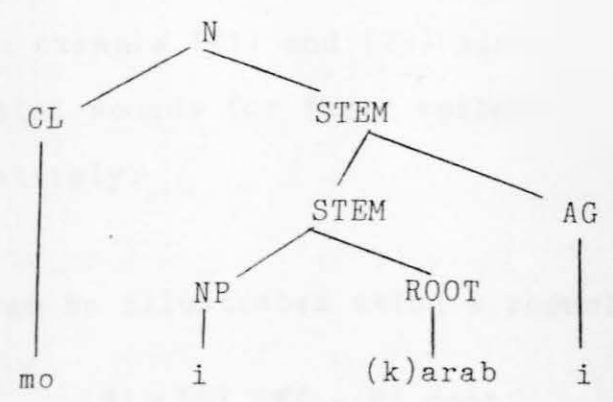
(21) Moikakasi (snob)



As example (21) illustrates, the process of morpheme or word incorporation is fundamental in the case of the reflexive morpheme. In short, a reflexive morpheme is like an object incorporated into the verb.

I am going to cite another example of a simple deverbative with the aim of illustrating a different structure to that in (21) as will be explained below:

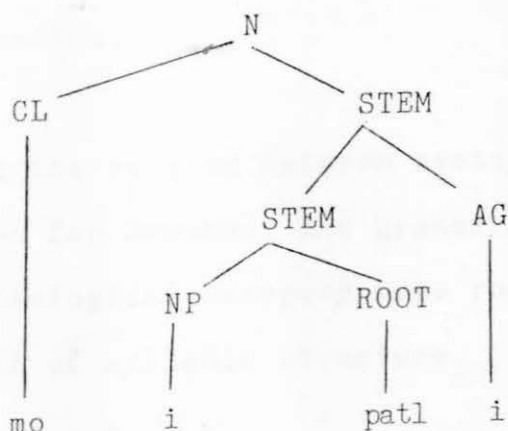
(22) Moikarabi (one who answers oneself)





The reflexive morpheme is regarded as the prefix since it preceeds the verbal root. To help us look at the phonological changes affecting the structure of the reflexive deverbative, I will again cite another example to help clarify the explanation of changes occuring.

(23) moipatli (one looking for oneself)



Comparing the three examples (21,22,23), two distinct phonological changes are seen

In example (22) a '-k-' sound occurs between the reflexive morpheme and the verbal root '-arab-'. This occurs with all reflexive deverbatives whose verbal root has the initial sound being a vowel. The '-k-' sound inserted in example (22) does not occur with example (21) and (23) since the two do not have vowels as initial sounds for their verbal roots '-kakas-' and '-batl-' respectively.

The whole process can be illustrated using a phonological rule as below:

$$[\emptyset] \rightarrow [k] [\$/ - V] \text{ root.}$$

The differences in phonological behaviour can be explained in terms of the place that the affix occupy in word structure. Sesotho is a CV language. Even root morphemes which ordinarily can occur in word-initial position, naturally conform to the same constraint.

Affixes are subject to certain rules of segmental phonology (see Selkirk:1986). This can best be explained in terms of syllabification.

In specifying the mapping between syntactic and phonological representation for Sesotho, the grammar of Sesotho specifies that the morphological category type root is the domain for the assignment of syllable structure. (Also see Selkirk:1986).

The '-k-' appearing with these reflexive deverbatives does not form part of the reflexive affix (refer to structure 22) but appear as part of the verbal root so as to agree with the CV component of the language. The -k- cannot appear as a syllable on its own. Only vowels can be syllabic. All consonants are -syllabic.

Considering other affixes like verbal extensions used in the formation of deverbatives this phonological change does not occur. Syllable sensitive rules of phonology will definitely treat affixes in appropriately different fashions. Let us compare the deverbatives as in (24) below

(24) etsa > moiketsi - moetsi - baetsani

The syllable sensitive rule apply only where the reflexive affix is involved. Phonetically, the reflexive affix is a front, high vowel and verbal roots having a vowel initially makes the pronunciation of the two unacceptable. This is however not the case with the other two deverbatives "moetsi" and "baetsani" as seen in example (24) above. THIS THEN IS CONTEXT-DETERMINED PRONUNCIATION.

Considering then the phonological attributes of affixes, two distinct properties emerge.

- (i) The information concerning the pronunciation of the affix itself. This can be represented in the form of (exceptional) rule features.
- (ii) We have an idiosyncratic phonological property of affixes, that is, their phonologically unpredictable effect on their pronunciation of surrounding morphemes for, certain affixes trigger certain types of allomorphy in other morphemes. This rule triggering property must then also be expressed in the form of diacritic features associated with the affix in morphological structure. (See Selkirk 1986).

Example (23) illustrates property (ii) explained above. A morpho-phonemic sound change - strengthening is observed.

batla > moipatli (b > p)

The reflexive affix has an impact on the following sound.

The changes are completely regular in the sense that in the environment of a reflexive morpheme, the change associated with that sound applies. This then suggests that the changes are effected by rules and that the rules are morphologically governed. The rules are therefore phonological rules which are morphologically conditioned.

THE REFLEXIVE MORPHEME HAS THE ABILITY TO FURNISH SOME INSIGHT INTO THE DISTRIBUTIONAL PATTERNS OF OTHER MORPHEMES WITHIN SESOTHO WORDS AS WELL AS THEIR PHONOLOGICAL PROPERTIES.

Example (25) below indicates some sound changes occurring with the reflexive deverbatives. This has already been implied in example (23) but for the sake of clarity, I propose to use another set. Consider the examples in (25) below:

(25)	sotla	moitshotli	(s ~ tsh)
	lahla	moitahli	(l ~ t)
	shapa	moitjhapi	(sh ~ tjh)
	fapana	moiphapanyi	(f ~ ph)

Let us now look at the combination of the reflexive morpheme with other verbal extensions in the formation of reflexive deverbatives.

Examples 26 (i - v) illustrate these forms. The starred forms are totally inconceivable and thus morphologically unacceptable.

(26) (i) The reflexive + the reciprocal affix

\* Baikarabani

\* Baithusani

This combination is morphologically unacceptable. Semantically, the reflexive refers to an action done to oneself. This means the agent and the patient refers to the same individual. The reciprocal on the other hand refers to an action done by more than one person. The action is reciprocated between the patient and the agent. Thus, the two differs semantically and can thus not be combined as one morphological entity.

(ii) The reflexive + the reversive affix

moiphasolli

moitopolli

The combination is well-formed and acceptable. The agent which is also the patient undoes the action to himself.

(iii) The reflexive + the applied affix

\* moitsamaedi

Semantically, the applied morpheme denotes to perform the action on behalf of someone else (see Satyo 1985:167). This implies that the action is done for someone else which contradicts with the meaning of the reflexive. Therefore it (the combination) is unacceptable.

(iv) The reflexive + the causative affix

\* moithutisi

As mentioned in 2.3.1.2 the causative morpheme implies an action done involving two component situations the cause and its effect. Thus, it is morphologically impossible to combine this morpheme with the reflexive.

(v) The reflexive + the passive affix

\* moithutwa

The combination of the two is semantically impossible for the action is done by one on himself and the passive on the other hand refers to the change of roles between agent and patient.

### 3.3 Summary

Phonological rules play a very important role in word formation. Satyo 1985:17 explains phonology as the science of speech sounds and sound patterns. He goes on further to explain a sound pattern as:

- (i) the set of sounds that occur in a given language.
- (ii) the permissible arrangements of these sounds in words.
- (iii) the process of adding, deleting or changing sounds.

We have two components of phonology which are word level and phrase level. The former component involves processes that apply word internally. That means that phonological rules are postulated to be ordered among the word formation processes. The domains within which the phonological rules apply are isomorphic with the domains created by word formation rules.

A clear exposition of the interface between morphology, syntax and phonology has been demonstrated in this chapter. It has not been my intention to exhaust discussion on this interface. However, it is quite obvious that the phonological changes triggered by the presence of the reflexive morpheme in a deverbative has serious implication on the application of rules in the grammar.

CHAPTER 4

COMPOUND/COMPLEX DEVERBATIVES

4.1 INTRODUCTION

Compounding is a type of word structure made up of at least two constituent morphemes each belonging to different morphemes/words. The compound itself may belong to any of the categories.

My purpose is to focus on what I consider to be the essential features of Sesotho compounds, in particular deverbative compounds and their relevance to the theory of word-structure outlined previously.

4.2 COMPOUND/COMPLEX DEVERBATIVES (STRUCTURE)

Compound/complex deverbatives are nominals formed by attaching a class prefix to a phrase or a sentence. The string of words following the class marker in such words can contain anything found in a syntactic phrase: a verb and object or even the components of a sentence (See Mchombo 1989:3).



Following Mchombo 1989:4 "class markers take syntactic phrasal complements of the type VP or IP, although they may form a phonological word only with an initial part of that phrase".

The process of forming new nouns in this manner is very typical in Sesotho and other languages of the family. It is very common in Sesotho praise poetry as can be illustrated in example (27) below:

- (27) Matlisalesedi ka hara lefifi  
Letswele la mme, seotlamaseya  
Melodi ya tsona matsikinyatsebe  
Ke dikgakgamatso, mahlokatekanyo

(The one who brings light in darkness  
Mother's breast, a feeder of children  
Their loudness its a miracle, which cannot be measured)

From the poem: Moratuwa: Dipjhamathe: B.M. Khaketla.  
The underlined are compound nouns formed by class prefixes attached to a VP. Parts that are clearly VPs in (27) above are:

-tlisalesedi, -otlamaseya, -tsikinyatsebe and  
-hlokatekanyo. The VR are tlisa, ota, tsikinya and hloka. All these are verbs requiring an object. To all these VPs, class prefixes have been added.

A common phrase/idiomatic expression that is usually used in Sesotho indicating clearly a compound formed from a class prefix and an IP is:

(28) ke ngwana wa setsoha le pelo ya maobane

"wa" is a possessive concord (o + a) and the category following this concord should refer to the possessor. Thus, "setsoha-le-pelo-ya-maobane" then is a compound noun referring to the possessor and formed by a class prefix "se-" and IP "tsoha le pelo ya maobane".

It is the task of this chapter then to analyse such structures. The above examples are what I call compound deverbatives. There are of course other compound nouns which do not involve heads, that are not headed by lexical items that are +verbal, -nominal. Let us compare example (27) and (28) with example (29) below:

(29) Kwena sefate sa bewa monateng

Sa hlongwa ke Motete, Madibamatsho

(Dipjhamathe: B.M. Khaketla)

The compound noun madibamatsho is not a deverbative since it is headed by categories which are not +verbal and -nominal, but by matsho which is -verbal, -nominal.

Let us now examine the formal properties of the formation of these deverbative compounds. Some concepts of syntax, principally the notion of "head" play a role in morphology though most principles are exclusively morphological and shows that morphology as a whole is a coherent system distinct from syntax with its own symmetries.

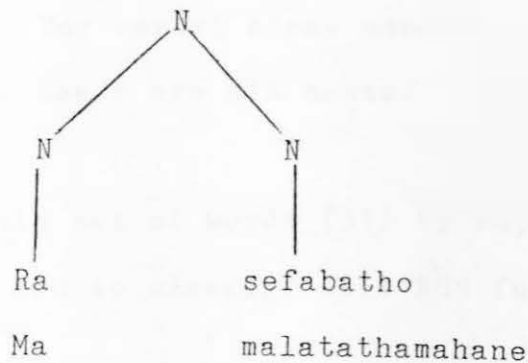
The theories of Selkirk and Williams are also based on the notion that words have heads just as phrases in syntax do. (See Selkirk 1986, Di Sciullo and Williams 1987). In syntax, the head of a phrase is identified as the item with one less bar level than the phrase or simply as the lexical daughter of the phrase.

This means then that the head in syntax can be identified by virtue of an intrinsic property - the number of bar levels. The head of the phrase is the only daughter of the phrase that is not a maximal projection. Such a definition of the head is however impossible for compounds since:

- (i) the members of a compound may be of the same level as the parent node.
- (ii) both members of a compound may be of the same category as the parent node. (See Khoali 1993).

To illustrate the above claims, example 30 (i) and (ii) will be used.

- (30) (i) Rasefabatho  
(ii) Mmamalatathamahane



There is then no way to know or identify which is the head of each compound because the two elements in each case are both of the same level, namely N.

Morphology then avails itself of a different means of identifying the head of a word, a contextual means. Williams proposes that this be done by a rule: RIGHT HAND HEAD RULE (RHR), which states that:

IN MORPHOLOGY WE DEFINE THE HEAD OF A MORPHOLOGICALLY COMPLEX WORD TO BE THE RIGHT HAND MEMBER OF THE WORD. (Di Sciullo and Williams 1987).

This means that in word structure, the head is defined in terms of the position of a constituent, not in terms of a relation between categories based on their respective types that is, levels and feature complexities.

In deverbative compounds, the role of the head is clear, it determines the category of the word.

Referring back to the examples given in (27), it becomes evident that the right hand constituents determines the category of the word. The verbal stems used appear on the left of the head. The heads are all nouns.

Let us also look at this set of words (31) to supplement examples used in (27) and to clarify this RHR further.

(31) lesalahae  
modulasetulo  
sewahodimo

It is important to mention at this stage the distinction between endocentric and exocentric compounds since certain words might create a problem following the RHR.

Endocentric compounds are those that have a head and that head is on the right and determines the category of the compound. Exocentric compounds on the other hand, have no head at all.

Examples (32) below may serve to illustrate exocentric compounds.

- (32) (i) boshwabotshwerwe  
(ii) letlalepepilwe

I have decided to cite two examples so as to clarify the notion of "head". Following the RHR the head is the right most member. This then means "tshwerwe" and "pepilwe" respectively are heads in our examples. Do they then determine the category of the compound? These then must be exocentric compounds.

The class prefixes serve as nominalizers for the two compounds in (32) above.

#### 4.3 THETA ROLE ASSIGNMENT

Looking at deverbative compounds, how do we guarantee that the correct NPs get matched up with the correct thematic roles?

This is determined by the syntactic properties of the construction in conjunction with the conditions on theta role assignment.

It is generally assumed that there is a form of biuniqueness condition on theta role assignment to the effect that each role is matched with one argument and each argument is in turn matched with one theta role.

One such biuniqueness is the theta criterion which states:

EACH ARGUMENT BEARS ONE AND ONLY ONE THETA ROLE, AND EACH THETA ROLE IS ASSIGNED TO ONE AND ONLY ONE ARGUMENT. (SELLS 1985).

Theta marking turns out to be the only one way in which theta roles can be discharged. (See Sproat 1935).

The subject position of compounds are theta positions. These positions are filled by class prefixes. It is therefore these class prefixes that receive the external theta roles assigned by the argument VP.

Only class prefixes that can be specifiers to noun stems, that can play the role of a doer or any of the thematic relations associated with the subject of the sentence participate in the formation of these structures.

In Sesotho, the affixes corresponding to the English -er (e.g. baby-maker) are noun class prefixes, affixes which are used in a much wider range of Sesotho morphological structures than just in forming deverbal nominals.

In Sesotho, the agent affixes are in fact nothing more than nominalizers. This is consistent with sproat's claims (Sproat 1985:290).

Semantically therefore, it is evident that the class prefixes receive whatever theta role assigned by the VP.

In example (33) below, the "se-" has the meaning of the doer of the action. The agent role thus lies in the "se-"

(33) sehatamarikwana

The class prefix thus selects a number of phrases as its argument. From the above example (33), the class prefix "se-" selects the VP "hatamarikwana" as its argument.

#### 4.4 SUMMARY

Compounds are grouped with words instead of phrases because compounds are formally similar to affixed words (Di Sciullo and Williams 1987:53). Compound/Complex deverbatives in Sesotho are thus either formed by a class prefix and a verb phrase or a class prefix and a sentence.

Word structures either compounds or affixed structures are headed (See Selkirk 1936:61). This in a way brings us to the difference between exocentric and endocentric compounds as discussed in 4.2 above.



The question of how theta roles, usually associated with argument - takers such as verbs are assigned to arguments have also been answered in this chapter. The subject position of compounds have been seen as theta positions and class prefixes receiving the theta roles assigned by the argument.

CHAPTER 5

SUMMARY

In this presentation we have exposed the internal structure of the deverbative in Sesotho. Some important observations have been made in the course of this study.

In chapter 2, we have looked at the structure of non-derived nouns as well as the deverbative. We have seen the importance of the class prefix in the formation of the noun in general. We have established that some nouns have a class prefix which have phonetic content whilst others do not have class prefixes with phonetic content. We also looked at the different inflectional suffixes which can be suffixed to nouns like the diminutive, augmentative and femininity.

With deverbatives, we have looked at simple deverbatives which consists only of verbal roots (including prefixes and suffixes). We have seen that the agentive suffix -i is very common in the formation of these structures.

Furthermore, we looked at five verbal extensions which can be included in the formation of these structures. Verbal extensions are here considered as explained by Satyo (1985) as affixes that serve to extend not only the morphological structure of a given root but also its syntactic and semantic features.

Some important issues have been raised in connection with the morphology of /-is-;/-an-;/-ol-;/-el-;/ and /-w-/. Extended verbs are closely bound both semantically and syntactically with their occurring NPs. These syntactic-semantic relations do not exist in isolation but should always be viewed as closely knit relations between the extended verbs and the relevant NPs.

Some verbal extensions have been seen as having a variety of meanings. These meanings are all related. The different combinations of these extensions have also been looked into. We have shown that it is possible to have more than one verbal extension in a deverbative structure. Those that cannot combine have also been indicated as morphologically ill-formed.

In chapter 3 the reflexive deverbatives have been discussed. The impact that the reflexive affix have on these structures as well as the phonological factor involved have also been looked into. It has been shown that the germ truth is that in the morphologization idea, instead of stating a constraint on underlying representations directly, it should be made derivative of a primary constraint on the operation of phonological rules, which limits certain rules to derived inputs.

The two components of phonology have also in a way been shown that is, word level and phrase level. The former component involves processes that apply word internally, that means phonological rules are postulated to be ordered among the word formation processes. The domains within which the phonological rules apply are isomorphic with the domains created by word formation rules.

In chapter 4, compound deverbatives have been looked into. Means of identifying the head of a compound/complex noun, the RHR have been explained. The claims made are in consistence with those by Di Sciullo and Williams (1987).

The assignment of theta roles have also been discussed. The theta theory, which is a syntactic theory have been discussed as explained by Sells (1985). The class prefix has been the affix to which external theta roles are assigned.

The x-bar theory has been followed in all structures. Evidence that a labelled tree representation is necessary for affixed words is provided not only by the intuitions of native speakers concerning the internal structure of words but also by processes which interpret these structures, be they semantic or phonological.

In Conclusion, mention should be made that structures used are a mere sample of the possible structures that characterize Sesotho deverbatives.

REFERENCES

- ARONOFF, M. 1976. Word Formation in Generative Grammar.  
MIT Press, Cambridge.
- BLOEMFIELD, L. 1970. Language. London, George Allen and unwin limited.
- BOKAMBA, E.G. (M.S) Manuscript received 1988  
Morphosyntactic characteristics
- CZAYKOWSKA - HIGGINS, E.W.A. 1988. Investigation Polish morphology and  
Phonology.  
Doctoral dissertation, MIT Press
- DI SCIULLO A.M. & WILLIAMS, E. 1987. On the definition of word. MIT Press  
Cambridge.
- DOKE C.M. & MOFOKENG S.M. 1957. Textbook of Southern Sotho Grammar.  
Longman, Cape Town.
- KHAKETLA B.M Dipjhamathe, Educum Uitgewers
- KHOALI, B.T. 1993. Sesotho tonal grammar. Doctoral dissertation.  
Illinois University
- KIPARSKY, P. 1982. Lexical Morphology and phonology. MIT Press.
- LYONS, J. 1981. Language and Linguistics: An introduction Cambridge  
University Press. Cambridge.

- MCHOMBO, S.A. 1989. On the syntax of Bantu Noun class prefixes.  
University of California
- MATTHEWS, P.H. 1981. Morphology: An introduction to the theory of word structure: Cambridge University Press
- NHLAPO, V. 1993. Noun Phrases in Xhosa. Masters Thesis, Bloemfontein.
- PESETSKY, D. 1982. Morphology and Logical form. Cambridge.
- POSTHUMUS, L.C. 1994. Word based versus root based Morphology in African Languages. South African Journal of African Languages. Vol. 14. Number 1.
- SATYO, S.C. 1985. Topics in Xhosa Verbal extension. Doctoral dissertation, Unisa.
- SELLS, P. 1985. Lectures on Contemporary Syntactic Theories. An introduction to Government-Binding theory. Generalized Phrase Structure Grammar and Lexical Functional Grammar. U.S.A.: Centre for the study of Language and information.
- SELKIRK, E.O. 1986. The syntax of words. MIT Press. Cambridge

SPROAT, R. 1985. On deriving the lexicon. Doctoral dissertation  
MIT. Press.

WARBURTON, I.P. 1975. On the boundaries of morphology and phonology: a  
case study from modern Greek. University of  
reading.