

A SYNTACTIC ANALYSIS OF ARGUMENT LICENSING IN LUTSOTSO

SENTENCE

BY

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DECLARATION

Declaration by the Candidate

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DEDICATION

This thesis is dedicated to my beloved husband, Walter Wumzee, my children, Kevin Ambwaya, Hellen Odera, Saul Masero and Faith Anyona, my late Father, Saul Osore, my late mother, Mama Hellen Omuhenje, and also to my late father – in law, James Mzee.

ABSTRACT

This is a study of the syntax and morphology of argument licensing in Lutsotso, a dialect of Luluhya language. Luluhya is an agglutinating language and therefore its morphology is relevant to syntactic derivation. Morphological processes determine the number of arguments of the verb while syntax determines the distribution of the arguments in the sentence. As such, there is interplay between morphology and syntax. Lutsotso verbs have derivational morphemes that cause valence change in a sentence. As for now, there is no comprehensive work dealing with the constraint that govern the order in which these morphemes co-occur in a Lutsotso sentence. Thus, this study seeks to investigate the argument licensing morphology in Lutsotso and show relevance of morphology to the syntax of the Lutsotso sentence. The objectives of this study are to: identify verbal morphology that license overt arguments in Lutsotso, determine the order of the argument licensing morphemes and the constraints that govern their occurrence and determine the licensing of null arguments in the sentence structure of Lutsotso. This study employs a theoretical framework which uses concepts from Chomsky's Government and Binding theory and the Minimalist Program and Baker's Mirror principle in the description and analysis of the Lutsotso sentence. The research adopted a descriptive research design that deals with naturally occurring phenomena using data which may either be collected first hand or taken from already existing data sources. The study area was Kakamega Central Sub County, in Kakamega county. The study population was Lutsotso native speakers. The study targeted a sample size of 21 Lutsotso native speakers. Judgmental sampling was used alongside the chain technique in the identification of informants who were native speakers of Lutsotso. Data was collected through informal interviews, participant and non-participant observation, translation tests and texts written in Lutsotso. The study established that the Lutsotso verb consists of more than one morpheme expressing a particular grammatical meaning, that the derivational morphemes modify the syntactic and semantic structure of the sentence of Lutsotso and that the valence increasing operations of the applicative, causative and instrumental affect the internal argument while the valence decreasing operations of the passive reciprocal and the reflexive have effect on the external and internal arguments. The study also revealed that Lutsotso verbs have the capacity to accommodate three arguments. Rich verbal morphology and strong agreement is quite evident in Lutsotso and points to the existence of null arguments (pro) in both subject and object positions whenever lexical NPs are dropped from the sentence. From this analysis, the following conclusions are made: that verbal derivations in the sentence of Lutsotso are systematic and rule governed, the valence adjusting morphemes co-occur morphologically on the same verb. Rich verbal morphology and strong agreement licence null arguments (pro) in the Lutsotso sentence. The distribution of the null argument (PRO) is thoroughly constrained in that it can only occur in subject position of infinitive clauses. The study recommends that further research should be done to investigate if there are specific markers for the instrumental and the applicative. The study recommends research on other empty categories such as traces and the parasitic gaps which the study did not handle due to scope. The findings of this study may not only shed new light on Lutsotso morphosyntactic structure but also be useful to those researchers interested in studies related to the syntax of Bantu languages in general.

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LIST OF SIGNS AND SYMBOLS

* Asterisk: indicates a deviant NP or S

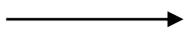
() Parenthesis: enclose optional element in a rule



Braces: enclose alternatives



Square Brackets: enclose syntactic features



The arrow means re-write the symbols on the left of the arrow as the string on the right

ABBREVIATIONS

AGRo	Agreement object
AGRop	Agreement object phrase
AGRS	Agreement subject
APPL	Applicative
ASP	Aspect
CAUS	Causative
CP	Complement
EST	Extended Standard Theory
FUT	Future
FV	Final vowel
GB	Government and Binding Theory
Inf	Infinitive marker
INST	Instrumental
LF	Logical Form
M	Mood
MP	Minimalist Program
NP	Noun phrase
O	Object
PASS	Passive
PF	Phonetic Form
PFI	Principle of full interpretation
REC	Reciprocal
REF	Reflexive
REV	Reversive
RT	Root verb
SM	Subject marker
SA	Subject agreement
SPEC	Specifier
STAT	Stative

Ti	trace instrumental
TNS	Tense
To	Object trace
Ts	Subject trace
Tv	Verb trace

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND TO THE STUDY

This study analyzes argument licensing morphology in Lutsotso sentence. The unit of analysis is the sentence. Lutsotso belongs to a language group known as Luluhya. In a broad classification, Luluhya belongs to the northern Bantu group. Bantu languages are classified by Guthrie (1948) into sixteen zones; namely, zone A, zone B, zone C, zone D, zone E, zone F, zone G, zone H, zone K, zone L, zone M, zone N, zone P, zone R, zone S and zone T. These zones are further subdivided into groups depending on peculiar features which are not necessarily confined to the zone in question. This means that in some cases, the groups placed in one zone display a much closer linguistic relationship than those placed in others. Guthrie categorizes Lutsotso under the HADGA group, a sub-group number 30, which falls under zone E. The HADGA group includes other Luluhya dialects such as the Wanga, Bukusu, Nyore and Samia. According to Sutton (1970), the Abaluyia people were known as Wakavirondo. This was because they lived to the North of Kavirondo gulf and were normally regarded as a group of “tribes” or ‘sub – tribes’. The term Luyia is used to refer to the Bantu group of peoples who live on the Kenya - Uganda border, whose Northern limit is Mt Elgon and who border the Kalenjin to the East, the Luo to the South, the Sebei and Pokot to the North and the Teso to the West respectively. According to Odhiambo (1977), the Luluhya are an amalgam of people with various origins. Luluhya language is made up of seventeen dialects as follows; Lutsotso, Lubukusu, Lutachoni, Lumarama, Lukisa, Lumarachi, Luwanga, Lusamia, Lukhayo, Lunyala (north), Lunyala (lake) Lukabras, Lunyore, Lwisukha, Lwidakho, Lutiriki and Lulogoli (Osogo,1966; Itebete, 1974). Osogo (1966) categorizes these dialects into four groups as follows: Northern dialects, Central dialects, Eastern and Southern dialects. Lutsotso, the focus

of this study, belongs to the Central dialects of Luluhya language which is spoken in Kakamega Central, Lurambi division, Kakamega County. The controversy whether Lutsotso is a language or a dialect still remains unresolved. However, some scholars like Itebete (1974), Osogo (1966) and Were (1967) classify Lutsotso as a dialect, and this study adopts the same classification. The operational definition of the term ‘dialects’ in this study are language varieties that share certain linguistic features that warrant them to be classified as members of one language. Therefore a dialect is a member of a language. It is a language variety spoken by a group of people of that language (Romaine, 1994). The home of the people who speak Lutsotso is known as Butso. According to the 2009 population census result, Butso is a home to 480,000 people. Butso location is divided into three regions: Butso North, Butso Central and Butso South. This study focuses on all the three regions of Butso. The study chose Butso because the native speakers who live there use Lutsotso as their main language of communication.

The researcher chose the study on argument licensing morphology in Lutsotso because Lutsotso is the first language for most children of Lutsotso native speakers (Murasi, 2000; Osore, 2009) and it is used in the formative stages of learning of the children of Lutsotso native speakers. In relation to argument licensing, It is important for the children to know the impact of the various morphemes on the Lutsotso sentence and how the arguments are arranged; for example in a passive sentence, an active, applicative sentence among others. It is therefore important for the language to be codified for educational purposes. According to Anderson (1992) codification entails establishing the phonological, morphological, syntactic and semantic structure of a language. Syntax as an aspect of the structure of a language, determines the structural position in which lexical items can occur. According to the language policy in Kenya, the language of the catchment area which happens to be the mother tongue for most children is used as the medium of instruction in lower primary classes (Republic of Kenya Report, 1999,

popularly known as Koech Report). In this respect, Lutsotso is used as a medium of instruction in lower primary classes in areas where Lutsotso is spoken. Despite the crucial role that the language plays in the lives of its users, as for now, from the research carried out (Osogo, 1966; Angogo, 1983; Murasi, 2000; Nurse & Heine, 2000; Osore, 2009) there is no comprehensive work dealing with the argument licensing morphology in the syntax of Lutsotso. This study also chose to investigate argument licensing in Lutsotso sentence because the researcher is a native speaker of Lutsotso. Nurse and Heine (2000) have revealed that the search for truth in all African languages has been slowed down by the small size of the group of scholars who have worked on them, the many languages involved, the poor documentation for most of them and the long standing interaction between adjacent languages. Nurse and Heine (2000) further add that the quality and quantity of documentation for African languages ranges from fairly high to nil. This is because no African language has been documented or analyzed like the better researched European or Asian languages. For most African languages, the documentation consists of an inadequate grammar and an analysis of part of the language; article or two. These studies by Nurse and Heine make reference to individual languages when giving illustrations. However, there is no illustration from Lutsotso or Luluhya dialects in general apart from Chichewa of Malawi and Swahili of East Africa that fall in the same family with Lutsotso. Moreover, the studies by Nurse and Heine make no reference to the order of the argument licensing morphemes and the constraints that govern their occurrence in Lutsotso or any other African language. This leaves a gap that the current study will fill. All the same, Lutsotso dialect of Luluhya language is not an exception to this situation of inadequate documentation as Nurse and Heine (2000) have observed. Furthermore, being used as a medium of instruction, Lutsotso needs to be well documented and its teaching based on sound research. Lutsotso though adopted for instruction, the order in which suffixes that license arguments in Lutsotso co-occur in a sentence of Lutsotso and the constraints that govern their

occurrence has not been adequately researched on and this leaves a gap in knowledge that the current study intends to fill. In an attempt to fill this gap and contribute to the description and documentation of African local languages, the current study seeks to determine the order of argument licensing morphemes and the constraints that govern their occurrence in the sentence structure of Lutsotso.

1.1.2 Lutsotso verbal structure

Lutsotso is typologically classified as an agglutinating language since it attaches morphemes together to form a word. The Lutsotso verb consists of more than one morpheme expressing a particular grammatical meaning (Murasi, 2000). Lutsotso verbal structure consists of the verb root and the final vowel as in the word *rem-a* (cut). Appleby (1961) studied Luluhya language in general. Appleby's work is pedagogic in nature having been written for people who were not native speakers of Luluhya but were keen on learning it. It mainly concerns itself with pronunciations, parts of speech and tense. Its coverage of syntax is quite inadequate. Besides, no theory is used as a guiding framework for description. Appleby's work does not focus on Lutsotso dialect but looks at Luluhya in general. Further to this, Appleby does not focus on verbal morphology that license arguments in the sentence of Luluhya language where Lutsotso is included. It is important to have this gap in knowledge filled because as Guthrie (1948) observes, it is impossible for one to give a comprehensive analysis of the syntax of any Bantu language without inevitably making reference to the morphology of the language. Appleby's work also does not show the morphosyntax interface. The current study will identify verbal morphology that license arguments in the Lutsotso sentence. The study will be specifically focused on Lutsotso and will be guided by the theory of GB, the Feature checking aspect of the minimalist program and the Mirror principle. The use of these theories will make the findings of this study more authentic because a theoretical framework is the basis of a research problem

(Mugenda, 2003). The interplay between morphology and syntax is demonstrated in the structure building process of the minimalist program.

This study is centred on the syntactic analysis of the Lutsotso sentence. Chomsky (1957), Huddleston (1976), Stockwell (1977) and Nurse and Heine (2000) observe that in the study of syntax, the concern is on how words and morphemes combine to form grammatical sentences, how these words are placed in a linear order and how they group into larger patterned units to form phrases and clauses and how these units relate to one another to form a hierarchy of structures. From the library research carried out, there is no comprehensive work dealing with argument licensing in Lutsotso dialect. Murasi (2000) analyzes the Lutsotso nominal morph and observes that the initial vowel in nouns is an independent morphological unit and not an integral part of the subsequent morph. In place names Murasi observes that the initial vowel is normally {E} but occasionally {I}. Whenever this occurs, it denotes the concept of place in general, the subsequent morph serving the purpose of expounding it further. In other nouns, that is to say, common nouns, the initial vowel can either be a, e, i or o. whenever this occurs, it denotes the concept of noun in general. Murasi (2000) limits himself on nominal morph and does not discuss verbal morphology and particularly suffix ordering in Lutsotso due to scope of his study. As such, this leaves a gap that the current study intends to fill.

Likewise, Osore (2009) observes that like other Bantu languages, Lutsotso has a subject-verb-object (SVO) basic word order. The noun constituent element of the simple sentence exists as a complex noun phrase with nominal properties represented by affixes as in the word *omu-ndu* (person). Osore further observes that Lutsotso NP has several phrase structure possibilities such as *buli omu-ndu* (every person), *omu-khana omulayi* (a good girl) that generate deep structures. The rules which are obligatory apply cyclically and preserve their linear order. However, Osore's work is limited to the internal structure of the noun phrase and does not focus on

licensing of null arguments , particularly empty category (EC) PRO which is a non – overt subject found in infinitival clauses and empty category (EC) pro which results from dropped subjects in the sentence structure of Lutsotso because of the scope of the study. As such, there is a gap left which the current study will fill. This study will determine the licensing of null arguments in the Lutsotso sentence. Nevertheless, the current study departs from Osore`s (2009) work in the following ways. Firstly, Osore (2009) utilized the standard theory as formulated by Chomsky (1965) and the theory of inflectional morphology (Bauer, 1983; Haspelmath, 2002) in the description and analysis of the Lutsotso Noun phrase while the present work employs the GB theory and the feature checking aspect of the MP (Chomsky, 1993, 1995). Secondly, Osore (2009) analyzes the constituents of the Lutsotso Noun phrase while the current work analyzes the licensing of null arguments in Lutsotso sentence structure. The unit of analysis for Osore`s (2009) work is the phrase while the unit of analysis for the current study is the sentence

1.1.2.1 The infinitive

Quirk (1985) defines an infinitive as a construction that is formed by `to plus verb`. The infinitive is the simplest form of the verb. Quirk says that the verb in its infinitive form does not form part of the tense in a sentence. Haegeman (1991) observes that the EC PRO is a covert pronominal subject that is base generated at the subject position of infinitival clauses. The distribution of the null argument PRO is thoroughly constrained in that it can occur only in the subject position of infinitive clauses. In addition, PRO must be ungoverned as required by the PRO theorem. Haegemann (1991) discusses the null argument (EC PRO) without making any reference to Lutsotso; a dialect of Luluhya language which is an African language. Moreso, Lilane Haegemann limits her examples to English and no reference is made to any African language where Lutsotso is included. No mention is even made to licensing of null arguments

in Lutsotso which is the focus of the current study. This leaves a gap which the current study intends to fill. The current study will therefore determine the licensing of null arguments in the sentence structure of Lutsotso.

The infinitive form in Luluhya language is formed by prefixing {-khu-} to form the stem of the verb and it usually occurs in the initial slot of the verbal structure. It is marked by the prefix {-khu} (Appleby, 1961: 30) as example (1) illustrates.

(1) Okhu – som – a

Inf – RT - FV

To read

Infinitive morpheme occurs immediately before the verb root as illustrated in (1) above.

1.1.2.4 Argument structure

Syntactic analysis of some Bantu languages like Chichewa (Baker, 1988; Mchombo, 2004) and Kiswahili (Nurse & Heine, 2000) reveal that the verb is the most central element in a sentence. Quirk (1997) also argues that the verb is a central element by adding that a verb phrase is not only the most central but also an indispensable part of a clause. The verbal morphology in Bantu languages of which Lutsotso is included encodes various aspects of grammatical information such as information pertaining to morpho-syntactic categories like tense and aspect, information relating to argument structure and thematic information associated with various arguments of the verb. As already mentioned, the most fundamental element of a sentence is the verb and there are dependent elements attached to it called arguments. According to the Mirror Principle (Baker, 1988), morphological derivations must directly reflect syntactic derivation. This principle shows that there is a certain order in which morphemes co-occur in a given construction. This means that the argument triggered by the

morpheme that comes first on the verb complex will come before another argument triggered by the morpheme that comes later on the verb complex. Hyman & Mchombo (1992) focuses on determinants of affix ordering in languages which exhibit multiple prefixes and suffixes using examples from Bantu languages such as Chichewa. Hyman & Mchombo (1992) give suffix ordering constraints for causative and applicative morphemes as {CAUS, APP} This means that when the causative and the applicative morphemes are on the same verb, the causative morpheme comes first followed by the applicative morpheme in Chichewa. Hyman & Mchombo (1992) discuss suffix ordering constraints in Bantu using examples from Chichewa and no illustration is made from Lutsotso, a dialect of Luluhya language. However, as for now, the constraints that govern suffix ordering in the Lutsotso sentence have not been adequately established. Ngonyani (1995) discusses typology of applicative constructions in Bantu and gives basic facts about this type of constructions. Among them, Bantu languages have an applicative morpheme {il} suffixed to the verb stem. Ngonyani's work uses illustrations from Kiswahili and Ndendeule; Bantu languages. Ngonyani's work does not use illustrations from Lutsotso, a dialect of Luluhya language which is also Bantu. Furthermore, the study does not discuss suffix ordering and the constraints that govern their occurrence in Bantu and no mention is made to Lutsotso a dialect of Luluhya language. As such this leaves a gap which the current study intends to fill. The constraints that govern the order in which suffixes co-occur in a Lutsotso sentence have not been comprehensively researched on. As such, this study will investigate on the existing gap in order to show the order in which these suffixes occur in Lutsotso sentence. The interplay between morphology and syntax is demonstrated in the structure building process of the minimalist program.

Payne (1997) refers to arguments as the participants and their semantic roles that are normally associated with a given verb. These arguments or participants are subjects, objects or complements in a given sentence. Arguments as used in this study refer to noun phrases in a

sentence (Miller, 1993). These arguments can increase or decrease depending on the type of sentence or participants involved. Payne's work concentrates on arguments and their semantic roles that are associated with a given verb. Payne uses illustrations from English language and no mention is made to Lutsotso dialect of Luluhya language which is an African language. Moreso, there is no comprehensive work dealing with argument structure that is licensed by verbal morphology in Lutsotso. As a result, this leaves a gap which the current study will fill. This study will therefore describe the argument structure licenced by verbal morphology in Lutsotso.

The term that is used to refer to the number of arguments that are permitted by the verb is valence. Crystal (1997) defines valency as a term derived from chemistry, and is used in linguistics to refer to the number and type of bonds which syntactic elements may form with each other as shown in example (2) from Luluhya language (Angogo,1983: 24)

(2) Papa ya- ir- a i- simba.

Father PST-kill-FV CL9 lion

Father killed a lion.

S V O

Sentence (2) has two arguments *papa* (father) (subject) and *esimba* (lion) (object). These two arguments have bonded with the verb *ira* (killed) to form a complete meaningful sentence. Normally, in the terminology of Government and Binding theory (GB) (Chomsky, 1981), the subject is referred to as the external argument since it is outside the verb whereas the object is called the internal argument since it is part of the predicate.

Katamba (1993) says that valence adjusting operations are common and almost a universal feature in verbal morphology. These operations are realized by derivation in many languages

although there are a few languages that show verb valence by inflection. Katamba (1993) asserts that theta roles are used to characterize transitivity. A transitive verb will always have more than one argument while an intransitive verb will have one argument or participant. Intransitive verbs such as 'run' which have one argument or valence are called univalent while transitive verbs like 'kick' which have two arguments are called divalent and verbs with three arguments are called trivalent verbs. However, Katamba's work limits itself to arguments and their theta roles, and transitivity/intransitivity using illustrations from English such as: *Fiona* (agent) *bounced* (verb) *the ball* (theme) *to Barbara* (goal). Katamba's work does not make any reference to Lutsotso which is the focus of this study. Katamba therefore does not focus on verbal morphology that license arguments in Lutsotso sentence. As such, this is a gap which this study will fill. This study will identify and describe verbal morphology that license arguments in the sentence of Lutsotso.

Mathews (1997) defines valence as the range of syntactic elements permitted by a verb or any other lexical unit. Pyne (1997) asserts that valence can be thought of as a semantic notion, a syntactic notion or a combination of the two. He further distinguishes between a semantic valence and a syntactic (grammatical valence) valence. In explaining what semantic valence is, he looks at the verb as a kind of 'scene' which is on stage and so has participants. The number of participants which the verb must have is the semantic valence of that verb. Grammatical valence (or syntactic valence) on the other hand is the number of arguments present in any given clause. Lutsotso verbs have derivational morphemes that cause valence adjustment in a sentence. This study analyzed the argument licensing morphology in the Lutsotso sentence structure with a view to showing that the syntax of Lutsotso sentence is a function of morphology.

This study analyzed verbal morphology that license arguments in Lutsotso sentence. Lutsotso is an agglutinating language and its morphology is relevant to syntactic derivation. A sentence of Lutsotso has morphemes which manifest themselves as affixes as in the sentence; *Ye-tsa* (he came). Mchombo (1999) says that verbal morphology in Bantu languages encodes various aspects of grammatical information. The verb prefixes encode information pertaining to morpho-syntactic categories such as negation, tense, aspect, agreement and modals.

The verb suffixes on the other hand encode information relating to argument structure and thematic information associated with the various arguments of the verb. The verbal complex in Lutsotso contains affixes as verbal forms in addition to the main verb. Apart from this, Lutsotso manifests the typical Bantu agglutinative structure where the verbal complex functions as a complete sentence. For example in *ba-rema* (they cut), the word *barema* appears like one word but it is a complete sentence of Lutsotso (Murasi, 2000). The morphological and syntactic components of grammar do not function in isolation but form a single interface of description in the verbs of Lutsotso. Lutsotso verbal forms are as such complex entities which can be equivalent to a whole sentence with a subject, object and a verb structure (Angogo, 1983; Murasi, 2000; Osore, 2009). This information gives an important basic foundation to the general understanding of the inflectional and derivational verb constituents necessary for data analysis.

Lyons (1969) observes that the sentence is the largest unit of grammatical description. It can be classified according to its structure into simple, compound and complex sentences. In traditional grammar sentences are classified into types by their function (as statements, questions, exclamations and commands) and secondly, according to their structural complexity (as simple, compound or complex). This study will analyze argument licensing morphology in the sentence of Lutsotso so as to contribute towards syntactic theory.

1.2 Statement of the problem

The focus of this study is on the argument licensing morphology of Lutsotso. In particular, it will investigate the consequences of argument changing morphemes on the syntax of overt as well as the empty categories. Lutsotso is an agglutinating language and its morphology is relevant to syntactic derivation. According to the Mirror Principle, morphological derivations must directly reflect syntactic derivations. This principle shows that there is a certain order in which morphemes occur in a given construction. In other words, the argument triggered by the morpheme that comes first on the verb complex will come before another argument triggered by the morpheme that comes later on the verb complex. Lutsotso verbs have derivational morphemes that cause valence change in a sentence. As for now, there is no comprehensive work dealing with the constraints that govern the order in which these morphemes co-occur in a Lutsotso sentence. This study therefore will investigate the Lutsotso verbal morphology with a view to showing that the syntax of the Lutsotso sentence is a function of morphology.

1.3 Research questions

- 1 How does verbal morphology license overt arguments in Lutsotso?
- 2 What constraints govern the order and occurrence of the argument licensing morphemes in Lutsotso?
- 3 How are null arguments licensed in Lutsotso?

1.4 Objectives of the study

This study aims at analyzing and describing the argument licensing morphology in Lutsotso.

The specific objectives are to;

1. Analyze verbal morphology that license overt arguments in Lutsotso.

2. Determine the order of the argument licensing morphemes and the constraints that govern their occurrence.
3. Determine the licensing of null arguments in Lutsotso sentence structure

1.5 Scope of the study

This study aims to investigate argument licensing morphology in Lutsotso. There are many syntactic derivations in the language but the study will concentrate on the applicative, instrumental, stative, reversive, causative, passive, reciprocal and the reflexive. The reason for this scope is that the named verbal extensions affect the syntax of the Lutsotso sentence. The study will also investigate the licensing of null arguments, particularly EC PRO and EC pro. The change in valence of the verb that is motivated by morphology will also be the focus of this study.

The geographical scope of this study shall be Lurambi division in Kakamega central sub-county in Kakamega county of Kenya.

1.6 Justification of the study

Gregersen (1977) observes that of all aspects of grammatical analysis, syntax is one of the under represented for African languages. This observation about African languages is true of Lutsotso, hence the need to provide a theory-based account of the language.

Among the studies conducted on Lutsotso are: Murasi (2000) researched on Lutsotso nominal morph and observed that the initial vowel in nouns is an independent unit and not an integral part of the subsequent morph. Osore (2009) researched on the Lutsotso noun phrase and the study revealed that the noun (N) constituent element of the simple sentence exists as a complex noun phrase with nominal properties represented by affixes. Currently, there is no comprehensive work dealing with the argument licensing morphology in the Lutsotso syntax.

This study therefore seeks to fill this gap in knowledge in order to provide a new perspective to the study of the language. The findings of this study will shed new light on not only the study of Lutsotso, but be useful for those researchers interested in studies related to the syntax of Bantu languages.

In addition, this study will contribute to knowledge by revealing the richness and internal complexity of Lutsotso language. Similarly, a good description of the valence changing morphology of Lutsotso will provide useful insight into syntactic theory. This study will be useful in providing material for further syntactic research on Lutsotso and other Bantu languages

1.7 Theoretical Framework

The investigation into the Lutsotso sentence which is the concern of this study proceeds within Noam Chomsky's (1981) Government and Binding theory (GB), the Minimalist Program by Chomsky (1995) and Baker's (1988) Mirror principle's tenet which states that morphological derivations must directly reflect syntactic derivation and vice versa . This is a theoretical framework because the Minimalist program has not been established as a theory as it is still being tested to see if it can fit. In other words, it has not been confirmed as a theory.

Essentially GB is Chomsky's view of Universal Grammar (UG). In 1957 Chomsky published a book called *Syntactic Structures* which introduced a generative grammar. According to Chomsky, a grammar should be more than a description of old utterances. It should take into account possible future utterances. Anyone who knows a language must have internalized a set of rules which specify the sequences permitted in their language. According to Chomsky a linguist's task is to discover these rules which constitute the grammar of the language in question. Chomsky uses the word grammar interchangeably to mean on the one hand, a person's internalized rules, and on the other hand a linguist's guess as to these rules. Chomsky

(1957) posits that a grammar is a system of finite rules that can generate infinite number of well formed sentences. Chomsky (1957) has not only introduced the era of generative grammars but he has also redirected attention towards language universals. Chomsky points out that all humans are rather similar; their internalized language mechanisms are likely to have important common properties. Chomsky argues that linguists should concentrate on finding elements and constructions that are available to all languages whether or not they actually occur, and specify universal bonds or constrains within which human language operates. Chomsky suggests that the constraints on human language are inherited ones and that human beings may well be pre-programmed with a basic knowledge of what languages are and how they work. Chomsky has given the label Universal Grammar to this inherited core and he regards it as a major task of linguistics to specify its components. The features of Universal Grammar (UG) include the following:

(a) Language is seen as something in the individual mind of every human being.

(b) Universal Grammar deals with general properties of language found everywhere rather than the idiosyncrasies of a particular language such as English or Korean. UG deals with what is common to human beings not what distinguishes one person from another.

(c) Knowledge of language is based upon a core set of principles embodied in all languages and in the mind of all human beings. It does not matter what language one speaks; at some level of abstraction all languages rely on the same set of principles.

(d) The speaker's knowledge of language must be able to cope with sentences that it has never heard or produced. That is, I-language competence must deal with the speaker's ability to utter or comprehend sentences that have never been said before. Having mastered a language, one is able to understand an indefinite number of expressions that are new to one's experience,

that bear no simple physical resemblance to the expressions that constitute one's linguistic experience (Radford, 1988).

(e) All internalized languages (I- languages), speakers have a mental lexicon, that is, a set of words which they can use. The Internalized-language and the mental lexicon make available an infinite set of sentences some of which will never be used because they are too long or too complex or too absurd (Radford, 1988).

Chomsky in his book *Syntactic Structures* claimed explicitly that PS rules must be seen as different from transformations. The underlying motivation for this difference was based on the fact that Chomsky saw these two elements as being functionally distinct in that according to him, PS rules generated the base syntactic structures whereas the transformations mapped these structures to other distinct structures. This idea led to the emergence of Transformational Generative Grammar (TGG).

The refinements in the Transformational Generative Grammar (TGG) theory led to the emergence of Standard Theory (ST) in 1965 in Chomsky's *Aspects of the Theory of Syntax*. This was also a modular theory which claimed that a grammar consists of different components. First, the syntactic component in the Standard Theory has the base component and the transformational component (Chomsky, 1965). The former consists of the lexicon and the categorial subcomponent. The base component generates deep syntactic structures (basic strings of sentences) which are then fed to the semantic component for semantic interpretation. Deep structures are then mapped by the transformational rules (in the transformational component) to the surface structures which are then submitted to the phonological component for phonetic interpretation. This theory was later modified to become the Extended Standard Theory.

The Extended Standard Theory (EST) emphasized on the importance of the interpretive rules and claimed that syntactic structures were submitted to semantic rules for interpretation. Proponents of the Extended Standard Theory claimed that interpretive rules apply to superficial syntactic structures as well as deep structures (Newmeyer, 1986). EST works under the assumption that the syntactic component of grammar generates infinite set of abstract structures [S-structures] which are then assigned a representation in phonetic form (PF) and logical form (Chomsky,1981). Thus, the concern of any grammatical description is relating the sound and its meaning.

More adjustments to the EST were made thereby giving rise to Government and Binding Theory (GB) which brought about principles and parameters (Chomsky, 1981, 1982; Cook & Newson, 1996). GB theory is based on the assumption that syntax is modular in character. These modules are separate, but never independent and different modules operate at different levels of syntactic representations. Such modules are Government, case, bounding, binding, theta, x-bar and control theory (Chomsky, 1981; Cook & Newson 1996). The concept of government as proposed in the GB theory generally deals with the structural relationship between the element governing another element (governor) and the element that is subject to government (governee). On the other hand, the notion of binding is the grammatical relationship within a sentence whereby two or more grammatical forms refer to a particular identical entity. So in GB terms, the two are co indexed (Chomsky, 1981). Therefore binding theory is concerned with connections among the noun phrases that have to do with semantic properties as dependence of reference, including the connection between a pronoun and its antecedent (Chomsky, 1982). Binding theory strives to demonstrate that there is an intimate relationship between lexical items and grammar and that the two are inextricably bound to each

other. Chomsky's 1981 ideas form the basis of the present analysis since its upon the basis of these ideas that Government and Binding theory was formulated.

1.7.1 Government and Binding theory

The study chose to use GB theory because it has a mechanism which determines the structural representation of categories known as the x-bar module. This module of GB theory is relevant in describing the argument structure licensed by verbal morphology in Lutsotso. The present study deals with argument licensing morphology in Lutsotso, and as such, the relevance of the theta module of GB theory to the study lies in the ability of the theory to account for relationships between verbs and their arguments (Chomsky, 1981).

As Chomsky (1981) supported by Cook (1996) says, in GB, grammar is a continuous interaction between components and sub-theories embodying different principles and parameters. In other words, grammar is viewed as best described by a set of interacting components and so called modules. GB then is essentially modular approach to the study of syntax. The modules that GB assumes are X-bar, theta (θ), case, Government, control, binding and bounding. Below is a brief outline of their nature.

1.7.1.1 X-bar theory

Chomsky (1981) defines the X-bar theory as a mechanism which determines the structural representation of categories. The principle which ensures that lexical properties of lexical items are accurately reflected in the structural representation is called the projection principle.

The X-bar theory came into existence as a result of the need to solve the problem of the redundant nature of rules experienced in the Extended Standard Theory (EST) (Chomsky, 1981). It was observed that PS rules simply duplicate information explicitly specified in subcategorization frames. Most of the information about the constituent structures of phrasal

categories could be derived from or read off the subcategorisation frames of the corresponding lexical categories. Chomsky (1981) observes that the constituent structure of phrasal categories is determined by the subcategorisation properties of the terminal category. For example, the structure of the VP including a transitive verb such as 'hit' will consist of V and NP, and the intransitive verb such as 'smile' may consist of V only. This seems to be an implicational relationship between subcategorisation frames and PS rules as illustrated in (3) with respect to verbs (Chomsky, 1981).

(3a) hit [-NP] -----3a` VP-----V NP

(3b) Smile [-] -----3b` VP ----- V

Each of the subcategorisation frames in the left column (3) implies the PS rule in the right column. The subcategorisation frame of hit in (3a) on the left for example implies the PS rule in (3a`) on the right while the subcategorisation frame of smile in (3b) on the left implies the PS rule in (3b`) on the right. The observed implicational relationship between subcategorisation frames and PS rules extends to other lexical categories: nouns, adjectives among others. In view of this, there is a sense in which PS rules simply duplicate information explicitly specified in the subcategorisation frames.

This duplication was undesirable in that it made the grammar unnecessarily complicated (Chomsky, 1981; Cook & Newson, 1996). Therefore, there was need to eliminate this duplication possibly by eliminating PS rules and the whole component of the grammar called the base component. The move to eliminate PS rules entailed the availability of an alternative mechanism which would determine the structural representation of lexical properties. Among other things, the mechanism will have to determine how complements are structurally represented in relation to the categories they modify. The alternative mechanism which determines the structural representation of categories is called the X-bar theory. Chomsky

observes that replacing PS rules with X-bar principles gets rid of redundancy of categorial information being stated both in the lexicon and in the phrase structure component. Under this view, the X-bar principles regulate a category neutral structure and categorial information enters as lexical items are inserted. In this way it is the lexicon that determines the specific properties of actual phrases through the notion of projection (Chomsky, 1981; Cook & Newson, 1996).

The X-bar module consists of PS rules describing the constituent structure of phrases and clauses. It provides principles of phrasal categories from lexical categories and imposes conditions on the hierarchical organization of categories in the form of general schemata (Chomsky, 1981).

X-bar therefore captures properties of all phrases, not just properties for a single type of phrase. It also bases the syntax on lexical categories that link with the lexicon.

In X- bar, a phrase must always contain a head of the same type so that a NP is headed by a noun, VP by a verb, PP by a preposition among others. Formally, this can be expressed as:

XP-----X.

This diagram shows that a phrase of the type XP is made up of a head which is also of type X. Where XP stands for any type of phrase such as noun phrase among others. X refers to any lexical category such as noun, verb, and adjective, just to mention a few. P stands for the word phrase. An important principle of the X- bar theory is the head parameter. Its concern is the position of heads in phrases (For example nouns in NPs, verbs in VPs, adjectives in APs etc.)

Consider the example (4) from Luluhya language:

(4) Omu-khasi a-ching - a omwa-ana

CL 1- woman SM-carry-FV CL 1 -baby

‘The woman carries a baby’.

In example (4), *omukhasi* (woman) is the specifier of the phrase in its respective maximal projection and occupies the initial position in the sentence. *Chinga* (Carries) is the head of the inflectional phrase (IP) in the sense that other elements (its complements) are dependent on it. *Omwaana* (baby) is the complement which the verb selects.

The principles that fall under the X-bar theory are the structure preserving principle, and the maximal projection.

(a)The structure preserving principle

This demands that the positions that are present at the D-structure level of representation be present at the S-Structure level of syntactic representation. For instance, NP positions remain NP positions. Chomsky (1981) supported by Berwick & Weinberg (1984) argue that if a verb subcategorizes for a direct object, there must be an element in the direct object position at any level of derivation to encode this subcategorization. This means that sub categorization properties must be reflected at all levels of representation. The structure preserving principle also has constraints on movement. One constraint which it imposes on movement is that phrasal projections must move into positions which are themselves labelled as phrasal projections. NPs, for example, must not move into positions dominated by lexical categories such as nouns. Heads must move into other head positions (Chomsky, 1981; Travis 1984). In addition, movement will have to respect syntactic categories. For example, NPs can move into NP position without a problem, but they will not be able to move into a position labelled AP (Chomsky 1981, 1982; Haegeman 1991).

(b)Maximal projection

The structural representation of every category includes a phrasal level that is XP. For example, the structural representation of V includes VP; the structural representation of N includes NP and so on. The phrasal level (XP) is called the maximal projection (of X) in the X-bar terminology. Every XP has an obligatory constituent. For example, VP has V as an obligatory constituent, NP has N as an obligatory constituent. In X-bar terminology, the obligatory constituent of the maximal projection is called the head of that maximal projection.

The X-bar module will be used in analyzing and describing the argument structure changing morphemes and the structure licensed by verbal morphology in Lutsotso.

1.7.1.2 Theta–theory

The primary concern of this sub theory is the assignment of thematic roles (theta roles) to NPs in a sentence to argument positions. It is believed that theta roles which include agent, patient (recipient) and goal are assigned as lexical properties.

An argument is an NP position within a sentence or NP, such as agent, patient and goal. The theta theory attempts to account for the relationship between verbs and their arguments. That is, it describes the functional relationship between parts of the sentence. For example, it states which role a participant is doing and to whom it is being done. Such roles are called theta roles or thematic roles. Given that each predicate has at least one theta role to assign, the relative distribution of predicates is established by the Theta Criterion, the most fundamental principle of theta theory (Chomsky, 1981; Epstein, 1991).

Theta criterion is a condition on representation. It has the function of ensuring that the thematic structures of lexical items are accurately reflected in structural representations such that each

theta role in the thematic structure is paired with an argument in the structural representation.

Theta criterion requires that:

1. All arguments must bear one and only one theta role.
2. All theta roles must be assigned to one and only one argument.
3. The number of arguments associated with a given lexical head usually corresponds to the number of theta roles the lexical head assigns (Chomsky, 1981; Haegeman, 1991).

Consider the example below from Luluyia language:

(5) Dina ya- hesi- a Mary eshi - tabu.

Dina CL 1-gave (PAST)-FV Mary CL 7 - book.

Dina gave Mary a book.

The NP Dina does the role of carrying out the action. This role is known as agent. The NP *eshitabu* (book) refers to the object affected by the action. It plays the role of patient. The NP Mary which refers to the person who receives the patient plays the role of goal. This example meets the requirement of the theta criterion as stated above. In sentence (5) above, each argument has been assigned only one theta role. The arguments in (5) are Dina, Mary and *eshitabu* (book). The argument, Dina has been assigned agent role, Mary has been assigned the goal role and *eshitabu* (book) has been assigned the role of patient.

Chomsky (1981) observes that the structural representation of argument/thematic structures gives rise to a typology of positions which turn out to play an important role in determining certain grammatical relations. Positions can now be classified as to whether they are A-positions (read argument positions) or A⁻-positions (read A-bar) positions. Chomsky (1981) defines A-positions as the positions where an argument can be found in Logical form (LF) representations. Complement positions of lexical heads are A-positions occupied by internal

argument of the lexical head. The subject of the clause (spec IP) is also an A-position. In example (5) the arguments Dina which is the subject of the sentence, Mary and *eshitabu* (book) which are the internal arguments are A-positions. A'-positions are the positions where a non-argument can be found in LF representations. They include spec, CP and adjoined positions. Adjoined spec, CP is usually filled with moved wh-phrases (non-arguments). Adjoined positions can either be filled by a moved category, as in the case of topicalised phrases and raised quantifiers (non-arguments) or base generated modifiers (non-arguments) as in the case of adverbs and adjectives (Chomsky, 1981).

Chomsky (1981) further states that θ -positions are the positions which are assigned a θ -role, thus, complement positions of lexical heads are θ positions given that they are occupied by internal arguments of lexical head. Whether the subject position is a θ -position in a given sentence depends on whether the lexical head assigns an external θ -role or not. In sentences which include a verb which assigns an external θ -role, the subject position is a θ -position. However, in sentences which include a verb which does not assign an external θ -role, the subject position is θ' -position. Typical examples of verbs that do not assign an external θ -role are raising predicates.

Theta roles express a relationship of meaning and are therefore directly relevant to the LF. The present study deals with argument licensing morphology in Lutsotso, and as such, the relevance of the theta theory to the study lies in the ability of the theory to account for relationships between verbs and their arguments (Chomsky, 1981).

a) **The projection principle**

This principle is motivated by recognition of the role that lexical items play in the sentence structure. For instance, the head word of a phrase determines the category of the phrase in

question. In view of this, the projection principle requires that lexical information be given syntactic representation (Chomsky, 1981; Haegeman, 1991). The projection principle emphasizes the role of the lexicon in grammar. Representations at each syntactic level (that is, LF, DS, SS) are projected from the lexicon, in that they observe the sub-categorisation properties of lexical items. The projection principle incorporates the condition that representations observe the sub-categorisation properties of lexical items. Where sub-categorisation is understood to include categorial features. Representations which do not, such as: - Mary solved, are therefore excluded.

Sub-categorisation properties play a crucial role in determining meaning relations. The projection principle ensures that the sub-categorisation properties of lexical items are accurately reflected in all syntactic levels of representation

(b) The Extended Projection Principle

This principle is an extension of the projection principle and requires the presence of a subject position in every sentence (Chomsky 1981; Haegeman 1991).

1.7.1.3 Government Theory

Government involves the delimitation of the sphere of influence of a particular category with respect to adjacent categories (Chomsky, 1981). It is central to GB and refers to a particular syntactic relationship of high abstraction between the governors and the governed element. Items that have been listed as potential governors include lexical categories such as nouns, verbs, adjectives, prepositions or any other element that can be considered head of phrase and INFL.

For these potential governors to be governors of an item,

1. They must additionally c – command that other item.
2. There must not be an intervening maximal projection between the governor and the governed.

“Government” is a relation holding between two categories within a phrase structure representation. For a category A to govern a category B, three conditions must be met. First, there is a restriction on the class of governors, such that only a head (as defined within X⁰ Theory) can be a governor. Second, for a head A to govern a category B, the head must c-command B. This relation can be defined as:

C-command: A c-commands B if neither A nor B dominates the other and the first branching node dominating A dominates B (Chomsky,1981) .

The third and final prerequisite to government is that there must be no maximal projection that includes B, the governee, and that fails to include A, the governor.

Government also distinguishes between proper and improper governance. Of the governors listed above, only the lexical heads are proper governors and they consequentially govern properly. This is particularly important to the trace theory; especially in as far as the government of traces is concerned traces must be properly governed.

In GB, identification of null subjects of tensed clauses is determined by government relations. According to Chomsky (1982) the empty category pro must be identified by a governor with sufficiently rich features. The same views are expressed by Raposo (1986). According to Raposo (ibid), rich agreement (AGR) is not a sufficient condition to achieve identification of pro. Government is crucial and the governor of pro must contain the rich AGR for the NP in question. For example, in sentence (6) , from Lutsotso data, we would expect subject agreement (SA) or the category containing it to govern pro (Angogo,1983:16)

(6) e ba- la- ka amakanda

SA- TNS -weed beans

They will weed beans.

In (6) the null subject 'e' has the same index as SA 'ba'. These features of 'e' recoverable from SA allow 'e' to function as a definite pronoun. This is also a property of pro meaning that 'e' in (6) above is pro. In Lutsotso sentence structure, pro is an empty category resulting from dropped NPs. Rich verbal morphology and strong agreement license the dropping of NPs from the Lutsotso sentence.

1.7.1.4 Control theory

The subject of this theory is the subject of infinitival clauses. It is the task of the control theory to determine the controller of this empty subject position (- PRO), besides ensuring that PRO has the same features, person, number, gender, as its controller. The theory specifies the position where PRO may appear. Specifically, the theory formulates a stipulation termed the PRO theorem (Haegeman, 1991) which states that PRO is restricted to ungoverned positions. PRO must always appear in positions that overt NPs cannot appear in view of the case filter. That is, where PRO is allowed, overt NPs are excluded; where overt NPs are allowed, PRO is excluded (Haegeman, 1991; Epstein 1991; and Ouhalla, 1994). Consider the example 7 (Haegeman, 1991:102).

(7) Parrot was glad PRO to abandon the investigation.

In (7), the infinitive clause is the complement of an adjective glad

1.7.1.5 Binding theory

This theory deals with the reference relationship of NPs in a sentence. In particular, it is concerned with the conditions under which NPs, that is, anaphors, pronominals and referential expressions (r - expressions) are interpreted as referring back to some other NP or not. Binding theory has three binding principles each affecting a particular type of NP. Thus:

Principle A: An anaphor must be A – bound in its governing category.

Principle B: A pronominal must be free in its governing category.

Principle C: R – expressions must be free every where

Where A – bound means argument bound.

(Haegeman, 1991).

These principles can be applied to data from Lutsotso to see if they make correct predictions about NP relations in the Lutsotso sentence by considering the example 8 (Murasi 2000:43).

(8) Dina ye - khupil - e omw- ene.

Dina CL 1 - beat- FV CL 1- herself.

In sentence (8), the governor of the reflexive *omwene* (herself), is the verb 'khupile' and is contained in sentence (s). The NP C-commanding the reflexive is Dina. It therefore follows that S is the governing category of the reflexive. According to binding principle A, this reflexive must be A- bound in the S which is its governing category. *Omwene* (herself) must refer back to Dina and not to anything else.

B. A pronominal must be free in its governing category. The referential behavior of the pronominal is different. While anaphors require that they be bound in their governing

categories, pronominal are always free in their governing categories. Consider the example below from Lutsotso data:

(9) Masero a- khupil - e - esie.

Masero SM -beat- FV - me

Masero beat me.

In sentence (9) the governor of the pronominal *esie* (me), is the verb 'khupile' beat. The governed NP'S governing category is the sentence (s). The pronominal *esie* (me), is not co indexed with any other NP within S. The pronominal does not refer back to the subject NP.

C. R-expressions must be free everywhere.

R-expressions are DPs with lexical heads which potentially refer to something , and can be exemplified by proper names such as Kakamega, Kisumu, Masero, Odera, Anyona, among others and common nouns such as; *omukhasi* 'woman' *omundu* 'person' among others. Within the sentence, this type of NP is always free as shown in the example below:

(10) Masero ya- khup- a Anyona.

Masero CL 1- beat -FV Anyona.

Masero beat Anyona.

In example (10), the person called Masero must not be the same as the person bearing the name Anyona. What this means is that Masero and Anyona must denote two different individuals as they do not co-refer and therefore cannot be co indexed.

To understand the binding principle, Chomsky (1982) supported by Epstein (1991) asserts that one needs to understand the following definitions.

- A. X is bound if X is an argument co indexed with a c – commanding argument. It is free if it is not co indexed.
- B. An argument is an NP position which is theta marked
- C. X c –commands Y if Y is within X’s domain and is not dominated by X.
- D. The domain of X is the least maximal projection containing X.
- E. X is the governing category for Y if and only if X is the minimal category containing Y, a governor of Y and a subject accessible to y (Epstein,1991).

It must be emphasized that these definitions are very important to the binding theory. They do indeed facilitate the understanding of the principles.

GB can be seen as having two broad components. The rule system on the one hand and the modules on the other. But none is independent, they interact so closely.

Chomsky (1981,1982) supported by Horrocks (1987) argues that most of the properties of the system (of GB theory) and their manner of interaction are related by more general principles rather than each sub module having independent principles. Thus, Chomsky (1981) emphasizes the interrelation of the sub modules of the GB theory.

In addition, the GB theory consists of the projection principle, the extended principle, the case filter, the structure preserving principle, the maximal projection and the empty category principle which interact with the above subsystems to generate structures both at D-structure and S-Structure level of representation.

1.7.1.6 Bounding theory

In GB (Chomsky, 1981) all movement phenomena have been collapsed into one Meta rule – move. The necessity to check the operation of move has seen the inclusion of bounding theory in GB. The task of the Bounding theory is to limit the distance that an element can move;

blocking any kind of “long distance” movement. The sole important principle of bounding theory is subjacency by which no movement across more than one barrier can be allowed. This is a simple operation of move α . A moved element must not ‘jump’, cross two or more NPS (Chomsky 1981; Epstein, 1991)

1.7.1.7 Case theory

This is a theory that deals with assignment of case and case to NPs in a sentence. It is believed that all overt NPs must be assigned case. Any case less NP necessarily leads to ungrammaticality and is filtered out by the case filter. The case filter is a principle that is central to Case theory which requires that each lexical NP be assigned a case feature (Chomsky, 1981).

Case is assigned under government-and the type of case (either objective, accusative) assigned to an NP solely depends on its governor. Verbs assign objective (accusative) case; Inflection (INFL) assigns Nominative, while genitive is assigned by possessive. The current study will not apply the case theory because the theory has been abandoned in linguistic theory.

1.7.2 The Mirror Principle

According to the Mirror Principle, morphological derivations must directly reflect syntactic derivation and vice versa (Baker, 1988). This principle shows that there is a certain order which morphemes co-occur in a given sentence. If for example in a given language where the benefactive can co-occur with the passive, the benefactive comes first before the passive, then the morpheme marking the benefactive will come closer to the verb root than the morpheme marking the passive. This also means that the argument triggered by the morpheme that comes first on the verb will come before another argument triggered by the morpheme that comes later on the verb.

The tenet of the Mirror Principle that this study employs is one that states: morphological derivations must directly reflect syntactic derivation and vice versa (Baker, 1988). This tenet will be used to analyze and to describe the argument licensing morphemes in Lutsotso and the constraints that govern their occurrence

1.7.3 Minimalist program

The study adapted the Minimalist Program because it accounts for the morpho-syntactic nature of Lutsotso language. The interplay between morphology and syntax is demonstrated in the structure building process of the Minimalist Program.

From the early 1990s Chomsky and his associates have developed an approach to syntactic theory known as minimalism. The minimalism program has its roots in the principles and parameters framework (PP) that dominated syntactic research throughout the 1980s. The minimalism program (Chomsky, 1995) is the recent formulation for linguistic inquiry.

In the minimalist program, (Chomsky 1981, 1986, 1993 & 1995) linguistic knowledge (internalized language or competence) is identified as just a set of parameter choices with two components, namely a language specific lexicon and computational system. The minimalist framework has the following assumptions about a language and the parameters of universal grammar.

According to Chomsky (1993) languages are based on simple principles that interact to form intricate structures .Within the framework of Minimalist Program; linguistic expressions are generated by what Chomsky refers to as optimally efficient derivations. This simply means that sentences in the language must satisfy the conditions that hold at the levels of linguistic representation. In this theory the principle of economy which assumes that syntactic movement should take place only when necessary for the purpose of case checking drives the theory. It is

also concerned with the expansion of syntactic structures in terms of X-bar theory, where functional categories are given full categorial status.

1.7.3.1 Feature Checking Approach

Under the Minimalist program (MP), movement is a last resort mechanism through which lexical heads check their features (particularly morphological) which would otherwise remain unchecked thereby leading the derivation to crash at either logical form (LF) or phonological form (PF) (Chomsky, 1995). The function of the checking approach is to review words already generated in the lexicon and compare the affixes therein with the conditions which will appear as features in the projection above it. Within the feature checking approach, the licensing of the inflectional and derivational features of affixes is achieved when a lexical stem usually a verb stem raises and adjoins overtly to various functional heads thereby checking off its features until none remains. The checking approach as subsumed under the minimalist assumptions allows for both lexical and syntactic word formation processes provided that the derived words are transparent enough, so as to check off both nominal and verbal features within the syntax. Within the checking approach, grammatical features entail the phonetic, grammatical semantic properties of words that must be checked if the derivation is to be grammatical. These grammatical properties can be described in terms of sets of features (Chomsky, 1995). According to this approach; movement is for checking the correctness of the inflectional and derivational features against their syntactic positions in the sentence structure. If the language is rich in morphology, that is, it has such features as agreement and other inflectional and derivational morphemes (visible at PF), then the verb will be forced to move so as to eliminate abstract feature bundles before spell-out into PF. Languages with weak morphology do not force the verb to move as it has no features to check. This study will use the feature checking operations to check the features in the morpho-syntax of Lutsotso sentence

structure. Minimalist theory employs ‘feature checking’, a relation between two elements such that one or more designated features they share are eliminated, Minimalism distinguishes between strong features, which must be checked in overt syntax, and weak features, which due to another principle (meaning, ‘Procrastinate’) must be checked in covert syntax .

In the Minimalist program, the basic sentence structure is as shown in Figure 1:

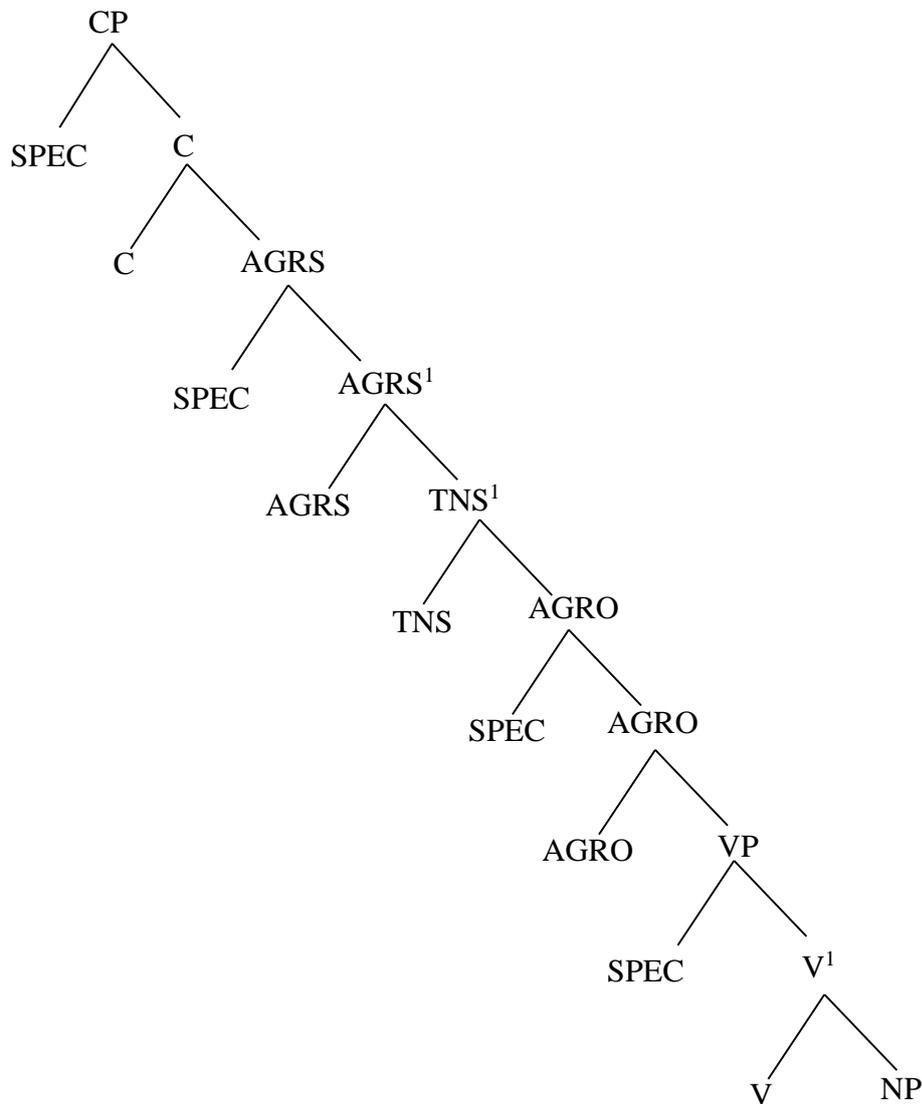


Figure 1: Basic sentence structure in MP

Source: Chomsky, 1995: 173

The basic sentence structure was developed on the basis of SVO languages, whereby the AGRS head c-selects TNS head. In the minimalist program, the issue of word order is influenced by the morphological features that are found in a verb. The sentence structure is built up in a bottom up process. In this process, morphological and lexical features are combined in a process of select and merge in the lexicon. For example, morphological features such as tense and agreement are selected and merged with the verb and the verb selects and merges with other constituents such as noun phrases in the building up of the sentence structure. In sentence structures, each of these morphological features bears a functional head. The functional heads bear abstract bundles of respective features which must be checked and eliminated in the course of derivation, otherwise the derivation crashes. The morphological features on the verb force the movement of the various functional heads to check for the abstract features. This is done by matching and elimination. The relation of functional heads is that of head-head while the relation between a lexical argument and a head is that of specifier – head. The verb moves through the various functional heads for feature checking while the lexical arguments move to specifier positions to check for case features. In the structure in figure 1 the verb moves to AGRS to check agreement features while the lexical subject moves to SPEC/ AGRSP for nominative case checking. AGRS and AGRO represented in the clause structure are bundles of features such as class, person and number which need to be checked.

In the MP, the derivative morphemes like the applicative, causative and the passives are considered to be feature bearing affixes, hence heads and specifiers have to be built for them depending on their lexical and morphological evidence.

According to Chomsky (1995) the verb moves to various heads for checking of respective features while the noun moves to specifier for case checking. Thus, for the derived sentence (11b), the APPLP head and specifier, the AGRSP, the AGROP head and specifier will be built to check the verb for respective features.

(11a) Anyona a - la - kul- a i- ngubo

Anyona SM -FUT- buy- FV CL9 dress

Anyona will buy a dress

(11b) Anyona a - la- kul- il- a mama i - ngubo

Anyona SM-FUT-buy-APPL-FV mother CL9 dress

Anyona will buy a dress for mother

(11a) is the basic sentence and has two arguments, Anyona and *ingubo* (dress). (11b) is the derived sentence and has three arguments, Anyona, *mama* (mother) and *ingubo* (dress).

Derived sentence (11b) is represented as figure 2 :

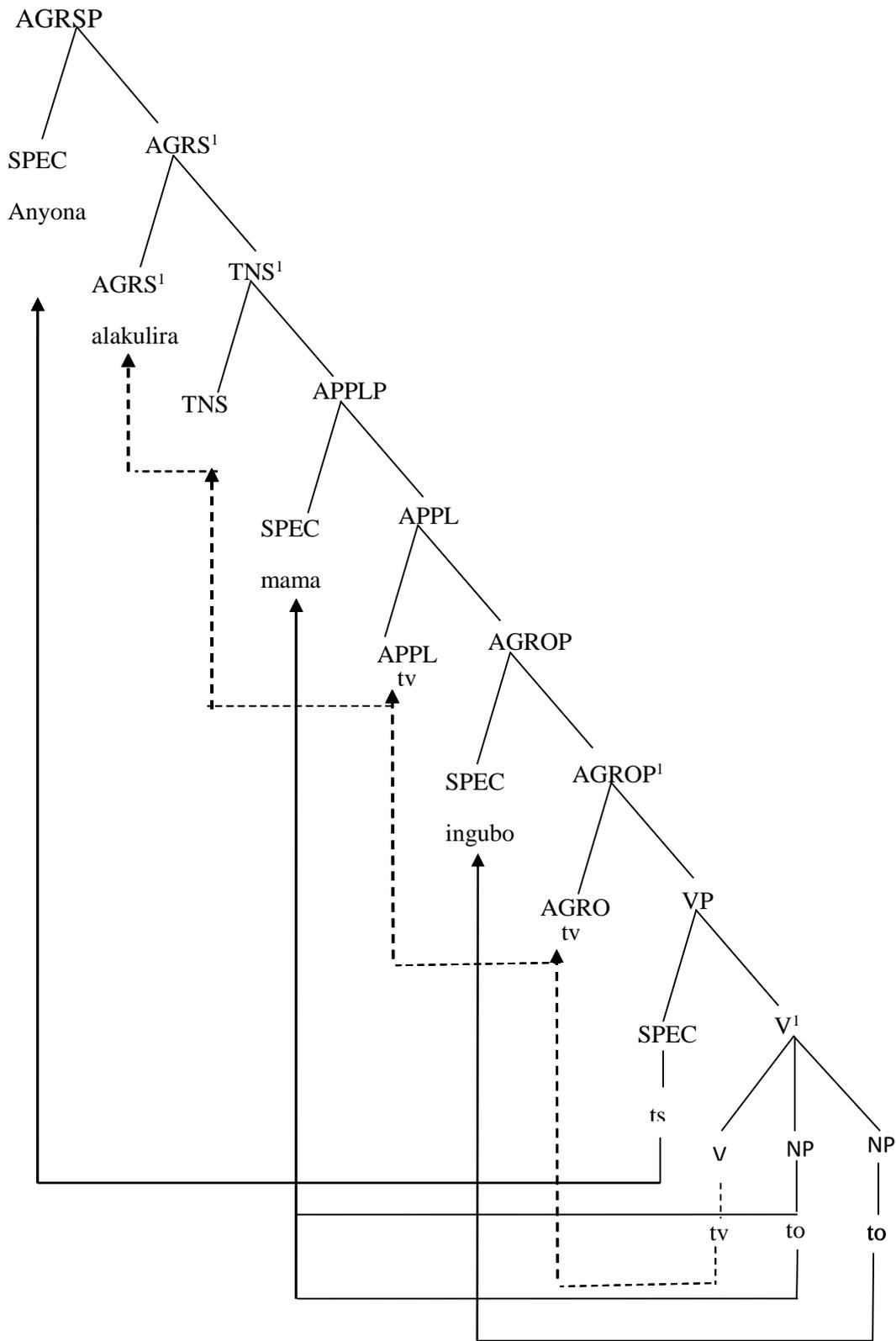


Figure 2: Applicative Structure

As the verb takes two NPs as complements, the direct object *ingubo* (dress) moves to SPEC/AGROP to check its accusative case features and the applicative object *mama* (mother) receives features from SPEC/APPLP. The subject ‘Anyona’ moves to SPEC/AGRSP to check its nominative case features. The verb *alakulira* (buy) moves to AGRO/AGRO to check agreement features with the object, then to APPL/APPL¹ and then to TNS/TNS to check tense features before finally landing at AGRS/AGRS to check agreement features.

1.7.4 Summary

This chapter has presented background information to the Lutsotso dialect of Luluhya language under study. It has been stated that Lutsotso is a dialect of Luluhya which is a Bantu language. The background information to the topic of study has also been presented. The research problem, the objectives, research questions, scope and justification of the study have been stated.

In terms of the analytical framework, the study adopts a theoretical framework drawn from the Government and Binding (GB) theory, the Feature checking aspect of the Minimalist program and Baker’s 1988 Mirror principle. The GB theory’s tenet is used to identify and describe the argument changing operations in Lutsotso sentence while the Mirror Principle is used to describe the co-occurrence of the various changing operations on the same verb. Finally, the Feature checking tenet of the Minimalist Program is used for checking the various features present in the sentence of Lutsotso. This study will utilize the Government module, X-bar module, theta, control and binding module in the analysis of the argument changing morphology in sentence structure of Lutsotso.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature related to studies on verbal morphology that license overt arguments, suffix ordering and finally, licensing of null arguments.

2.2 Verbal morphology that licence overt arguments in Lutsotso

This section reviews literature that is related to verbal morphology that licence overt arguments in Lutsotso dialect of Luluhya, a Bantu language. The section is geared towards reviewing literature related to the first objective of the study.

Bantu languages were classified by Guthrie (1948) into sixteen zones namely ; zone A, zone B, zone C, zone D, zone E, zone F, zone G, zone H, zone K, zone L, zone M, zone N, zone p, zone R, zone S, and zone T. These zones are further subdivided into groups depending on peculiar features which are not necessarily confined to the zone in question. According to Guthrie`s classification of Bantu languages, Lutsotso falls under zone E. Guthrie proposed five guiding principles on how to recognize a language as either genuinely Bantu or merely ‘bantoid’ (sharing a few features of Bantu languages) this includes the following criteria:

1. A system of grammatical genders, usually at least 5 within these features:

The sign of gender is a prefix by means of which words can be assorted into a number of classes varying roughly from 10 – 20 (Guthrie, 1948).

- a) There is a regular association of pairs of classes to indicate the singular and plural of the genders. In addition to these two – class genders , there are also one-class genders

where the prefix is sometimes similar to one of the singular prefixes occurring in a 2 – class gender, and sometimes similar to one of the plural prefixes (Guthrie, 1948).

- b) When a word has an independent prefix as the sign of its class, any other word, which is subordinate to it, has to agree with it as to class by means of a dependent prefix.
- c) There is no correlation of the genders with sex reference or with any other clearly defined idea.
- d) A vocabulary part of which can be related by fixed rules to a set of hypothetical common roots.

Other subsidiary criteria include:

- 2. A set of invariable cores or radicals from which almost all words are formed by an agglutinative process, the cores having the following features:-
 - a) They are composed of consonant – vowel consonant.
 - b) When a grammatical suffix is attached to the radical, there is formed [sic] a ‘base’ on which words identifiable as verbal are built.
 - c) When a non – grammatical or lexical suffix is attached to the radical, there is formed [sic] a stem on which words identifiable as nominal are built. When a nominal belongs to a z – class gender, the sounds and tones of the stem are the same in both classes.
 - d) A radical may be extended by an element found between it and the suffix. Such elements, termed as extensions are composed either of vowel – consonant or as a single vowel.
 - e) The only case of radical occurring without a prefix of any kind occurs in verbal used as interjections (Guthrie, 1948, pg. 12).

Moreover, Guthrie adds that the whole purpose of outlining all of the above criteria in totality is solely for purposes of laying bare the empirical claim that it is impossible for one to give a comprehensive analysis of the syntax of any Bantu language without inevitably making

reference to the morphology of the language. The analysis of the Bantu sentence is further complicated by the effects of factors such as the necessity for concordial agreement between the head noun and its modifiers. However, Guthrie (1948) does not focus on verbal morphology that license arguments in the sentence of a Bantu language where Lutsotso, a dialect of Luluhya language is included. As a result, this leaves a gap that the current study intends to fill.

Lutsotso manifests the typical Bantu agglutinating structure where the verbal complex functions as a complete sentence. There is also a wealth of tense forms and it is therefore possible for instance to refer to up to four different periods of past time and an equal number of future time using a single verb stem and affixes totally without the use of any 'time' words. In relation to Guthrie's (1948) observation, suffice it to say, therefore, that an analysis of Lutsotso phrasal and sentence structure would be incomplete without relating it to the morphology of the language hence the term used in this research is a morphosyntactic analysis of argument licensing rather than purely syntactic investigations of Lutsotso.

Bantu was the word chosen to describe people who spoke Bantu languages. The word Bantu comes from the word 'ba-ntu' which means people (Were, 1967). The Bantu speakers are spread in East, Central and South Africa. They speak languages which are related in grammar and vocabulary but which are not necessarily understandable between one group and the other. Thus, there are numerous languages within the Bantu language family. These languages are collectively known as Bantu and the people who speak them have been given the same name (Osogo, 1966; Were, 1967). Lutsotso, the focus of this study is a dialect of Luluhya language which is one of the Bantu languages in Kenya.

While discussing verbs in Luluhya language, Appleby (1961) says that the verb must always be brought in agreement with the subject by use of the subjectival concord. This means that a singular subject must take a singular verb. While if the subject is in plural form, the verb must be in plural form. Consider (12a) and (b) from Luluhya data (Appleby, 1961: 34):

(12a) I - ng'ombe - yi - tsa - nga

CL9 -a cow CL9- BE- coming

A cow is coming

(b) Tsi - ng'ombe - tsi - tsanga

CL10 -cow - CL10 - BE- coming

Cows are coming

Appleby's work is pedagogic in nature having been written for people who did not have any knowledge of Luluhya but were keen on learning it. It mainly concerns itself with pronunciations, parts of speech and tense. Its coverage of syntax is quite inadequate. Besides, no theory is used as a guiding framework for description. Appleby discusses verbs without mentioning verbal morphology that license arguments in the Luluhya sentence. It is important to have this gap in knowledge filled because as Guthrie (1948) observes, it is impossible for one to give a comprehensive analysis of the syntax of any Bantu language without inevitably making reference to the morphology of the language. The current study will identify verbal morphology that license arguments in the Lutsotso sentence. However, Appleby's work has to be credited as an invaluable documentation of Luluhya. Appleby's (1961) studies are focused on Luluhya in general. The current study will be specifically focused on Lutsotso and will be guided by the theory of GB and the Feature checking aspect of the minimalist program. The use of these theories will make the findings of this study more authentic because a theoretical framework is the basis of a research problem (Mugenda, 2003).

Several researches have been done on different African languages. Gregersen (1967) among others, discusses the prefixes and pronouns in Bantu within the Standard Theory framework and observes that the most prominent grammatical characteristic of Bantu languages is extensive use of prefixes. In addition to this, agreement between the subject and the verb is obligatory. Gregersen says that in Bantu languages, no sexual gender is recognized in pronouns. This means that there is no gender distinction in pronouns between male and female. This work deviates from the current study in the sense that Gregersen's work is a general overview of Bantu languages. Gregersen (1967) focuses on pronouns as the unit of analysis and uses the Standard theory. Further to this, Gregersen's study does not discuss verbal morphology that license arguments in the sentence of a Bantu language in which Lutsotso is included. Thus, this is a gap that the current study will fill. The current study will be specific and will deal with Lutsotso only. The study will employ principles from the Government and Binding theory (Chomsky, 1981), feature checking aspect of the Minimalist program (Chomsky, 1995) and the Mirror principle (Baker, 1988) to identify and analyze verbal morphology that license arguments in the Lutsotso sentence.

In a related study, Kamango (1980) did her research on the syntax of the Ki-Giryama Noun Phrase in the transformational mode. First and foremost, the study explores all the possible phrase structures open within the Ki-Giryama language. Kamango observes that Ki-Giryama noun phrase is headed by a noun which is either followed or preceded by its qualifiers. Kamango adds that in Ki-Giryama, 'kila' every, can only co-occur with nominal categories that also have these features namely [+singular] nominal categories. For example, we cannot have an NP like: '*kila vihi' which means, 'every chairs.' Similarly, we cannot have 'kila' co-occurring with demonstratives. For example, '*kila muhoho yuyahu'. Which means, 'every that child '. This also applies to English. Important to this study is the fact that like Lutsotso, Ki-Giryama is a Bantu language. However, Kamango's work is limited to the constituents of the

noun phrase. No attempt is made to identify verbal morphology that license arguments in the sentence of Ki-Giryama which is an African language. This leaves a gap in knowledge that calls for the attention of the current study. Secondly, Kamango’s work is purely syntactic in nature and examines the structure of the noun phrase. The present study on Lutsotso examines the interplay between morphology and syntax in Lutsotso sentence. This study will identify verbal morphology that license arguments in the Lutsotso sentence structure. In addition, Kamango uses the Standard Theory, while this study will use GB theory, The Mirror Principle and an aspect of Minimalism in the description of the Lutsotso sentence.

At another level, Angogo (1983) studied all Luluhya dialects in Kenya. This work is primarily descriptive and is a critique of the existing dialect classification. The study looks at the syntax, morphology and phonology of all the seventeen dialects of Luluhya language. These studies of Luluhya do not deal with individual dialects since they give a general overview on all Luluhya dialects. Angogo observes that the Luluhya sentence consists of a nominal cluster (NC), which means that a noun consists of a root and a class prefix which may have different forms from dialect to dialect. Consider example (13) from Luluhya language (Angogo, 1983:24):

- (13) Omu – ndu
 Class prefix root
 ‘Person’

A sentence also consists of a verbal cluster (VC) which means that the verbal root in Luluhya cannot stand alone but must occur with one or more several affixes. In its simplest form, it may consist of a root and the imperative suffix. Consider example (14) from Luluhya language (Angogo, 1983:24)

- (14) Tsi – a

Root - FV

Go

In Luluhya language, the imperative mood is indicated by the final vowel as 14 shows.

The sentence may be modified respectively by adjectival and adverbials of different kinds. As concerns the lexicon, Angogo observes that the overwhelming majority of Luluhya vocabulary is traceable to Proto- Bantu. The dialects share a high degree of common roots, though their respective lexicons differ in a number of significant ways. The remaining vocabulary may be treated as non-indigenous having been assimilated into the dialects in a number of ways. Angogo reveals interesting findings, ranging from tense to phrase structure, making valid generalizations about the syntactic structure of the dialects as she proceeds. Characteristic of this she declares: “like other Bantu languages, Luluhya has an SVO structure. Dialectical variations are more evidently phonological than they are morpho-syntactic. While Angogo looks at all the Luluhya dialects this study focused on the Lutsotso dialect. In addition, the study dealt only with one aspect of Lutsotso (the suffixes). The problem with Angogo`s work is that its findings are not presented within a modern theory; the implication of this is that the research proceeded without a guiding theory. Also limiting its adequacy from the point of view of this study is the fact that its aims are too broad, making it absolutely necessary to treat some aspects of the dialects in the briefest possible terms. Thus, in the syntactic part, coverage is no more than a brief introduction of the syntactic structures, the sentence not being an exception. Angogo`s work does not focus specifically on Lutsotso dialect and thus , fails to describe verbal morphology that license arguments in the sentence structure of Lutsotso. This study guided by the theory of GB .The current study identified and made a detailed analysis of verbal morphology that license arguments in the Lutsotso sentence.

Additionally, Carstens (1991), in a study on nominal morphology and DP structure in Kiswahili observes that in the Bantu nominal system, whereas grammatical gender is a lexical property

of nouns, number is attributable to the functional head whose features spell out as the gender-specific class prefixes. In this sense, it is the functional head that selects NP complements. Carsten's (ibid) analysis makes possible a uniform treatment of number morphology. Her observation is significant to this study since Lutsotso, like Kiswahili is a Bantu language. However, Carsten's work does not discuss argument structure that is licensed by verbal morphology. Thus, this is a gap in knowledge that the current study filled.

In a related study, Wasike (1993) analyzes the simple sentence in Lubukusu using the GB framework. Wasike (ibid) observes that in Lubukusu, some nouns are derived from other lexical categories specifically from verbs, adjectives and other nouns. For example, *soma* read –*omu-somi* student. Like the current study, Wasike's unit of analysis is the simple sentence. However, Wasike's work deviates from the current study in a number of ways. Firstly, Wasike's work employs the principles of Chomsky's (1981) GB theory alone while the current study employs the principles of GB theory alongside the feature checking aspect of Chomsky's (1995) Minimalist program and Baker's (1988) Mirror principle. The use of more than one theory by the current study will make the findings of the study more authentic. Wasike's work does not identify and describe verbal morphology that license arguments in Lubukusu, a dialect of Luluhya language of which Lutsotso dialect is included. This leaves a gap that the current study intends to fill. The current study will therefore identify and describe verbal morphology that license arguments in Lutsotso sentence.

Katamba (1993) defines valence as the number of arguments in the syntactic frame in which the verb occurs which are brought about by grammatical functional changing rules. For instance, a transitive verb may occur with an agent, a theme and a goal as in (15) :

(15) Fiona bounced the ball to Barbara.

Agent-verb- theme- goal

Katamba (1993) observes that theta roles are used to characterize transitivity. Theta roles specify the parts played by the arguments representing different participants in the action, state or process indicated by the verb. Verbs can occur in frames where there are one, two or three arguments. Further to this they are classified on the basis of the type and number of arguments with which they can occur. Katamba`s work is limited to theta roles and how they are assigned to arguments. Katamba`s work fails to discuss verbal morphology that license arguments in Lutsotso, a dialect of Luluyiah language which is one of the African languages. This leaves a gap which the current study intends to fill. The current study will therefore identify and describe verbal morphology that license arguments in Lutsotso sentence.

Syntactically, valence is the number of arguments present in a clause while semantically, it is the number of participants embodied by the verb .The valence adjusting operation is triggered by derivational morphemes that prompt the re-arrangement of constituents in the sentence (Payne, 1994).

Lyons (1977:456) states that “valence covers more than simply the number of expressions which a verb may or must be combined with in a well-formed sentence ` . This is because it also accounts for differences in the membership of the sets of expressions that may be combined with different verbs. Verbs can therefore be put in a valence set as shown in the formulation below done using English verbs (Lyons 1977:456)

Valence set

- | | |
|-------|---------------------------------------|
| Sleep | Zero valent (no argument). |
| Run | Univalent (one argument) |
| Kick | Divalent or bivalent (two arguments). |

The valence set demonstrates the range of nouns as syntactic constituents that can be permitted by a verb as a lexical unit in the sentence structure.

Payne (1997) refers to arguments as the participants and their semantic roles that are normally associated with a given verb. These arguments or participants are subjects, objects or complements in a given sentence. Arguments as used in this study refer to noun phrases in a sentence (Miller, 1993). These arguments can increase or decrease depending on the type of sentence or participants involved. Payne`s work concentrates on arguments and their semantic roles that are associated with a given verb. Payne uses illustrations from English language and no mention is made to Lutsotso dialect of Luluhya language which is an African language. Moreso, there is no comprehensive work dealing with verbal morphology that license overt arguments in Lutsotso. As a result, this leaves a gap which the current study will fill. This study will therefore describe verbal morphology that license overt in Lutsotso.

2.3 Suffix ordering

This section is concerned with reviewing literature related to suffix ordering in Lutsotso sentence and is meant to achieve the second objective of the study.

Gathenji (1981) discusses the morphology of the verbal extensions in Gikuyu within the functional approach. She identifies the subject markers, object markers, causatives, applicatives and passives. However, Gathenji (ibid) does not focus on suffix ordering and the constraints that govern their occurrence. As such, in an attempt to fill this gap in knowledge, the current studies determined the order of argument licensing morphemes and the constraints that govern their occurrence in a Lutsotso sentence. Gathenji`s study is significant in the present study especially due to the fact that it will shed light in discussing the verbal complex of Lutsotso due to its being a Bantu language.

At another level, Ngonyani (1995) discusses typology of applicative constructions in Bantu and gives basic facts about this type of constructions. Among them, Bantu languages have an applicative morpheme;

{-il} suffixed to the verb stem. This suffix increases the number of arguments for the verb by one. The example (16a) and (16b) below from Ndendeule illustrates this (Ngonyani, 1995:124).

(16a) n-gheni a- ki -hemel- a ngobo

1-guest 1-PST- buy- FV 10 cloth

The guest bought clothes.

(16b) a - gheni a - ki -n- hemel- el- a mwaana ngobo

1- guest 1SA- PST 10 buy – APP- FV 1 child 10 cloth

The guest bought clothes for the child.

The contrast between (16a) and (16b) is in the fact that the former has a verb without the applicative morpheme and has one object 'clothes,' while the latter has the applicative morpheme and two objects, 'clothes' and 'child'. Ngonyani (1995) further observes that the applicative object may be assigned different interpretations such as benefactive, instrumental, locative, motive, direction and malafactive. Further to this, the additional argument may be assigned any theta role except the agent theta role. Ngonyani refers to such objects as applied objects. Ngonyani's (1995) work deals with applicative in Bantu using illustrations from Kiswahili and Ndendeule. The work does not make reference to other valence adjusting operations like the causative, passive and the reciprocal which the current study will address. Ngonyan's work also fails to focus on suffix ordering in Lutsotso dialect of Luluhya, a Bantu language. This leaves a gap in knowledge which needs to be filled. In an attempt to fill this gap the current study will thus, determine the order of argument licensing morphemes and the constraints that govern their occurrence in the sentence structure of Lutsotso.

Sikuku's (1998) study on the morpho-syntactic structure of Lubukusu anaphoric relations observed that the SVO pattern in a sentence is common in languages when the object is a free morpheme as shown in the Lubukusu data in (Sikuku, 1998 :45).

(17) Wafula a- sima busuma.
 S SM-V O
 Wafula likes ugali

Sikuku (1998) further notes that the subject marker (SM) is very important in the language. It carries nominal features of number and person. Nevertheless, Sikuku`s work differs from the current study; first, in terms of theory application and second in terms of area of analysis. Sikuku employs only the GB theory (Chomsky, 1981) as a tool of analysis while the current study employs the GB theory and the Feature Checking theory of the Minimalist program (Chomsky, 1993, 1995). In terms of area of analysis, Sikuku`s work only deals with anaphoric relations in Lubukusu while the present study examines the suffix ordering in the sentence of Lutsoso. In this case, Sikuku`s work does not discuss suffix ordering in Lubukusu, a dialect of Luluhyia language where Lutsotso belongs. Thus, this is a gap in knowledge that the current study intends to fill. This study will therefore determine the order of argument licensing morphemes and the constraints that govern their occurrence in Lutsotso sentence structure.

In addition to Sikuku`s (1998) observations, at a general level, Mchombo (1999) argues that verbal morphology in Bantu languages encodes various aspects of grammatical information. In many Bantu languages the verb prefixes encode information pertaining to morpho - syntactic categories such as negation, tense, aspect, agreement and modals. The verb suffixes, on the other hand, encode information relating to argument structure and the thematic information associated with the various arguments of the verb. Mchombo focuses on morphological encoding of argument structure and morpho - syntactic categories using Chichewa language of Malawi as a case of investigation. He investigates the extent to which verbal morphology in Bantu offers support for the architecture of universal grammar (UG) proposed in the theory of lexical - functional grammar (LFG). This study utilizes Mchombo`s (1999) ideas concerning

the verb suffixes, prefixes and the information they encode in so far as they agree with Lutsotso. However, Mchombo`s work differs from the present study in terms of theory application. While Mchombo employs the theory of lexical –functional Grammar, the current study employs the GB theory (Chomsky, 1981) and the feature checking aspect of MP (Chomsky 1993, 1995). Mchombo`s work is mainly concerned with how verbal morphology in Bantu offers support for architecture of universal grammar. However, Mchombo`s work focusses on Chichewa language of Malawi. As such Mchombo`s work does not discuss suffix ordering in Lutsotso, a dialect of Luluhya language which is also Bantu due to scope of his study. This leaves a gap that the current study intends to fill. This study will describe the order of argument licensing morphemes and the constraints that govern their occurrence.

Furthermore, Mchombo (1999) while discussing valence morphology in Bantu shows the differences and similarities between the stative and the passive. Mchombo says that the stative is very similar to the passive in that it eliminates the subject NP and makes the object of the nonstative verb the subject. On the differences, Mchombo observes that unlike the passive the stative does not allow the expression of the agentive NP, even as oblique. As a matter of fact the stative is marked semantically by the lack of any notion of agency. The stative predicate of the subject that it is in, or has entered, a particular state without the intervention of an agent. At this point Mchombo is only concerned with the stative and the passive. Mchombo`s interest is in showing the differences and similarities between the two processes. The studies do not focus on suffix ordering in Bantu languages where Lutsotso belongs. This leaves a gap that this study intends to fill. As such, the current work will determine the order of argument licensing morphemes and the constraints that govern their occurrence.

Moreso, Nurse & Heine (2000) have revealed that the quality and quantity of documentation for African languages ranges from fairly high to nil. This is because no African language has

been documented or analyzed like the better researched European or Asian languages. For most African languages, the documentation consists of an inadequate grammar and an analysis of part of the language, article or two. These studies by Nurse & Hein make reference to individual languages when giving illustrations. However, there is no illustration from Lutsotso or Luluhya dialects in general apart from Chichewa of Malawi and Swahili of East Africa that fall in the same family with Lutsotso. Moreso, the studies by Nurse & Hein do not address or make any reference to suffix ordering in Lutsotso or any other African language. This leaves a gap that the current study will fill. All the same, Lutsotso dialect of Luluhya language is not an exception to this situation of inadequate documentation. Being used as a medium of instruction, Lutsotso needs to be well documented and its teaching based on sound research. Lutsotso though adopted for instruction, the order in which suffixes that license arguments in Lutsotso co-occur in a sentence of Lutsotso has not been adequately established. As a result, this creates a gap in the documentation of the language. In an attempt to fill this gap and contribute to the description and documentation of African local languages, the current study seeks to determine the order of argument licensing morphemes and the constraints that govern their occurrence in a sentence of Lutsotso. Nurse & Heine (2000) also note that in Africa nearly all languages have a basic word order that is fixed and not free. The subject and the object occur in fixed positions in relation to the verb in the basic word order. These observations add weight to the significance of the present study in the sense that the current study refers to subjects and objects as arguments. The subject is the external argument while the object is the internal argument.

In agreement with Nurse & Heine's (2000) observation on basic word order in African languages, in his analysis of Lutsotso nominal morphs, Murasi (2000) observes that the initial vowel in nouns is an independent morphological unit and not an integral part of the subsequent morph. In place names Murasi observes that the initial vowel is normally 'E' but occasionally

‘I’. Whenever this occurs, it denotes the concept of place in general, the subsequent morph serving the purpose of expounding it further. In other nouns, that is, common nouns, the initial vowel can either be a, e, i or o. whenever this occurs, it denotes the concept of noun in general. The subsequent morph serving the purpose of expounding it. Murasi further agrees with Osogo (1966), Appleby (1961), Itebete (1974), Were (1967) and Angogo (1983) that Luluhyia language like other Bantu languages is agglutinative in nature. Most important to this study is the fact that Murasi (2000) focuses on Lutsotso dialect which is also the focus of this study. Nevertheless, the current work deviates from Murasi’s work in two ways. Firstly, Murasi employs the theory of item and arrangement while the present study employs the GB theory (Chomsky, 1981) and the feature checking aspect of MP (Chomsky, 1993, 1995) in the analysis of argument structure of the Lutsotso sentence. Secondly, Murasi’s work is mainly concerned with the Lutsotso morph and its position in nouns. Murasi (2000) focuses on nominal morphology and does not discuss verbal morphology and in particular suffix ordering and the constraints that govern their occurrence in the sentence structure of Lutsotso. Therefore, this is the gap in knowledge which the current study intends to fill. The verb is a central element in the sentence and knowledge of verbal morphology will help in syntactic analysis of the Lutsotso sentence. In an attempt to fill the gap in knowledge, the current study will determine the order of argument licensing morphemes and the constraints that govern their occurrence in Lutsotso sentence structure.

At another level, Malete (2001) focuses on the implications of the empirical data on negation in Sesotho within the framework of the minimalist program. His observations are that the principle of economy entails that movement, should take place only when necessity drives syntactic movement. In other words, only for the purpose of case-checking. His conclusions on the morphology of negation are that bound grammatical morphemes (for instance those marking negation) are defined in terms of morphological ‘spell-out’ operations. His findings

are relevant to this study, especially the description of the syntactic structures in terms of X-bar theory where functional categories (like AGR, COMP) are given full categorical status. However, Maleté's work deviates from the current study in the sense that Maleté focuses on negation in Sesotho using the MP (Chomsky, 1993, 1995) while the present study examines the argument structure changing operations using the GB theory (Chomsky 1981) and the Feature checking aspect of the MP (Chomsky, 1993, 1995). Maleté's work does not discuss suffix ordering in Lutsotso dialect of Luluhyia language and thus, there is a gap in knowledge which the current study will fill.

While discussing argument binding and morphology in Chichewa, Mchombo (2004) notes that the reciprocal morpheme appears to be involved in a morpho lexical operation of verb derivation. The reciprocal derives a one place predicate from a two place or in general, reduces by one the number of arguments associated with the non-reciprocalized predicate. The reciprocal in Bantu is realized as a verbal suffix and in its morphological realization it is encoded by the verbal suffix –an-. In some languages the reciprocal is realized by more than one morpheme. For example in Luganda and Ci-Yao the verbal suffix is –agan- As concerns reflexives, Mchombo (ibid) observes that in Chichewa, the reflexive is realized by the invariant morpheme –dzi- that appears in the position of the object marker. The reflexive observes the normal locality conditions associated with bound anaphors .That is, it must have an antecedent with the same simple clause. The relevant antecedent in this case is the subject of the clause. These ideas give vital reference points to this study on Lutsotso as we shall refer to it while analyzing the argument changing morphemes in Lutsotso. Nevertheless, Mchombo's work departs from the current study in terms of theory application. While the current study employs the GB theory and the feature checking aspect of the MP (Chomsky 1993, 1995) as tools for analysis, Mchombo only utilizes the GB theory. Moreso, Mchombo examines argument binding and morphology in Chichewa with specific reference to reciprocals and reflexives. The current study goes further and examines valence decreasing operations which include reciprocals, reflexives, passives and the stative, and valence increasing operations which include the applicative, causative and the instrumental. Above all, Mchombo's work does not to discuss suffix ordering in Lutsotso , a Bantu language due to scope of his study. Thus this is a gap in knowledge that the current study will fill. As such,

this study will determine the order of argument licensing morphemes and the constraints that govern their occurrence in the sentence of Lutsotso.

In a related study, Henderson (2006) discusses compound tense in Bantu languages and notes that while in many languages participle verbs display an agreement pattern distinct from that of the auxiliary, in some Bantu languages, each of the verbs in such constructions carries full agreement with the subject of the clause including person, gender and number. Henderson uses an illustration from Swahili taken from Carstens (1991:46).

(18) Juma a -li- kuwa a- me -pika chakula.

Juma 3SGPST-be 3SGPERF-cook food

Juma had cooked food.

Henderson`s work limits itself to agreement and participle verbs in Bantu. The work uses illustrations from Kiswahili and no mention is made to Lutsotso which is the focus of this study. Henderson`s work fails to discuss suffix ordering in Bantu languages where Lutsotso belongs. This is a gap in knowledge which needs to be filled. The current study will therefore determine the order of argument licensing morphemes and the constraints that govern their occurrence.

Moreover, Nzioka (2007) did a minimalist analysis of Kikamba tense and aspect. In this study, Nzioka (ibid) notes that in the realization of singular and plural system, nouns in Kikamba are grouped into classes. The classes come about as a result of the use of different prefixes which arise from concord system. The prefixes in singular and plural form portray agreement with other elements at the sentence level. Prefixes are used in the verb to mark agreement or concord with the subject. However, Nzioka`s (2007) work departs from the present study in terms of theory application. The current study applies the principles of GB (Chomsky, 1981, 1982) in the description and analysis of Lutsotso data and supplements it with the feature checking aspect of MP (Chomsky, 1993, 1995) for the purpose of checking relevant features in the derived sentences. On the contrary, Nzioka (2007) only employs the MP. Furthermore, Nzioka`s work limits itself only on tense and aspect in Kikamba and does not go further to

identify and discuss suffix ordering in Kikamba. Nzioka`s work fails to show the interplay between Syntax and morphology. Thus, there is a gap that the current study intends to fill. The current study will determine the order of argument licensing morphemes and the constraints that govern their occurrence in Lutsotso with a view to showing that the syntax of Lutsotso sentence is a function of morphology.

Kwamboka (2007) did a morpho – syntactic analysis of Ekegusii verb derivation in minimalist program. This study reveals that Ekegusii verbs are derived by affixation and that these derivations have a direct influence on the number and type of arguments that are licensed. The study shows that the affixes have the power to either increase or decrease the valence of a verb. The morphemes that increase the valence of verbs in Ekegusii are applicative (the benefactive, the locative, instrumental and the causative) the derivations that reduce the verb valence are the passive, the reflexive and the reciprocal. This study employs the GB theory and the feature checking concept of the minimalist program unlike Kwamboka who employs only the minimalist program. Kwamboka`s work, however does to discuss suffix ordering in the verbal morphology. Thus this is the gap that the current study sought to fill.

Further to this, Muriungi (2008) analyzes phrasal movement inside Bantu verbs and in particular deriving affix scope and order in Kiitharaka and notes that there are some restrictions to do with object marking, reflexives and co-indexation in Kiitharaka .Firstly, there can only be one object marker on a verb. Secondly, concerning reflexives, there can be maximally only one reflexive pre-verbally in Kiitharaka .For instance, a sentence like (19) is unacceptable (Muriungi, 2008: 54):

(19) They forced the player to injure himself for themselves.

Thirdly, on co-indexation, the restriction has to do with which co-indexation is possible when there are more than two arguments in a sentence. These ideas will provide an important point of reference as they are in line with what our study is all about and as such will help the current study to achieve the third objective. Nevertheless, Mriungi`s work differs from the present work in the sense that no mention is made of the argument structure changing operations which is the focus of the present study.

Huddleston (1988) observes that a sentence is the largest unit of grammatical analysis. Most sentences contain a subject and a verb. He says that the two basic units of grammar are the words and the sentence. Important to the current study is the fact that the unit of analysis is the sentence. Further; he observes that one traditional point of entry to the study of a new language is the word. Formally words are a combination of sounds. Linguistic sounds are of two main types, these are vowels and consonants. Huddleston says that to see how a word is structured internally, we must discover its component parts. For example the word “meet” is composed of three speech sounds which are consonant “m” vowel “i” and consonant “t”. This is the phonological perspective. When the base forms of words are changed, for example to express grammatical categories such as tense as in (kill-killed) or change lexical meaning as in (father –fatherless), this would be morphological perspective Huddleston (Ibid) further says that words organized into larger units such as phrases, clauses, sentences and texts can be analyzed. This is the syntactic approach. Lastly we can examine words in terms of their meanings giving us the semantic perspective. Our study falls under the syntactic and morphological perspective.

Furthermore, Brown & Miller (1991) define a sentence as actual sequences of sounds produced by a speaker, sometimes to an orthographic unit and sometimes to something more abstract. Brown and Miller further state that the analysis of the structure of sentences is traditionally

known as ‘Parsing’. Part of the Oxford English dictionary’s definition of ‘Parse’ is to resolve (a sentence) into its component parts of speech and describe them grammatically. In linguistic work each of the component parts of a sentence is a constituent. These ideas are relevant to the current study and in particular when analyzing the number of arguments that a verb in the Lutsotso sentence can accommodate.

In agreement with the ideas of Brown & Miller (1991), Fabb (1994) notes that one of the characteristics of a sentence which makes it have a particular meaning is the way in which words are grouped into phrases. That is, the phrase structure constitutes to the meaning of a sentence. These observations are in line with the subject matter of this study as they will assist us in investigating the constituents of the Lutsotso verbal complex.

2.4 Licensing of null arguments

This section reviews literature related to the third objective of the study.

Rizzi (1982) defines non –overt NP (null argument) as an NP which is syntactically active, hence syntactically represented but which has no overt manifestation. Rizzi claims that rich agreement systems allow finite inflections to be proper governors. Therefore, pro-drop languages are those with rich agreement. Rizzi adds that what licenses pro is parameterized and languages select different possibilities (inflection, nouns, verbs among others). The content of pro must also be recoverable from its licensor, so rich agreement allows all null subjects to be recovered and poor agreement allows only expletive null subjects. Rizzi gives a list of pro-drop languages with null subjects, that is, allowing empty pro to be subject of the sentence. These languages include; Italian, Arabic, Portuguese, Chinese, Greek, Spanish and Japanese. Rizzi also talks of the existence of null objects and claims that for example, in Italian objects can sometimes go missing. He uses examples from Italian for illustrations. This work will assist

the current study in discussion on null arguments. Rizzi while discussing pro-drop phenomenon makes no mention of any African language. The study does not use illustrations of null arguments from Lutsotso which is the focus of this study or any other African language. This leaves a gap in knowledge which the current study intends to fill. This study will therefore determine the licensing of null arguments in the sentence structure of Lutsotso.

Jaeggli & Safir (1986) argue that rich verbal morphology alone does not account for the existence of the null argument (EC pro) in a language. That is to say, it does not distinguish null subject language (NSLs) from non null subject languages (NSLs). Jaeggli & Safir give examples of some languages such as German which inflect for person, number and tense but are non NSLs while others such as Chinese show no inflection or affixation but are NSLs. Jaeggli & Safir discuss mostly the properties that qualify a language to be called non null subject language or null subject language. The studies claim that the null subject parameter is dependent on the morphological uniformity of paradigms in a language. It is only those languages with morphologically uniform paradigms or only those morphologically uniform paradigms that will allow null subjects (and probably objects). Jaeggli & Safir's studies only use examples of languages such as German and Chinese and make no reference to African languages where Lutsotso is included. This leaves a gap which the current study will fill. The current study will therefore determine the licensing of null arguments in Lutsotso and in particular, EC pro and EC PRO.

Additionally, Riemsdijk & Williams (1986) define agreement (AGR) as a set of features including specifications for gender, number and person. These features must agree with the subject NP and are eventually realized on the verb. These features must also agree with the object NP in cases where the verb inflects for an object marker. Riemsdijk & Williams limit their studies to agreement and fail to discuss null arguments (EC pro) found in finite clauses

and null arguments (EC PRO) found in infinitive clauses. As such this is a gap in knowledge that the current study will fill. This study will therefore determine licensing of null arguments in Lutsotso sentence structure. The study will employ Chomsky`s (1981) GB theory and the Minimalist program. In GB theory (Chomsky, 1981), grammatical features such as tense, number, person and class-gender are put under an abstract element called inflection. In the terminology of X-bar theory of GB (Chomsky, 1981), inflection is the node which intervenes between the noun phrase (NP) and the verb phrase (VP) in a sentence as (20) illustrates.

(20) S-----NP AUX VP

As (20) illustrates, AUX (auxiliary) is the node that is referred to as inflection. Since inflection is an abstract union of features which must agree with the subject NP, GB (Chomsky, 1981) refers to it as agreement.

Haegeman (1991) reveals that the EC PRO is a covert pronominal subject that is base generated at the subject position of infinitival clauses. The distribution of the null argument PRO is thoroughly constrained in that it can occur only in the subject position of infinitive clauses. In addition, PRO must be ungoverned as required by the PRO theorem. Haegemann limits his examples to English and fails to use any example from an African Bantu language where Lutsotso is included. This leaves a gap which the current study intends to fill.

In a Minimalist approach, Radford (1997) argues that languages differ in the strength of the agreement features carried by their finite verbs. He suggests that when finite verbs carry strong agreement features, non auxiliary finite verbs can raise from V to INFL and they can have a null pro subject, but when verbs carry only weak agreement features, neither the raising nor the null subject is possible. Radford assumes that the strength of features is correlated to the richness of the agreement inflections, and that, in a language that has a rich system of agreement inflections, identification of the null subject is more easily recoverable. As an illustrative

example, Radford uses the Historical changes to the inflectional system of Old English (which he claims was pro drop) that eventually yielded Modern English (which is not pro-drop). Radford employs the Minimalist Program (MP) while the current study employs the principles Government and Binding theory (GB). Radford's study limits itself to illustrations from English and makes no reference to African languages. This leaves a gap which the current study intends to fill. This study will determine the licensing of null arguments in the sentence structure of Lutsotso a dialect of Luluhya which is an African language

In another study, Wangatia (2006) carried out a morpho-syntactic analysis of Luwanga verb phrase (VP). His studies reveal that the Luwanga complex VP has grammatical properties of a complete sentence especially when the subject NP and object NP are understood in context. Wangatia (2006) further observes that person, number and tense pre-modify the main verb. He notes that the subject marker morpheme exists on the VP as a portmanteau morpheme containing information for person and number. These observations by Wangatia (2006) are relevant to this study as we shall make reference to them in respect of the VP complex. Nevertheless, Wangatia's (2006) work deviates from the current work, first, in terms of theory used in the analysis of Luwanga VP. Wangatia employs the inflectional theory of morphology whereas the current study employs the Government and Binding theory and the Feature Checking aspect of MP (Chomsky, 1993, 1995) in its analysis of Lutsotso data. Secondly, Wangatia's work focuses on Luwanga verbal structure and fails to determine licensing of null arguments, particularly empty category (EC) PRO which is a non – overt subject found in infinitival clauses and empty category (EC) pro which results from dropped subjects in the sentence structure of Luwanga; a dialect of Luluhya language where Lutsotso is included. As such, there is a gap left which the current study will fill. In an attempt to fill this gap in knowledge the present study will identify and determine the licensing of null arguments in the Lutsotso sentence structure.

Moreover, while discussing the Lutsotso Noun Phrase, Osore (2009) observes that like other Bantu languages, Lutsotso has a subject-verb-object (SVO) basic word order. The (N) constituent element of the simple sentence exists as a complex noun phrase with nominal properties represented by affixes. Osore further observes that Lutsotso NP has several phrase structure possibilities that generate deep structures. The rules which are obligatory apply cyclically and preserve their linear order. However, Osore`s work fails to determine licensing of null arguments, particularly empty category (EC) PRO which is a non – overt subject found in infinitival clauses and empty category (EC) pro which results from dropped subjects in the sentence structure of Lutsotso. As such, there is a gap left which the current study will fill. Osore`s work is relevant to this study in the sense that Osore focused on the Lutsotso Noun Phrase but the current study focuses on the argument licensing in Lutsotso sentence. More so, this study is related to Osore`s (2009) study in so far as the use of affixes in representing the various nominal properties is concerned. Nevertheless, the current study departs from Osore`s (2009) work in the following ways. Firstly, Osore (2009) utilized the standard theory as formulated by Chomsky (1965) and the theory of inflectional morphology (Bauer, 1983, Haspelmath, 2002) in the description and analysis of the Lutsotso Noun phrase while the present work employs the GB theory and the feature checking aspect of the MP (Chomsky, 1993, 1995). Secondly, Osore (2009) analyzes the constituents of the Lutsotso Noun phrase while the current work analyzes the argument licensing in Lutsotso.

In Lutsotso, sentence constituents are brought into grammatical agreement by morphemes which inflect on the verb and which represent or carry the features of the subject or object where the NP could either be a noun or a pronoun (Osore, 2009). Examples of such morphemes are the subject marker (SM) and the object marker (OM). In this study, these two morphemes

are referred to as agreement markers (AGR) while gender refers to noun class system as table 1 in section 2.4.1 shows. The feature number indicates whether an NP is plural or singular. In Lutsotso AGR manifests the features number, class and person (in cases of personal pronouns) of lexical NPs. The NP that is the subject of a verb must agree in number class and person with the inflected SA in the verb as (21a) and (21b) illustrates (Osore, 2009:78).

(21a) Omu-siani a- la lim -a omu-kunda

CL1-boy SM (AGR)-FUT-dig-FV-SM-farm

The boy will dig the farm.

(21b) Aba-siani ba- la- lim-a omu- kunda

CL2-boys SM (AGR)-FUT-dig-FV-SM- farm

‘The boys will dig the farm’.

In example (21a) the subject *omusiani* (boy) is in singular form and the subject agreement marker is –a- and is in singular. In (21b), The subject *abasiani* (boys) is in plural form and the subject agreement marker is –ba- and is in plural form. The subject *omusiani* (boy) in (21a) and the subject *abasiani* in (21b) belong to class 1/2 of Lutsotso nouns as Table 1 shows. The above data is useful in the current study as it is in line with Rizzi`s (1986) claims that pro-drop languages are those with rich agreement.

2.4.1 The Lutsotso class system

Osore (2009) observes that Lutsotso, like all Bantu languages has a class system where affixes are used in the verb to mark agreement with the subject. The number category that express contrast involving countable qualities by distinguishing one item from more than one is reflected in the class system. Welmers (1973) studied the concord system in Bantu languages and came up with an arrangement of class prefixes that cut across most Bantu languages. Table 1 portrays this system in Lutsotso. The literature review on class system is relevant to the

current study as far as agreement is concerned. According to Rizzi (1986) pro-drop languages are those with rich agreement.

Table 1: Lutsotso noun classes

CLASS	PREFIX	ROOT	GLOSS
1.	omu-	-ndu	Person
2.	aba-	-ndu	People
3.	omu-	-saala	Tree
4.	emi-	-saala	Trees
5.	li-	-hembe	Mango
6.	ama-	-embe	Mangoes
7.	eshi-	-ndu	Thing
8.	ebi-	-ndu	Things
9.	i(N)	Moni	Eye
10.	Tsi	Moni	Eyes
11.	olu	Kulu	Range
12.	Tsi	Ngulu	Ranges
13.	Akha	Ana	tiny child
14.	Oru	Ana	tiny children
15.	Obu	Heli	Love
16.	okhu	lima	to dig
17.	Ha	Ngo	at home
18.	Mu	Nzu	in the house
19.	Khu	Nzu	on the house

20.	Oku	ndu	very big person
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Source: Osore (2009: 33)

Class system as table 1 shows refers to a situation whereby a noun in its simplest form can be analyzed as consisting of a root and a prefix. These prefixes with noun roots are used as a criterion for dividing nouns into a number of classes. A pair of prefixes, singular and plural represents one class of nouns. For example, class 1/2 *omu- ndu* (person) *aba-ndu* (people) In addition, there are some classes with only one prefix reflecting identity of singular and plural such as *obu- heli* (love). Prefixes also mark grammatical agreement between nouns and their modifiers.

2.4.2 Subject marker

The subject position of a Lutsotso sentence can be occupied by either a noun or a pronoun. This is observed in the subject marker in the verb which reflects person and number in the overt subject. The subject marker in the verb therefore expresses subject incorporation in the verbal form (Baker, 1985). In other words in Lutsotso, the subject marker copies the features of the nominal subject onto the verb morphologically so that these features (person and number) - for instance 'a' is used for singular subjects with the feature specification [+ human] while [i] is used for singular subjects with the feature [- human] as seen in 22 (Angogo,1983:75)

- (22a) Mama a – la – tsia khu – soko
 Mother SM -FUT – go – to – market
 Mother will go to the market.

2.4.3 The object markers

The object marker is prefixed to the verb root to denote an object that is not overt in a syntactic structure. The object position in Lutsotso can be occupied by a noun or a pronoun (Murasi, 2000, Osore, 2009).

For example:

23 Dina a – la- ir- a linyoyi

Dina SM-TNS-kill-FV bird

Dina will kill a bird

24 Dina a- la- li- ir- a e

Dina SM-TNS-OM-kill-FV

Dina will kill it.

In example (23) the object position is occupied by a noun *linyoyi* (bird), while in (24) the object position is occupied by the pronoun `li' which also represents the object marker.

Usually, the object marker represents the pronominal form of the object nominal, a third person. Consequently, in agreeing with the nominal object, the third person number and the class system determines the structure of the object marker. It occurs as a prefix immediately before the verb root.

The literature review on object markers is relevant to the current study in as far as the EC pro is concerned. In the terminology of theta theory of GB, the current study refers to null arguments which result from dropping of NPS as pro. According to the extended projection principle every sentence must have an external argument (subject) and an internal argument (object). Literature on object markers and subject markers is relevant in the discussion of null arguments and particularly small pro.

2.5 Summary

The literature review conducted on the works of various scholars such as Appleby (1961) and Angogo (1983) provide general information on Luluhya language while Nurse & Heine (2000) give us general information on Bantu languages. However, Murasi (2000) discusses Lutsotso nominal morphs, Wangatia (2006) discusses the Luwanga verb phrase and Osore (2009) analyses the Lutsotso Noun Phrase. This literature review reveals minimal analysis of argument licensing morphology in the sentence of Lutsotso. In this regard, this study analyzes the Lutsotso sentence to fill in the gap. The argument changing operations will be identified, described and their peculiarities highlighted. Having identified the linguistic gap to be filled in this study, the next chapter discusses the research methodology used to analyse the Lutsotso sentence.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides an explanation of the methodology used in this study. It details the research design, study population, sampling procedure and sample size, instruments of data collection and the process of data analysis. Finally, the chapter ends with a summary. The study aimed at collecting a corpus of syntactic structures representative of the Lutsotso verbal morphology. As mentioned earlier, this study set out to investigate the Argument licensing in Lutsotso sentence.

3.2 Research design

A research design is used to structure the research and to show how all the major parts of the research work together to address the objectives to be achieved (Franfort-Nachmias & Nachmias, 1996).

In this study, a descriptive research design was used. The researcher chose this design because according to Creswell (1998) a descriptive design is effective where a large population needs to be studied and where techniques such as interviews and observations are involved. In addition, a descriptive research design requires the researcher to be a native speaker of the language under study (Milroy, 1987). The study utilized both field and library sources of data. The library research provided general information on verbal morphology. The field research provided information that contained linguistic data from Lutsotso. According to Gay (1981) a descriptive research will collect data to test hypotheses or answer questions concerning the current status of the problem. In addition, Selinger & Shohamy (1989) say that a descriptive

research deals with naturally occurring phenomena using data which may either be collected first hand or taken from already existing data sources. Moreover, Mugenda & Mugenda (2003) add that a descriptive research determines and reports the way things are. A descriptive research is used to establish the existence of phenomenon by explicitly describing them. According to Milroy (1987), in a linguistics descriptive study, the informants should be native speakers of the language under study. The investigator, who should also be a native speaker of the language under study, utilizes his/her competence in the language to analyze and describe the data to arrive at a model of the grammar of the aspect of the language being studied. With the necessary conditions for linguistics descriptive study met, Lutsotso argument structure changing operations were identified and described. The constraints behind these patterns were also established. In order to arrive at the required data, the study adopted the descriptive model. In applying this approach to the current study, the investigator focused on the language item under study within the interactive framework of the environment where it occurred. Being a native speaker of Lutsotso dialect of Luluhya language, the investigator used her competence in the language to analyse data collected from the informants.

The descriptive research design is within the qualitative research paradigm. This research paradigm was appropriate because it is a general term for investigative methodologies described as ethnographic, naturalistic, anthropological, field or participant- observer research. For the purpose of this study, it can be stated that this approach enabled a holistic analysis of Lutsotso argument structure as set in the objectives. This position is supported by Denzin & Lincoln (1994) who state that a qualitative research is multi-method in focus involving an interpretive naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural setting attempting to make sense or interpret phenomena in terms of meanings people bring to them.

The descriptive design chosen involved the use of primary ethnographic data collection methods as the most suitable tool for the attainment of the study objectives.

3.3 Study Area

The study was carried out in Kakamega Central sub-county, in Kakamega County. It is in Lurambi constituency. Kakamega Central sub –county is important to the local people because it is an administrative centre, education and centre for local trade in the area (Murasi, 2000). Butso location is in Kakamega Central sub –county and is divided into three regions: Butso North, Butso Central and Butso South. The study chose Butso because the native speakers who live there use Lutsotso as their main language of communication. The neighbours of Lutsotso speakers are Marama and Wanga to the South, Isukha and Idakho to the East, Nyala to the West and Kabras to the North (see appendix 3) Butso is situated between latitude $0^{\circ} 30'$ and $0^{\circ} 30'N$ and between longitudes $34^{\circ} 30'E$ and $35^{\circ} E$.The population of Lutsotso speakers is 480,000 distributed as follows: Butso North 138,000, Butso Central 180,000 and Butso South 162,000.

3.4 Study population

The population of this study was Lutsotso native speakers.

A population of 210 Lutsotso native speakers was targeted. The geographical boundaries of Butso were used as follows in the selection of Lutsotso native speakers: Butso North 70, Butso central 70 and Butso South 70 native speakers. As observed by Milroy (1987) it was expected that the target population of 210 Lutsotso native speakers would provide sufficient data that would be manageable to enable justifiable conclusions. This study targeted competent native speakers of Lutsotso. In this study, competent refers to individuals who have gained enough proficiency in their first language (L1), are fluent in the language and can use it in concrete situations such as conversations. The Lutsotso native speakers were found in

Lurambi division of Kakamega Central sub-county, Kakamega county of Kenya. The Lutsotso native speakers who formed the study population were identified during instances of naturally occurring speech situations such as church services during preaching, local barazas normal interpersonal interactions. Naturally occurring speech in this study is used to mean speech that is made spontaneously and uncontrolled.

3.5 Sampling procedure and sample size

Sampling refers to the process used to select a portion of the population for study (Saravanel, 1992). The researcher sampled the population in order to come up with a sizeable and controlled number of sentences and relevant information that would make the work manageable and practical within the time frame and available resource for this study. In this regard, this study employed purposive sampling techniques in the selection of Lutsotso native speakers. Purposive sampling technique is whereby a sample is selected according to one's personal judgement in order to cultivate an indepth understanding of the phenomenon being studied (Borg & Gall, 1996). The purposive sampling has been chosen for this study because it is a sampling technique that allows a researcher to use cases that have the required information with respect to the objectives of the study. Sample members are therefore picked because they possess the required characteristics. The role of purposive sampling in this study was to guide the investigator to target and select only those Lutsotso native speakers and domains of language that had the required linguistic information. In the current study, the focus was on Lutsotso native speakers. As such purposive sampling was used in the selection of Lutsotso native speakers from five churches and five local barazas that the researcher attended and collected data from (sentences) and from the people the researcher interacted with. According to Milroy (1987) judgmental sampling involves the selection of sample members based on the judgment of the investigator using some criteria. In this study, the criterion that

the researcher used to select the informants was that: the informants were to be native speakers of Lutsotso who had been using the language mostly and had lived among the Lutsotso speakers for most of their lifetime. In the selection of churches and local barazas, the sole language of communication must be Lutsotso.

Sankoff (1980) cautioned that the sampling of a population should be closely linked to the objectives of the study and identified three important decisions which should be made before sampling takes place.

1. Defining the sampling universe by delineating the boundaries of the community to be studied.
2. Assessing the relevant dimensions of variation within the community by considering factors such as age, gender, or social class which are likely to affect the language used.
3. Fixing the sample size

According to Sankoff (1980) large samples tend to be unnecessary for linguistic surveys because linguistic behavior is apparently more homogeneous than other types of human behavior studied in social survey. In the words of Sankoff (1980:52):

“...even for quite complex linguistic communities, big samples tend to be redundant, bringing increasing data handling problems with diminishing analytic returns’.

Dornyei (2007) notes that a qualitative inquiry is not concerned with how representative the sample is, but instead, the main goal of sampling is to find individuals who can provide rich and varied insights into the phenomenon under investigation so as to maximize what we can learn.

As already discussed above on sample size by Sankoff (1980) and Dornyei (2007), this study settled on a sample size of 21 Lutsotso native speakers which was 10 percent of the target

population of 210. Gay (1981) suggests that in a descriptive research, 10 percent of the accessible population is enough.

It was expected that this sample size of 21 Lutsotso native speakers would provide sufficient data that would be manageable to enable justifiable conclusions. Moreover, the available literature in linguistic research warns against using large sample sizes in language surveys because these tend to be impractical redundant and on the whole, unnecessary (Sankoff, 1980).

The study used the following sources of data: data collected from the field focusing on naturally occurring speech in which 100 sentences were collected, and texts written in Lutsotso where 20 sentences were collected. Three crucial areas that allow for effective self expression formed the basis for sampling, namely, church services, Local barazas and interpersonal interactions were used by the researcher to collect data. Using judgmental sampling, 120 sentences from Butsotso were tape recorded and were later transcribed and analyzed. They were distributed as follows: Butsotso North had a total of 35 sentences from various centres as follows; Ingotse Church of God 10 sentences, Shikoti local baraza 10 sentences, interpersonal interactions 10 sentences and informal interviews 5. Butsotso Central had a total of 35 sentences distributed as follows; church service at Buchinga church of God 10, Shisiru local barazas 10, interpersonal interactions 10, and informal interview 5. Butsotso South provided 35 sentences as follows; Shisango ACK 10, Emweywe local baraza 10, interpersonal interactions 10 and informal interviews 5. Data from texts written in Lutsotso was 15 sentences.

To verify authenticity of data collected from the above areas, informal interviews were conducted with 5 Lutsotso native speakers. The study employed chain technique (also known as snowballing) to identify the Lutsotso native speakers who took part in the informal interviews.

The purposive sampling technique was used alongside the chain technique (also known as snowballing). The chain sampling technique (snowballing) is where the initial subjects with desired characteristics are identified using purposive sampling technique. The few identified subjects name others that they know have required characteristics until the researcher gets the number of cases he/she requires. This method is useful when the population that possesses the characteristics under study is not well known and there is need to find subjects. The researcher needed Lutsotso native speakers who had attained an education level of form four and could translate English sentences to Lutsotso well during the informal interview. To get such speakers the researcher therefore opted for chain sampling strategy. Hence the native Lutsotso speakers with information on the subject of research led the researcher to others of equal value. These Lutsotso native speakers were those who would be willing to participate in the study.

3.6 Study Piloting

The researcher carried out a pilot study to enable streamlining of the research process and tools. The discussion on sampling procedure and sample size was arrived at after the pilot study.

A pilot study is a methodological tool and a mock run of the primary study at a much smaller scale with the sole purpose of identifying and anticipating any difficulties, problems and pitfalls (Wray, Trott & Bloomer, 1998). The aim of a pilot study is to produce a set of data which will help to clarify all sorts of issues and questions one needs to know before embarking on the larger project as it points to both strengths and weaknesses of the study. The pilot study gave the researcher a chance to avoid what could prove to be a costly decision if a pilot study were not conducted. The pilot study was useful for testing methodological and analytical tools and gave the researcher a general picture of the thesis writing. Saravanel (1992) writes that 'pilot study enables the researcher to gain some systematic knowledge of the universe and its population on which would be based the main principal of the study' (p.135) . It was during

the piloting of the study that the researcher was able to streamline the interview questions. For instance; the researcher realized the need to include a section with Lutsotso verbs for native speakers to use for constructing sentences in Lutsotso.

During a brief visit to the initial research site, a small pilot study was carried out with one of the Lutsotso families (interpersonal interaction) whose reactions assisted in shaping the form the thesis would take. Observations among the members of the Lutsotso family helped select the verbal forms for this study. The responses were also very important in that they pointed out topics for discussion that would help to generate the required data. For example; topics touching on politics, marriage, among others were seen to be very interesting and could sustain a discussion for a long time.

A pilot study at the church and the local baraza helped the researcher to do a way with hand written notes as earlier planned. It dawned on the researcher that taking handwritten notes at the church was not the best method of recording information since most of the information was lost in process of listening writing at the same time . During the interview session with some members of the family selected, there were interfering noises emanating from children playing about and the radio stereo in the house. It dawned on the researcher that there would be need to request the participants to control the noise from the electronic equipment in the house.

3.7 Data collection methods

The method of data collection spelt out here was aimed at ensuring that the study is carried out objectively. Though the researcher is a native speaker of Lutsotso the data collected and analyzed in this study is from informants the researcher interacted with. The researcher`s native speaker proficiency is only utilized in the analysis of data.

The study used primary and secondary sources in collecting data. Primary data came from field observations and interview. The primary data was collected through informal interviews,

participant and non-participant observation technique. Such a combination of methods was considered necessary for obtaining a well grounded view of a given situation and to ensure the collection of valid and reliable data, including information on argument adjusting operations, order of argument licensing morphemes and the licensing of null arguments in the sentence structure of Lutsotso. This combination was equally necessitated by the fact that each objective seeks different information

The researcher participated in naturally occurring conversations in which Lutsotso was the main language of communication. The researcher targeted occasions such as church services, local barazas and normal interpersonal interactions. The researcher recorded the conversation and took hand written notes. The secondary data was collected from Lutsotso texts. To achieve the objectives of the study, the following techniques were employed. Participant observation, non-participant observation and informal interviews.

3.7.1 Participant observation

In participant observation, the observer participates by making himself/herself more or less a member of the group he/she is observing so that he/she can experience what the members of the group experience (Kothari,1984).

During the first stage of data collection, that is, participant observation, the investigator participated in naturally occurring conversations in which Lutsotso was the main language of communication. The investigator participated in the conversations by providing topics for discussion which led to getting the linguistic aspect related to argument adjusting operations. The researcher targeted occasions such as normal interpersonal interactions. The linguistic output during these occasions was tape recorded and later transcribed. The recorded information was transcribed and organized and from it the initial data of Lutsotso sentences

were extracted (see Appendix 2). This technique of participant observation targeted the first objective of the study.

3.7.2 Non-participant observation

Non participant observation is when the observer observes as a detached emissary without any attempt on his/her part to experience through participation what others feel (Kothari, 1984).

In the second stage of data collection, that is, non-participant observation, the investigator listened to conversations in which Lutsotso was the main language of communication. The researcher targeted occasions such as church services and local barazas. From the conversations in Lutsotso, sentences were extracted (see Appendix 3). Non-participant as a tool of data collection was meant to achieve the second objective of the study. The observer used the observation checklist to identify the verbal forms with the required linguistic information (see appendix 3)

3.7.3 Informal interviews

Informal interview is a personal interview method which requires a person known as the interviewer asking questions generally in a face to face contact to the other person or persons. This kind of interview is unstructured and has a general plan that the interviewer follows. The interviewer asks questions or makes comments intended to meet the objectives of the study (Kothari, 1984; Mugenda, 2003). For the purpose of this study, informal interviews were used to achieve the second objective.

Informal interviews were conducted in the third stage of data collection. The purpose was to do cross checking of the data collected in the initial stage and the second stage with other native speakers of Lutsotso. During this session the investigator gave out five questions as a guide of the interview. In order to verify the order and pattern of the arguments within the Lutsotso

of the sources of data involved unpublished papers, manuscripts and the Lutsotso Bible. Notes on data from these sources were taken as hand written notes.

3.8 Methods of data analysis

Data analysis involves sifting, organizing and synthesizing the data so as to arrive at the results and conclusions (Selinger & Shohamy, 1989).

Following the ideas of Selinger & Shohamy, (1989), the tape recorded data was transcribed and organized. After organizing the data, it was arranged into groups on the basis of common linguistic characteristics. The first group comprised of valence increasing processes of the applicative, causative and instrumental. The second group had valence decreasing processes of passive, reciprocal, reflexive, stative and reversive. The third group comprised of data that showed co-occurrence of valence adjusting processes on the same verb. Finally, the fourth group comprised of data that had linguistic characteristic of null arguments.

Using the GB theory, the feature checking aspect of the minimalist program and the Mirror Principle, data was analyzed at different levels. The first level was analysis of argument structure changing morphemes of Lutsotso sentence. The second level was analysis of the order of the argument licensing morphemes and the constraints that govern their co-occurrence. The third level was analysis of null arguments in Lutsotso sentence. Data presentation and analysis was done in the following order.

The first level of analysis involved the analysis of the argument adjusting operations and their effect on the sentence structure of Lutsotso sentence. The valence increasing processes and valence decreasing processes were described. The valence increasing processes that were analyzed included the applicatives, causatives and the instrumentals. Likewise, the valency

decreasing processes that were analyzed at this stage were the passives, the reciprocals, the statives and the reversives.

The second level was analysis of the order of the argument changing morphemes in the sentence of Lutsotso and the constraints that govern their co-occurrence. This analysis was done as follows:

- 1) Co-occurrence of valence increasing morphemes such as the applicative and other valence increasing morphemes such as the causative on the same verb.
- 2) Co-occurrence of valence decreasing morphemes such as the passive and other valence decreasing morphemes such as the reciprocal on the same verb.
- 3) Co-occurrence of valence increasing morphemes such as the applicative and valence decreasing morphemes such as the passive on the same verb.

The third level was the analysis of null arguments in the sentence structure of Lutsotso

In this study, a descriptive research design which requires the researcher to be a native speaker of the language under study was used. The study area was Kakamega central sub-county in Kakamega County. The study population of this study was Lutsotso native speakers. The study employed purposive sampling technique alongside chain sampling technique (also known as snowballing) in sampling. The researcher carried out a pilot study which enabled streamlining of the research process and tools. The pilot study was useful for testing methodological and analytical tools and gave the researcher a general picture of the thesis writing.

The methods of data collection used in this study are participant observation, non-participant observation, informal interview and library research. These methods have been appropriate in collecting data. In this study, data is analysed in three stages. The first stage is analysis of valency increasing and valency decreasing processes, second is analysis of the order of the

argument changing morphemes in the sentence of Lutsotso and the constraints that govern their co-occurrence and finally the analysis of null arguments in the sentence structure of Lutsotso.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter analyses the argument licensing morphology in Lutsotso. Argument increasing and argument decreasing operations are discussed. The argument increasing operations discussed in this chapter include: the applicatives, causatives and instrumentals. The argument decreasing operations discussed include the passives, statives, reciprocal, reflexives and reversives. The order of argument changing morphemes and the constraints that govern their co-occurrence in Lutsotso sentence is discussed and finally, the licensing of null arguments in the sentence structure of Lutsotso is discussed.

4.2 Verbal derivations

'Verbal extensions' is the traditional label used for those verbal affixes that 'extend' or change the lexical meaning of the verb, as opposed to temporal, modal and aspectual (TMA) verbal suffixes which do not change the basic meaning of the verb. For this reason, verbal extensions are usually considered as derivational affixes and rules that extend verbs with these affixes are supposed to take place in the lexicon (Ngonyani, 1996). The derivational affixes are often referred to as extension in Bantu languages (Ashton, 1944).

The verb can add suffixes or combinations of suffixes. Such combinations must follow a particular order. If the affixes are added in a different order, unacceptable verbal extensions result. There are also co-occurrence restrictions which if not obeyed will also lead to unacceptable verbal forms (Baker, 1988; Haegeman, 1991) as we shall see in section 4.5. Like in other Bantu languages, Lutsotso extension morphemes form the basis for extending or altering the meaning of the verb. The extension morphemes have a strong bearing on the

semantic quality of a verb and are therefore lexical morphemes. To illustrate the occurrence of extension morphemes (suffixes) in the verb, consider (28) (Angogo 1983:42) :

(28) Imbis-i- an- il -a.

Sing-CAUS-REC-APPL-FV.

Cause to sing for each other.

An extension suffix may occur singly in a verb or with other extension suffixes as shown in (28) to add to the already expressed meaning. In (28) , we notice the causative suffix –i- occurring with the reciprocal suffix {-an-} and the applicative suffix `il’ in the verb *imba* (sing). The suffixes affect the number of NPs that the verb can support in the syntactic configuration. The suffixes can be conveniently subdivided into into three groups: those which increase by one the number of NPs that can appear in the sentence, those which reduce by one the number of NPs the suffixed or extended verb can support, and those which do not alter the array of NPs (Mchombo 2004). Themes with which they are associated include:

The causative, applicative, instrumental, reflexive, passive, neuter (stative), persistive, reciprocal and reversive among others. The suffixes constitute argument –structure-changing morphology, and mark the verbal suffix domain as that of morphological processes. These themes are marked by different morphemes. According to Ouhalla (1994), a theme is the person or thing affected by the action expressed by the predicate. The following morphemes were identified in Lutsotso dialect.

Morpheme	Theme	Example.
-ekha	neuter	bo-ekha
		Able-to tie
-ilil-	persistive	fuk-ilil-a

		Agree-ext-mood
-ul-	Reversive	sikh-ul—a
		Bury-ext- mood
		Exhume/unbury
-i/esi	causative	som-esi—a
		Read-ext-mood
		Cause to read/learn
-el-/il	Applicative	tekh- el- a
		Cook- ext-mood
		Cook for
-w-	Passive	bol- w- a
		Speak-ext-mood
		Be spoken
-an-	Reciprocal	khup-an-a
		Beat-ext-mood
		Beat each other
-ulul-	intensive	fuk-ulul-a
		Agree-ext-mood
		Undo a prior agreement
-il-	instrumental	Reml-il-a
		Slash-ext-mood
		Slash with

4.3. Argument licensing morphology in the sentence structure of Lutsotso

This section discusses the first objective of the study.

This section concentrates on Lutsotso verb derivation as the major morphological process which forms the focus of this study. The section analyzes and discusses the findings from the field by describing and explaining the data gathered by tools discussed in Chapter 3. These are: participant observation, non-participant observation, informal interviews and Lutsotso texts. Using the Government and Binding theory (Chomsky, 1981) and the feature checking approach of Chomsky's (1995) minimalist program, verbal derivations and movement for feature checking is discussed.

This section aims at discussing the argument changing processes in the Lutsotso syntax. In view of this, relevant morphological processes associated with verb valence are analyzed since they determine the argument structure of the verb

4.3.1 Argument structure in Lutsotso sentence

Payne (1997:4) refers to arguments as the participants and their semantic roles that are normally associated with a given verb. These arguments or participants are subject objects or complements in a given sentence. On the same note, Haegman (1994) refers to arguments as participants minimally involved in the activity expressed by a predicate. An argument in this sense will be equivalent to any NP position within a sentence.

The notion valence in linguistics is seen to take over and extend the traditional and more restricted ideas of transitivity and voice. Traditional grammarians distinguish between intransitive and transitive verbs. Chomsky (1957) in his early approaches to generative grammar carries on the same idea using sub-categorization rules which show the syntactic environment in which a verb can be part as Table 2 illustrates.

TABLE 2: Sub categorization of verbs

Types of verbs	Complementation patterns.
Intransitive	V[----]verb has no complement

Transitive	V [----P]verb has one complement
Ditransitive	V[--NP, NP] verb has two complements

Table 2 illustrates the sub categorization rules of intransitive, transitive and ditransitive verbs. As can be observed in Table 2, an intransitive verb does not require to be followed by a complement. On the contrary, a transitive verb requires to be followed by one complement while a ditransitive verb requires two complements.

Valence is a term used for the distinct nominal constituents occurring with a verb. Verbs presuppose the presence of participants which play different syntactic and semantic functions in a sentence (Chomsky, 1957). Crystal (1997) defines valence as a term derived from chemistry and is used in linguistics to refer to the number and type of bonds which syntactic elements may form with each other.

The most fundamental element of a sentence is the verb. Further, there are dependant elements attached to the verb called arguments. Brown & Jim (1996) state that valence is the capacity a verb has in combining with particular patterns of other sentence constituents. Consider the examples in (29a) :

(29a) Anyona ya - ir - a linyonyi

Anyona SM- PST-kill- FV bird

Anyona killed a bird

The sentence in (29a) has two arguments. Anyona (subject) and `linyonyi (bird) (object). The two arguments have bonded with the verb *ira* (kill) to form a syntactically well-formed sentence. Sentence (29a) meets the requirement of the Extended Projection Principle of the X-bar theory of GB theory (Chomsky, 1981) that requires every sentence to have a subject.

Normally, the subject is referred to as the external argument since it is outside the verb but the object is called the internal argument since its part of the predicate (Haegeman, 1994).

According to Grimshaw (1990) argument structure is a structured representation which represents prominent relations among arguments. For a verb, these arguments also called valence can increase or decrease depending on the kind/type of verb. See the example from Lutsotso; (29b)

I – mbusi ye – rwa

CL 9 -goat- PST- kill

‘A goat was killed.’

In (29b) there is only one argument, *mbusi* (goat). It is no longer important who killed the goat; but a goat was killed. The subject argument *mbusi* (goat) has been done away with. This is a good example of a valence decreasing process.

According to Chomsky (1957) supported by Payne (1997) the notion of valence is closely (aligned) related with the traditional idea of transitivity. A transitive verb will always have more than one argument while an intransitive verb will always have one argument or participant as shown in the given examples (30) and (31) from Lutsotso data.

(30). Omwa – ana a – kona – anga

CL1 - child SAM – sleep – (prog)

The child is sleeping

(31). Peter ya- ir – a isimba

Peter SM – kill FV – lion

‘Peter killed a lion’.

The verb '*Kona* (sleep) in (30) is an intransitive verb and has one argument which is *omwana* (child). The verb *ira* 'kill' in (31) is transitive since there has to be the one who killed and what was killed. The given example (31) has two arguments, Peter and *isimba* (lion). Intransitive verbs which have one argument or valence like *kona* (sleep) are called univalent while transitive verbs like *ira* (kill) which have two arguments or valence are called divalent and verbs with three arguments are called trivalent verbs. Example (32) below illustrates a trivalent verb in Lutsotso.

(32). Anyona ya – hesi - a – omw- ana amabere

Anyona SM – give pst – fv SM – child milk

'Anyona gave the baby milk.'

The verb *hesia* (give) in (32) has three arguments. Anyona (s), *omwana* (baby) (beneficiary or indirect object (I.O) and the direct object (D.O) which is *amabere* (milk).

Syntactically, valence is the number of arguments present in a clause, while semantically it is the number of participants embodied by the verb (Payne, 1994:147). The Lutsotso verb has derivational morphemes that cause valence by either increasing or decreasing the number of arguments that a verb has in a given time.

4.3.2 Valence increasing morphemes

Valence increasing morphemes add an argument to the verb. These morphemes upgrade a peripheral participant to a core and obligatory role (Pyhkaririen, 2000). Lutsotso has derivational suffixes that license the verb to have an extra argument. These suffixes are the applicative, the causative and the instrumental.

4.3.2.1. The Applicative structure in Lutsotso

The applicative refers to the notion of doing something to benefit someone else (Mchombo, 2004). It is a valency increasing process and so an applied object (beneficiary) will be introduced into the sentence.

In Lutsotso, the applicative morpheme is { -il- } or { -el- } as in (33c) and (35b). These suffixes are added to the verb to create a derived verb in which the prepositional complement becomes a direct object of the verb shown in 33 :

(33a) Omu-khana a- tekha - nga

CL 1-girl SM- cook- prog

‘The girl is cooking.’

(33b). Omu – khana a – tekha – nga amapwoni.

CL1– girl SM – cook – prog potatoes

‘The girl is cooking potatoes.’

(33b) has two arguments *omukhana* (girl) and *amapwoni* (potatoes).

(33c). omu – khana a – tekh- el - anga omu – cheni amapwoni.

CL 1 – girl SM – cook- APPL – prog CL1 – visitor potatoes

‘The girl is cooking potatoes for the visitors.’

In the sentence (33c) the applicative marker { -el- } has been suffixed to the verb *tekha* (cook) and has licensed an extra argument. In this case the argument is *omucheni* ‘visitor’ who is the beneficiary. As such, the arguments are *omukhana* (girl) *amapwoni* (potatoes) and *omucheni* (visitor). The Extended Projection Principle of the X-bar theory of Government and binding theory requires that every sentence must have an external argument (subject). Sentence (33c)

satisfies this requirement as the argument *omukhana* (girl) is the external argument while *amapwoni* (potatoes) and *omucheni* (visitor) are internal arguments.

Example (33a) is a univalent sentence with the external argument *omukhana* (girl). (33b) is a divalent sentence with two arguments *omukhana* (girl) and *amapwoni* (potatoes). The addition of the applicative morpheme {-el-} leads to a divalent sentence (33c). The extra argument licensed is an applied object *omucheni* (visitor) because the action is done or applied on its behalf. In Lutsosto, the applicative suffix has a prepositioned meaning such as ‘by’ ‘to’ ‘for’ ‘at’ ‘against’ and ‘from’ in English. The added argument *omucheni* (visitor) is an obligatory constituent that has been promoted to object status. The argument structure of the basic sentence (33a) and the derived sentence (33b) is thus presented in Table 3

TABLE: 3 Lutsotso applicative structure (Univalent , divalent and trivalent)

External argument	Verb	Internal argument 1	Internal argument 2	Valency	Gloss
Omukhana – girl Subject Agent	Atekhang Is cooking			univalent	The girl is cooking
Omukhana – girl Subject Agent	Atekhang Is cooking	Amapwoni – potatoes Applied object Beneficiary		Divalent	The girl is cooking potatoes

Omukhana	Atekhelanga	Omucheni	Amapwoni	Trivalent	The girl is
Girl	Is cooking	Visitor	potatoes		cooking
Subject/agent	for				potatoes for
					the visitor

Table 3 shows that the external argument *omukhana* (girl) maintains its role as subject/agent in the univalent, divalent and trivalent sentences. The divalent sentence, *omukhana atekhanga amapwoni* (the girl is cooking potatoes) and the trivalent sentence, *omukhana ateshelanga omucheni amapwoni* (the girl is cooking potatoes for the visitor) reveal that there is a rearrangement of arguments since the derived sentence takes an applied object *omucheni* (visitor) with the beneficiary role. Table 3 shows that *omucheni* (visitor) and *amapwoni* (potatoes) have changed positions with the addition of the applicative morpheme. The position that was originally occupied by *amapwoni* (potatoes) is now occupied by *omucheni* (visitor).

The applicative sentences in Lutsotso can be analyzed using the principles of Government and Binding theory (Chomsky 1981). According to the structural requirement of external projection principle (EPP), every sentence must have an external argument (subject). According to EPP, not only must lexical properties of words be projected in the syntax, but in addition, regardless of their argument structure, sentences must have subjects (Chomsky, 1981). The extended projection principle (EPP) is stated in 34 :

$$(34) \quad S \rightarrow NP-AUX-VP$$

The extended projection principle can be used to analyze Lutsotso data as example (35) illustrates:

(35a) Omu-siani a-la-lim-a omukunda

CL1-boy FUT-dig-FV farm

‘The boy will dig the farm.’

(35b) Omu- siani a-la-lim-il-a mama omukunda

CL1- boy-SM -FUT-dig-APPL-FV mother farm

‘The boy will dig the farm for mother.’

(35c)*lim-il-a mama omukunda

Sentence (35a) has two arguments these are *omusiani* (boy) and *omukunda* (farm). In (35b) the applicative morpheme ‘il’ has licensed the addition of an obligatory argument *mama* (mother) hence three arguments in the sentence .These arguments are; *.omusiani* (boy), *omukunda* (farm) and *mama* (mother). (35a) and (35b) are grammatical because they have obeyed Extended Projection Principle. In (35a) the subject is *omusiani* (boy) while in (35b) the subject is *omusiani* (boy) as Table 3 shows. The ungrammaticality of (35c) follows from the EPP. The sentence lacks a subject.

Table 4 illustrates the basic sentence (35a) and the derived sentence (35b) and the adherence of both sentences to the extended projection principle of the theta theory. Table 4 also shows the re-arrangement of constituents in the derived sentence (35b).

TABLE 4: The Lutsosto Applicative structure (divalent and trivalent)

External argument	Verb	Argument 2.	Argument	valence	Gloss
1.			3.		
Omusiani Boy subj. agent	a-la – li –ma Will dig	Omukunda The farm		divalent	The boy will dig the farm

Omusiani	a-la – lim-il– a	Mama	Omukunda	trivalent	The boy will
Boy	Will dig for	Mother	Farm		dig the farm
Subj. agent					for mother.
Subject		Applied object	Direct object		
Agent		Beneficiary	Patient		

As example 35a and 35b shows in Table 4 , there is one to one correspondence between the syntactic function and semantic roles expressed by the subject/ agent/ and direct object/patient in the basic sentence (35a) and derived sentence (35b). There is however an added argument *mama* (mother) that is obligatory in the derived sentence in (35b) and does not match with any constituents in the basic sentence (35a).

According to theta criterion of the Theta theory of Government and Binding (GB) theory (Chomsky, 1981, 1982), an NP can only be assigned one and only one theta role. Likewise, a theta role can only be assigned once to an NP in a sentence (Chomsky, 1981). The NP *omusiani* (boy) in example (35b) is assigned the agent role and cannot be under whatever circumstances be assigned patient role. And once the agent role has been assigned to the NP *omusiani* (boy) in example (35b), it cannot be assigned again to, for instance, the NP *mama* (mother). On the same note, *mama* (mother) can only be assigned beneficiary role and beneficiary role cannot be assigned again to the NP *omusiani* (boy).

In the MP (Chomsky, 1993, 1995), the derivative morphemes like the applicative, the causative, and the passives are considered to be feature bearing affixes hence, heads and specifiers have to be built for them depending on their lexical and morphological evidence. If the applicative morpheme ‘il’ for example (35b) has triggered beneficiary (applied object) *mama* (mother) then the applicative head in the structure will be built to check the verb *lima*

(dig) for applicative feature and to have a landing site known as specifier (SPEC) for the object *omukunda* (farm) and have it checked for accusative case. The verb *lima* (dig) together with all its features and the noun (either) subjects or objects are picked through the process numeration and transported to the VP. The computational system builds structures by selecting elements from the numeration and combining them in the relevant way (Chomsky, 1995). The verb then moves to various heads for checking of respective features, noun moves to specifier for case checking. In this program, operations are driven by morphological necessity thus no superfluous positions are allowed.

In the derived sentence, in 35b the applicative phrase (APPL P) head and specifier, the subject agreement phrase (AGRSP) head and specifier, the object agreement (AGROP) and specifier will be built to check the verb *lima* (dig) for the respective features and the noun for case. The tense (TNS) head will also be built to check the verb *lima* (dig) for the tense feature. We notice that roles in the Lutsotso sentence are assigned to A – positions, that is “positions which may in principle be filled by arguments laid down in lexical entries” (Chomsky, 1981 :102). In this case theta marked NPS in (35a) and (35b) are in A- positions. These are: *Omusiani* (boy) and *omukunda* (farm).

The principle of full interpretation (Chomsky, 1995) specifies that a representation for any given sentence must contain all and only those elements which contribute directly to its interpretation at the relevant level. To ensure that there are no un-interpretable features in sentence (35b), there is movement of elements for the purpose of feature checking as figure 3 shows. The elements that move are the external argument *omusiani* (boy) which moves from the SPEC/VP to SPEC of AGRSP where its agreement features, nominative case, number and person are checked. The verb *lima* (dig) moves out of the verb base to mood/mood to check its mood features then to APPL/APPL to check its applicative features and to TNS/TNS to check tense features and finally lands at AGRS/AGRS to check agreement features with the subject,

omusiani (boy) as figure 3 illustrates. In the MP, the applicative will be interpreted as a feature bearing affix which receives a head for the purpose of feature checking for the newly created argument *mama* (mother). The applied object *mama* (mother) moves from the NP position to SPEC/APPL for accusative case checking leaving behind a trace `to`. The third argument *omukunda* (farm) moves from the NP position and leaves a trace `to` to land at AGRO/SPEC for accusative case checking as Figure 3 illustrates. As a result of the extra argument added the word order changes from subject verb object (SVO) to subject verb object object (SVOO)

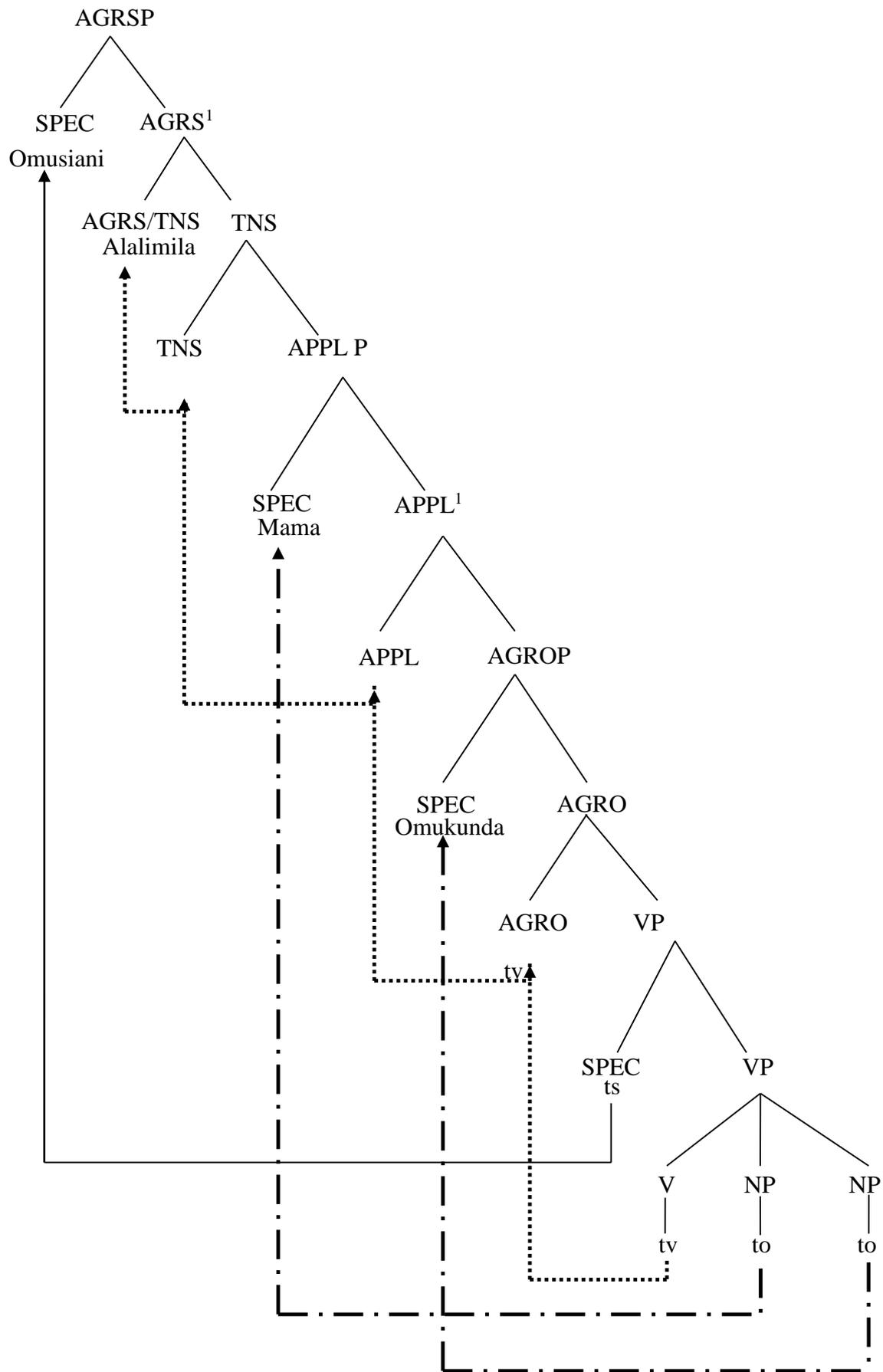


Figure 3: Lutsotso Applicative structure

Figure 3 shows the Lutsotso applicative structure. The first line (____) shows the movement of the subject *omusiani* (boy) from the SPEC of VP where it is generated to SPEC of AGRSP where its relevant features are checked. The second line (____.____.____) shows the movement of the applied object *mama* (mother) from the NP position to SPEC/APPL for accusative case checking leaving behind a trace 'to'. The third line (____.____.____) shows the movement of the argument *omukunda* (farm) from the NP position to AGRO/SPEC for accusative case checking. The fourth line shows (-----) Shows the movement of the verb *lima* (dig) out of the verb base V/VP to check relevant features and finally lands at AGRS/AGRS to check agreement features with the subject, *omusiani* (boy) as figure 3 illustrates

4.3.2.2 Causative argument structure in Lutsotso

Payne (1994) defines a causative as a linguistic expression that expresses causality, one argument of which is a predicate expressing an effect. In causatives, the meaning expressed by a verb shows that someone or something brings about a situation expressed by the verb.

In other words, causatives have the notion of causality or the idea of making someone do something. In Lutsotso, morphological causatives will take a further argument which is obligatory. The causative morpheme in Lutsotso is {-i-}

Causatives are valence increasing devices as they introduce the person or thing that causes something to happen. The following examples from Lutsotso data illustrates:

(36a) aba – ana ba – tsekh - a

CL2– child SM – laugh - FV

‘The children laughed.’

(36b) aba – cheni ba – tsesh - i– a aba – ana.

CL2 – visitor SM – laugh – CAUS-FV CL2 – children

‘The visitors made/caused the children to laugh’.

The verb laugh in (36a) has only one valence/argument *abaana* (children). The causative suffix {-i-} in (36b) has licensed an extra argument/ valence and the verb is no longer univalent but divalent. The two arguments in (36b) are *abacheni* (visitors) (the one who caused the action) and *abaana* (children).

The causative morpheme can also make a divalent verb *lia* (eat) to become trivalent as example (37) shows.

(37a) Anyona a- la- li – a li- ramwa

Anyona SM –FUT-eat --FV CL5 banana

‘Anyona will eat a banana.’

The given example in (37a) has two arguments. *Anyona* and *liramwa* (banana). The verb *lia* (eat) is divalent as it has two arguments. When the causative morpheme {-i-} is added to the verb *lia* (eat) it changes to *lis-i-a* (cause to eat) as (37b) illustrates. The verb *lia* (eat) has become trivalent as a result of adding the causative morpheme {-i-}

(37b) Anyona ya – lis- i – a mama li -ramwa

Anyona SM – eat – CAUS – FV mama CL5- banana

Anyona made/caused mother eat a banana

In sentence (37b) the causative suffix {-i-} has licensed the addition of a third argument. The verb *lisia* (cause to eat) in (37b) is thus a trivalent verb with three arguments ; *Anyona*, the one who caused the action, *mama* (mother) who was made to eat and *liramwa* (banana).

The argument structure for the causative is represented in Tables 5(i) and 5(ii)

TABLE 5(i) : Lutsotso causative structure: intransitive sentence.

Argument 1	Verb	Argument 2	Valence	Gloss
Omwana Subject Agent	Yatsekha		Univalent	The child laughed
Omucheni Subject Agent	Ya – tshesh –i –a	Omwana Direct object Experiencer	Divalent	The visitor caused the child to laugh

The univalent verb becomes divalent as a result of the causative morpheme ‘I’

TABLE 5(ii) : Lutsotso causative structure ii: transitive sentences.

External argument 1	Verb	Argument 2	Argument 3	valence	Gloss
Anyona Subject Agent	Yalia Ate	Liramwa Banana		divalent	Anyona ate a banana
Anyona Subject Agent	Yalisia	Mama Causer Object	Liramwa Object Patient	trivalent	Anyona caused mother to eat banana

The divalent verb *yalia* (ate) in example (37a) has become trivalent as a result of the causative morpheme -i as shown in (37b). Note that the causative constructions with three core arguments

have the cause who initiates the events and the causer who is affected by causation. The basic sentences (36a and 37a) and derived sentences (36b) and (37b) are indicated in Tables 5(i) and 5(ii).

There is a re – arrangement of grammatical constituents in the derived sentence (37b) as a new position of indirect object is created. The added obligatory argument *mama* (mother) takes the place (direct object) previously occupied by *liramwa* (banana). *Liramwa* (banana) changes from indirect object position to direct object position as Table 5(ii) shows. *Anyona* remains the subject and agent. The added argument *mama* mother is another agent that is object of causation. This agent is inactively involved in performing the action expressed by the verb *lia* (eat), thus a secondary agent. The external argument *Anyona* is actively involved in initiating the events so it is the primary agent.

The subject/agent *Anyona* and object/patient *liramwa* (banana) keep their functions in the derived sentence (37b) and this isomorphism is maintained. Thus, the theta criterion of the GB (Chomsky, 1981, 1982) is obeyed in the sense that all the arguments in the derived sentence (37b) are assigned one theta role each as a requirement of the theta criterion of the theta theory. The difference between the basic sentence (37a) and the derived sentence (37b) is in the extra argument *mama* (mother) licensed in the derived sentence. This description is in line with Comrie's (1985:325) assertion that "the basic verb forms a sentence that describes some situation. The derived verb has a different subject and the sentence with the derived verb indicates that the referent of this new subject brings about --- the situation described before the sentence containing the basic verb."

Using the feature checking aspect of the Minimalist program (Chomsky, 1993, 1995) six features are checked. These features include the following: nominative case features, accusative case features, mood, agreement, causative and finally tense features. In the process

of checking, the direct object *liramwa* (banana) moves to SPEC/AGROP to check its accusative case features. Likewise, the indirect object (causative object) *mama* (mother) moves to SPEC/CAUSOP to check its accusative features the subject Anyona moves to SPEC/AGRSP to check its nominative features , the verb *lisia* (cause to eat) moves to MOOD/MOOD to check mood features, to AGRO/AGRO to check agreement features ,to CAUSO/CAUSO to check causative features , to TNS/TNS to check tense features and finally lands at AGRS/AGRS where its agreement features with the subject Anyona are checked as Figure 4 illustrates.. The subject *Anyona* leaves behind a trace (ts), the direct object *liramwa* (banana) and the indirect object *mama* (mother) likewise leave behind traces (to) as they move to check the relevant features. These traces are empty categories that are co-indexed with the individual moved category (Chomsky, 1973). Hence, the subject Anyona is coindexed with the subject trace (ts), the indirect object *mama* (mother) is coindexed with the object trace (to) of NP1 while the direct object *liramwa* (banana) is coindexed with the object trace (to) of NP2.

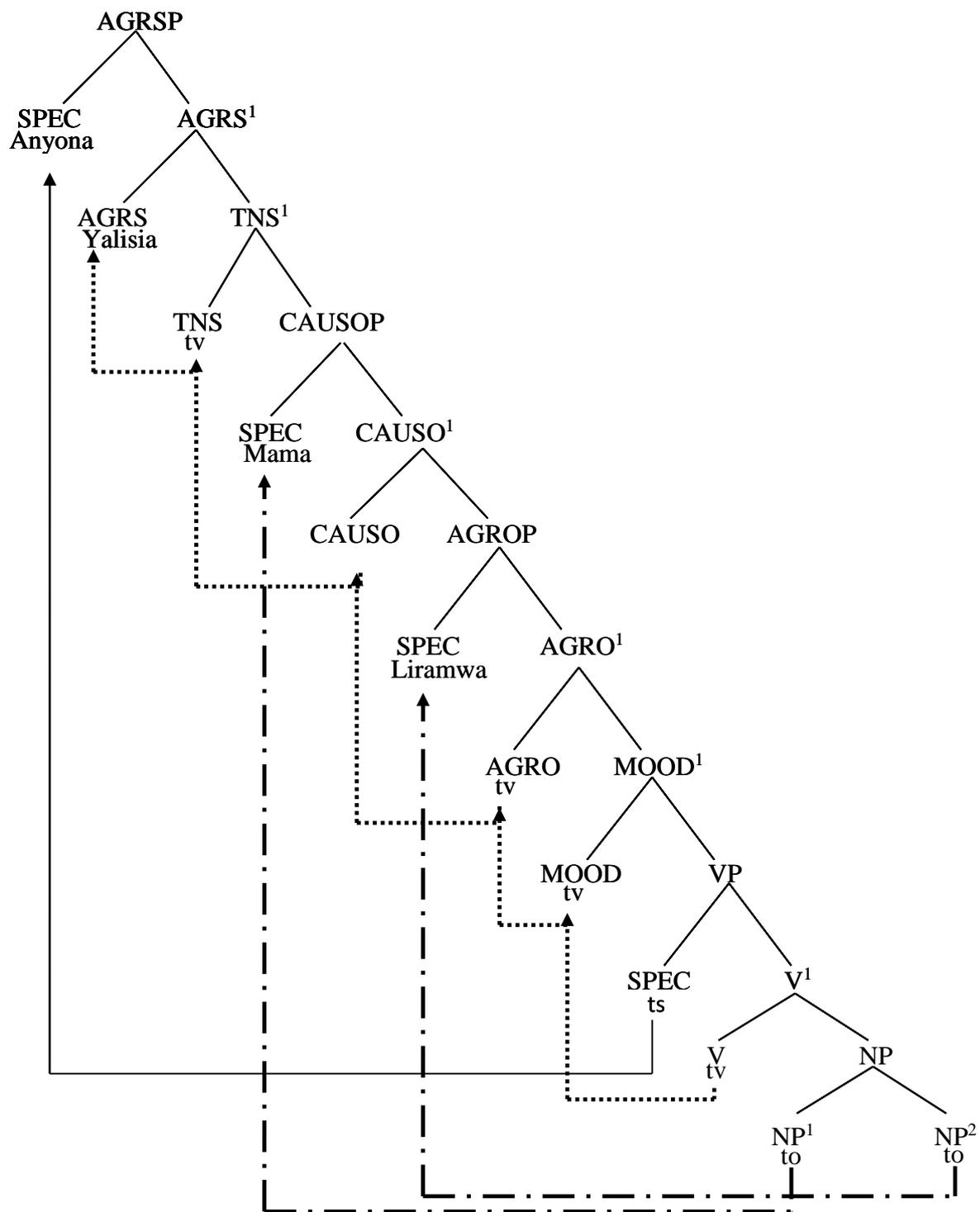


Figure 4: Lutsotso Causative argument structure

The first line in figure 4 (____) shows the movement of the subject Anyona from SPEC/VP to SPEC/AGRSP to check its nominative features. The second line (._._._) shows the

movement the indirect object (causative object) *mama* (mother) moves to SPEC/CAUSOP to check its accusative features. The third line (_ . _ . _ .) illustrates the movement the direct object *liramwa* (banana) to SPEC/AGROP to check its accusative case features. The fourth line (-----) shows the movement of the verb *lisia* (cause to eat) from V/V to AGRS/AGRS where it lands after checking all the relevant features. The verb *lisia* (cause to eat) leaves behind traces (tv) as it moves to check various features.

4.3.2.3 The instrumental morpheme in Lutsotso

The instrumental directs attention to the instrument or object with which a person or an animal acts. It represents the notion of ‘by means of’. The instrumental morpheme in Lutsotso is {–il-} and is inserted between the last consonant and the last vowel of the verb as example (38) illustrates:

(38) Remul - il- a

Slash-INST- FV

Slash with

The instrumental morpheme licenses an extra argument in a sentence such that a divalent verb becomes trivalent. Consider the following examples from Lutsotso that show how the instrumental triggers valence increase in a sentence.

(39a) Masero ya – remul – a eshikuri

Masero PST – slash - FV field

‘Masero slashed the field’.

(39b) Masero ya - remul- il- a li- panga eshi-kuri

Masero PST – slash – INST –FV-CL5 slasher CL7 field

‘Masero slashed the field with a slasher’.

(40a) omu - khasi ya – khobol -a ama -pwoni

CL1- Woman PST – peel- FV CL6 -potatoes

‘The woman peeled potatoes.’

(40b) omu-khasi ya – khabol - il – a omu-bano ama -pwoni

CL1- Woman PST – peel INST -FV–CL1 knife CL6-potatoes.

‘The woman peeled potatoes with a knife.’

The examples (39a and 40a) have two arguments each. They are divalent sentences. The arguments are *Masero* and *eshikuri* (field) in (39a) and *omukhasi* (woman) and *amapwoni* (potatoes) in (40a). In the terminology of GB theory (Chomsky 1981) verbs such as *remula* (slash) in (39a) and *khobola* (peel) in (40a) are two place predicates. The argument *Masero* in (39a) has the function of a subject while the argument *eshikuri* (field) has the surface function of direct object. Similarly, the argument *omukhasi* (woman) in (40a) has the surface function of a subject while the argument *amapwoni* (potatoes) has the surface function of direct object.

Sentence (39b) has three arguments as a result of the instrumental suffix {-il-}. The three arguments are *Masero*, *eshikuri* (field) and the instrument *lipanga* (slasher). Contrarily, (39a) in which no instrumental suffix has been added has two arguments, *Masero* and *eshikuri* (field). Likewise, in sentence (40a) the verb *khobola* (peel) has two arguments; *omukhasi* (woman) and *amapwoni* (potatoes) which means that it is a divalent sentence. However, like (39b) in example (40b) the instrumental morpheme {-il-} has licensed the extra obligatory argument *omubano* (knife) and now the verb *khobola* (peel) is trivalent with the following arguments: *Omukhasi* (woman), *omubano* (knife) (instrument used) and *amapwoni* (potatoes).

In Lutsotso, the instrumental argument can trade places with other internal argument and the sentence will still be grammatical. For example (40b) can be represented as (40c) .

(40c) omu-khasi ya- khobol- il- a amapwoni omubano.

CL1-woman-PST-peel-INST- FVpotatoes knife

The woman peeled potatoes using a knife.

In (40c) above the internal objects have traded places and the sentence is grammatical. In other words the mirror principle has not been obeyed.

In (40a) case module of GB (Chomsky, 1981) accounts for the case marking of the subject/argument *omukhasi* (woman) and the object argument *amapwoni* (potatoes) without a problem. The argument *omukhasi* (woman) is case marked nominative by the tensed INFL while the argument *amapwoni* (potatoes) is case marked accusative by the verb *Khobola* (peel). However, sentence (40b) presents a problem to the GB theory. The main question is how the argument *amapwoni* (potatoes) in (40b) being distant from the verb and violating the adjacency condition on case assignment receives case. The underlying assumption here is that if (40b) is grammatical then all the arguments are case marked. We can account for the grammaticality of (40b) in view of the minimalist program (Chomsky, 1993, 1995) to resolve the issue of case assignment. This can be done by adopting the view of the Minimalist Program that case is not assigned under government at the s-structure since NPs are selected from the lexicon when they already have case and they are moved to the specifier positions to check case features. The Feature checking approach of the MP is thus employed here for the purpose of feature checking. As such the subject *omukhasi* (woman) moves from the SPEC of VP position and lands at AGRSP/SPEC where its nominative case is checked. The instrumental object *omubano* (knife) moves from VP and lands at INST/SPEC where accusative case is checked. The object *amapwoni* (potatoes) moves and settles at AGROP/SPEC for accusative case checking.

In the MP, the derivative morphemes like the applicative, causative, and instrumental and the passives are considered to be feature bearing affixes, hence heads and specifiers have to be built for them depending on their lexical and morphological evidence.

According to Chomsky (1981) an X-bar structure is composed of projections of heads selected from the lexicon. The verb moves to various heads for checking of respective features while the noun moves to specifier for case checking (Chomsky, 1993, 1995). Thus, for the derived sentence (40b) , the instrumental head and specifier will be built to check the verb *khobola* (peel) for instrumental features and the indirect object (instrument) *omubano* (knife) to land at the SPEC., the AGRSP specifier will be built to provide a position for the subject *omukhasi* (woman) to land , an AGROP head and specifier will be built since there a direct object *amapwoni* (potatoes) which will land at the AGROP/SPEC where its case features will be checked as figure 5 illustrates.

To ensure that there is no superfluous information in the derived sentence (52b) the verb *khobola* (peel) moves from the VP for checking purposes. First it moves to mood/mood to check mood features, then to AGRO/AGRO to check object agreement features, then to INST/INST to check instrumental features, TNS/TNS to check tense features before finally landing at AGRS/AGRS where its agreement features with the subject *omukhasi* (woman) are checked. The verb *khobola* (peel) leaves behind traces (tv) as it moves to various heads to check the relevant features as Figure 5 shows.

Similarly, the subject *omukhasi* (woman) moves from the SPEC of the VP leaving a trace (ts) and lands at AGRSP/SPEC for nominative case checking. The instrumental object *omubano* (knife) moves from the VP leaving a trace (tv) and lands at the INST/SPEC for accusative case checking. The object *amapwoni* (potatoes) settles at the AGROP/SPEC for nominative case

checking as Figure 5 illustrates. Movement in (40b) is in line with the ideas of Chomsky (1973) that movement leaves a trace, an empty category coindexed with the moved category.

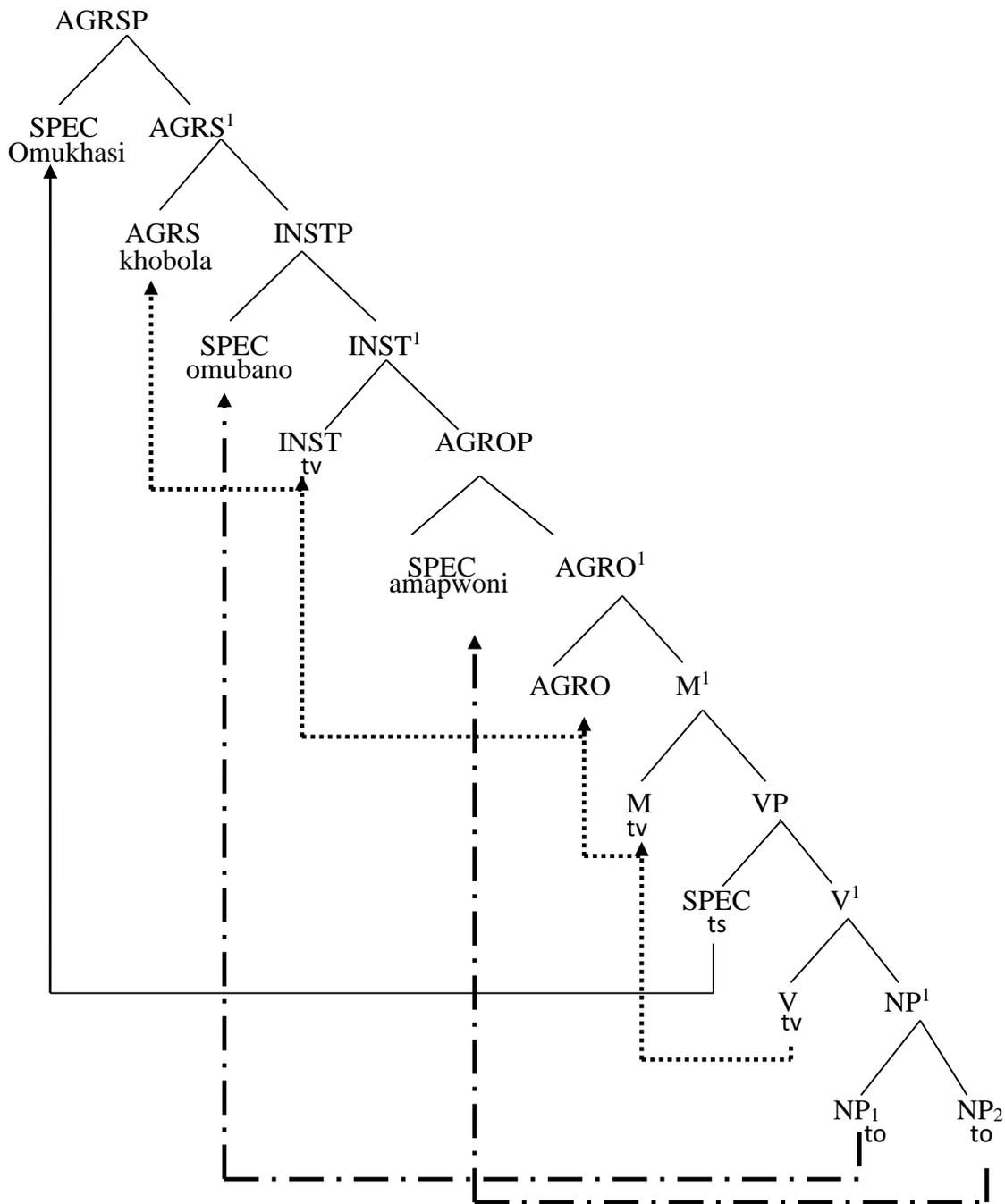


Figure 5: Lutsotso Instrumental argument structure

The first line in Figure 5 (_____) shows the movement of the subject *omukhasi* (woman) from the SPEC of the VP leaving a trace (ts) and lands at AGRSP/SPEC for nominative case

checking. The second line (__.__.__) shows the movement of the instrumental object *omubano* (knife) from the VP leaving a trace (tv) and lands at the INST/SPEC for accusative case checking. The third line (__.__.__) shows the movement the object *amapwoni* (potatoes) to AGROP/SPEC for accusative case checking. The fourth line (-----) shows the movement of the verb *khobola* (peel) moves from the VP to AGRS/AGRS after checking relevant features .

As Figure 5 illustrates, Movement in (40b) is in line with the ideas of Chomsky (1973) that movement leaves a trace, an empty category coindexed with the moved category. In this case, the subject *omukhasi* (woman) is coindexed with the trace (ts). The instrumental object *omubano* (knife) is coindexed with the trace (to) under NP1. The object *amapwoni* (potatoes) is coindexed with the object trace (to) under NP2. Finally, the verb *khobola* (peel) is coindexed with the verb trace (tv)

The argument structure of the instrumental is as illustrated in Table 6:

TABLE 6 : Lutsotso instrumental structure.

Argument 1	Verb	Argument 2	Argument 3	Valence	Gloss
Omukhasi Subject Agent	Yakhobola	Amapwoni		Divalent	The woman peeled potatoes
Omukhasi Subject Agent	Yakhobolela	Omubano	Amapwoni	trivalent	The woman peeled potatoes with a knife
Masero Subject	Yaremula	Eshikuri		Divalent	Masero slahed the field

Agent					
Masero Subject Agent	Yaremulila	Lipanga	Eshikuri	trivalent	Masero slashed the field with a panga

There is re – arrangement of arguments as shown by the second verb *yaremulila* (slashed with) where the instrument *lipanga* (slasher) is included as an obligatory argument in Table 6. As Table 6 illustrates the argument *eshikuri* (field) has exchanged places with *lipanga* (slasher) while the subject *Masero* has retained its position as subject/agent.

4.3.3 Valence decreasing operations

These are operations that reduce core participants to an oblique status or eliminate them completely (Mchombo , 2004). A derivation affix is used to decrease or omit some arguments of a verb. Lutsotso language has morphological ways of reducing the valence of a verb which include: the passive, the reciprocal, the reflective, reversive and the stative as illustrated in section 4.3.3.1.

4.3.3.1 Passive morpheme in Lutsotso

According to Leech & Svartvik (1979), the term passive is used to describe (a) the type of verb phrase which contains the construction be + past participle (for example, was killed, was seen) (b) the type of clause in which a passive verb phrase occurs. Likewise, Spencer (1991:210) defines a passive as ‘...a morpho-syntactic operation that suppresses the external argument. The external argument may not be syntactically expressed but is available semantically. In other words, a verb is said to be in the passive voice when the subject is not active, its role and that of the object are reversed. In the active voice, the subject always comes first and is seen to

do something. But when the roles are reversed, it is the object that takes the initial position and the subject may be mentioned or eliminated. The action in a passive sentence is more important than the doer of the action (subject) as example (41) from Lutsotso data shows:

(41a) omu-siani ya-khup -a omu-khana.

CL1-boy-SM –beat-FV CL1 girl

‘The boy beat the girl.’

(41b) Omu-khana ya-khupw-a (nende omusiani)

CL1-girl SM-beaten (by the boy)

‘The girl was beaten (by the boy).’

Example (41a) is an active sentence in which the subject *omusiani* (boy) takes the initial position and is actively involved in doing the action of beating the girl. (41b) is a passive sentence. What was the object *omukhana* (girl) in (41a) has become the subject in (41b). The object *omukhana* (girl) has taken the initial position which was formerly occupied by the subject *omusiani* (boy). The subject has taken the position of the object *omukhana* (girl) and it is optional as it may be mentioned or eliminated. It is no longer important to mention who beat the girl but the action *khupa* (beat) is the one that is important in (41b).

In Lutsotso, the passive morpheme is inserted between the last consonant and the last vowel of the verb as in (42):

(42)	A	B	C	English	gloss
	Teta =	tet +w +a =	tetwa	was	cut
	Yosia =	yosib +w +a =	yosibwa	was	washed
	Fuya =	fuy + w + a =	fuywa	was	washed

Tekha = tekh + w + a = tekhwa was cooked

The difference between the verbs in column A and those in column C is that verbs in column C bear an additional suffix {-w-} before the verb final vowel which is associated with the passive meaning. Column B shows the formation of the passive in Lutsotso.

The verbs *teta* (cut), *yosia* (wash) and *fuya* (wash) in (42) can be exemplified as follows in 43, 44 and 45

(43a) Dina ya – fuy - a tsi – ngubo

Dina SM – wash -FV CL10 – clothes

‘Dina washed clothes.’

(43b) Tsi – ngubo tsi -a – fuy - w -a (nende Dina)

CL10–clothes SM-PPT- wash -PASS-FV (by Dina)

Clothes were washed (by Dina).

(44a) Mama yo – siy -e ebikombe

Mother SM - wash- FV cups

Mother has washed cups

(44b) Ebi-kombe bi -osib- w - e (nende mama)

CL8 -Cups SM -wash-PASS-FV (by mother)

Cups have been washed (by mother)

(45a) Omu-khana ya – teta omukati

CL1 – girl –SM-PST – cut bread

The girl cut bread

(45b) Omu – kati kwa – tet –w- a (nende omukhana)

CL1– bread –SM- cut PASS-FV (by the girl)

‘Bread was cut (by the girl)’

Example 43a, 44a, and 45a, are active sentences and differ from their passive counter parts 43b, 44b and 45b in the following ways; what appears as subject in the active sentence appears as object in the passive just like English; while the active sentence object appears as subject in the passive. As the examples above (43a, 43b, 44a, 44b, 45a and 45b) show the passive form of the verb result, when the object and subject (in the traditional sense) exchange positions in a sentence. Unlike Lutsotso that forms the passive sentence by addition of the affix `w` to the verb, English passive is formed by introducing a `by phrase` in the sentence as in (45c and d)

(45c) The girl cut bread (active voice).

(45d) Bread was cut by the girl (passive voice)

Dik (1978) has shown that most of the passive constructions across languages are a result of the assignment of syntactic functions of subject and object. This study confirms the same about Lutsotso. He states:

“Subject assignment determines the perspective from which the state of affairs is described.”

(Dik, 1978:71)

For example in the sentences;

(46a) Akali ya – kula omutoka

Akali bought a car.

Akali is the subject since the state of affairs is presented from a new perspective, but in sentence (46b) , a car is the subject.

(46b) Omu-toka kwa – kul w- a nende Akali

CL1-car- SM- buy-PASS-FV-by Akali

‘ A car was bought (by Akali)’.

Verbs with two arguments in Lutsotso can be reduced to one by addition of the passive suffix {-w-} as shown in example (46b) .

The derived sentence in (46b) is a personal passive with an agentive phrase *nende Akali* (by Akali). The subject *Akali* of the active / basic sentence is suppressed to an adjunct *nende Akali* (by Akali). This is defocusing a core argument to an optional and oblique phrase. The basic object *omutoka* (car) is promoted to subject status with all the properties of a subject like subject verb agreement. Notice that in the derived sentence (46) the verb *kula* (buy) has a class marker *Kwa* which marks agreement with the promoted object *omutoka* (car).

This study agrees with Osore’s (2009) study in so far as the use of affixes in representing the various nominal properties is concerned.

The argument structure of the basic and the derived sentence is shown in Table 7 .

TABLE 7: Passive argument structure (i)

External argument	Verb	Internal argument	Valency	Gloss
Akali Subject Agent	Yakula	Omutoka Object Patient	Divalent	Akali bought a car
Omutoka	Kwakulwa	(nende Akali) Pp object Oblique	Univalent	The car was bought.

As Table 7 shows, the original sentence was; *Akali ya kula omutoka* (Akali bought a car). The derived sentence is; *omutoka kwakulwa (nende Akali)* a car was bought (by Akali)

There is a total rearrangement of arguments as Table 7 indicates. The subject/ agent *Akali* of the basic sentence becomes the object of the prepositional phrase *nende Akali* (by Akali); an obvious oblique role. The object/ patient *omutoka* (car) of the basic sentence moves to the subject position previously occupied by the subject *Akali* and becomes the thematic subject in the derived sentences (46b) and (46d). The fronted subject/ theme *omutoka* (car) is still affected by the action but it has been over emphasized hence the patient role is thematized. In GB an NP trace specifically that resulting from passivisation behaves much like anaphors since it must be coindexed with the moved NP which is an argument (Chomsky, 1981). In other words it has been proposed that NP traces are anaphors in terms of Binding theory of GB. Example (46a) and (46b) illustrates this.

(46a) Akali ya - kul - a omu-toka

Akali SM-bought- FV CL1-car

‘Akali bought a car.’

(46b) Omu -toka kwa- kulw -a ti

CL1-car SM-bought-FV ti

‘ A car was bought.’

In (46a) the NP *Akali* is assigned the external theta role of agent by the verb *kula* (buy). In (46b) the trace *ti* is governed and theta marked by the verb *kula* (buy). However, since the passive fails to assign accusative case, the trace is caseless.

In the Minimalist program (Chomsky, 1993, 1995) the derivative morphemes of the passive reflexive, reciprocal among others are considered to be feature bearing affixes. Therefore, heads and specifiers are built for them depending on their lexical morphological evidence. For example in (46b) the passive head is built in the structure to check the verb *kulwa* (buy) for passive features and to have a landing site known as specifier (spec). According to Chomsky (1995) a computation system builds structures by selecting numerated elements and combines them in the relevant way. The verb moves to various heads to ensure features are in place while the noun moves to specifier (SPEC) to ensure case is correct and to avoid superfluous words.

In the derived sentence (46b), passive phrase head and specifier, the subject agreement head and specifier are put in place to check the verb *kulwa* (was bought) for respective features and the subject *omutoka* (car) for case.

There is movement of the subject *omutoka* (car) and the verb *kwakulwa* (was bought) which takes place in successive cyclic fashion (successive steps) in the derived sentence (46b) for the purpose of feature checking as shown in figure 6. Using the Feature Checking aspect of the Minimalist Program (Chomsky, 1995, 1993) the following features are checked; nominative case features, mood features, passive features and agreement features. The subject *omutoka* (car) moves from SPEC/VP leaving behind a trace (ts) to check its nominative case features. The verb *kwakulwa* (was bought) moves from its base position leaving behind trace (to) MOOD/MOOD, PASS/PASS,AGRS/AGRS where it lands after checking all the relevant features as figure 6 illustrates. The prepositional phrase *nende Akali* (by Akali) does not move because it does not have lexical properties that motivates its movement.

Following the ideas of Chomsky (1973) that a moved category lives behind a trace which is coindexed to the moved category, the subject *omutoka* (car) which moves from SPEC/VP to

SPEC/AGRSP leaving behind a trace (ts), is coindexed with the trace (ts). The verb *kwakulwa* (was bought) moves from its base position leaving behind trace (tv) with which it is coindexed.

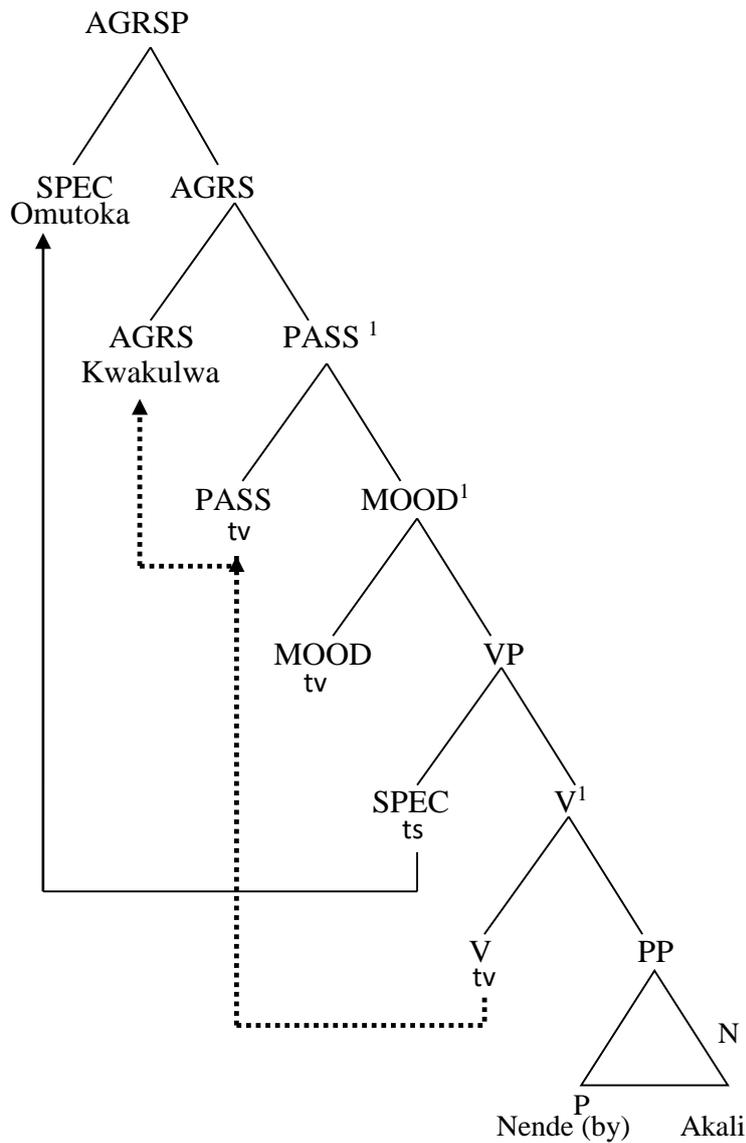


Figure 6: Passive argument structure

As Figure 6 illustrates, the line (_____) shows the movement of the the subject *omutoka* (car) from SPEC/VP to SPEC/AGRSP where its norminative case features are checked. The dotted line (-----) shows the movement of the The verb *kwakulwa* (was bought) from its base position to AGRS/AGRS where it lands after checking all the relevant features.

Consider more examples from Lutsotso data that illustrate a trivalent sentence

(47a) Anyona a – kulil –e omwa –ana i- ngubo (trivalent)

Anyona SM – bUY -FV CL1 – child CL9- dress.

‘Anyona bought the child a dress.’

(47b) omwa – ana a –kulil – w –e ingubo (nende Anyona)

CL1– child SM – buy – PASS- FV– dress (by Anyona)

‘The child has been bought a dress (by Anyona)’

The argument structure occurring in the basic example (47a) and the derived sentence (47b) is as Table 8 shows.

TABLE 8: Passive argument structure ii (trivalent and divalent)

external argument	Verb	Internal argument2	Internal argument 3	Valency	Gloss
Anyona Subject Agent	Akulile	Omwana applied object beneficiary	Ingubo Direct object Patient	Trivalent	Anyona has bought the child a dress
Omwana Subject Theme	Akulilwe	Ingubo Direct object patient	Nende Anyona pp. object oblique	Divalent	The child has been bought a dress.

As Table 8 shows, the passive morpheme {–w-} has the power to reduce valence of a verb. The verb *kula* (buy) in 47b after passivisation loses the subject argument *Anyona* and remains with only two arguments, *omwaana* (child) and *ingubo* (dress). In (47b), the subject/agent

Anyona of the basic sentence is demoted to an oblique element rather than a verb argument in the derived sentence. The applied object/ beneficiary *omwana* (child) becomes the subject/ theme in the derived sentence.

Using the feature checking aspect of Minimalist Program (Chomsky, 1993, 1995) the following features are going to be checked to ensure that the constituents in sentence (47b) have relevant features: accusative case features, nominative case features, agreement features, passive features, mood features and finally tense features. In this case, the passive head is created to check the verb for passive features. An AGROP and specifier will be built so that the direct object *ingubo* (dress) can land at AGROP/SPEC as shown in figure 7

The direct object *ingubo* (dress) moves TO SPEC / AGROP for accusative case checking. The subject *omwaana* (child) from SPEC/ V P to SPEC / AGRSP to check its nominative case features. The verb moves from its base position to MOOD/ MOOD 'AGRO/AGRO' PASS/ PASS AND TNS/TNS and it lands at AGRS/AGRS after checking all the relevant features figure 7 illustrate

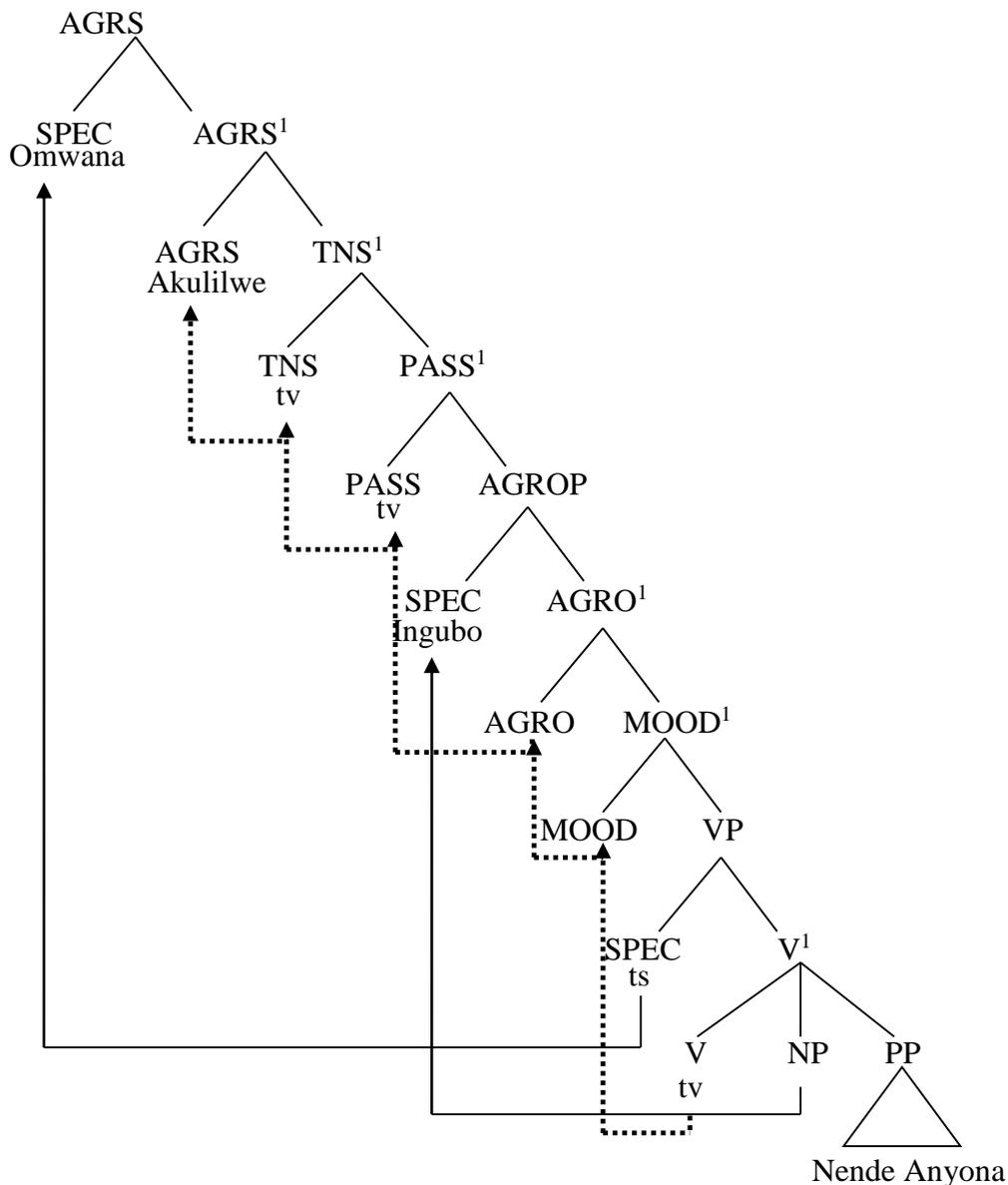


Figure 7: Passive argument structure ii

The analysis of passive constructions in Lutsotso so far shows that the passive construction describes the action from the perspective of the patient thus de – emphasizing the role of an agent in a described situation.

4.3.3.2 The stative morpheme in Lutsotso

Mchombo (1999) in his studies of Chichewa, a Bantu language, spoken in Malawi , notes that the stative is very similar to the passive in that it eliminates the subject NP and makes the object

of the non stative verb the subject. Mchombo adds that, however, this similarity between the two processes should not mask the many differences that separate them. For instance, unlike the passive, the stative does not allow the expression the agentive NP, even as an oblique. Secondly, the stative does not interact with other suffixes as readily as the passive. For example; statives of applicatives are not possible. Mchombo further observes that the stative appears to be confined to applying to transitive verbs which have the agent and patient arguments. In other words, the subject NP is primarily associated with patient role. Mchombo`s work limits itself to how verbal morphology in Bantu offers support for architecture of universal grammar (UG). The current study identifies and analyzes the argument structure of the stative sentence in Lutsotso.

The stative morpheme in Lutsotso is {-kha-}. This morpheme can be added to the verb – stem to form the stative construction as shown in the following sentences, 48, 49 and 50:

(48) Ama – khuba- ke ka – hulili -kha obulayi

CL6-words –POS.PN-PST-hear-STAT-well

‘His words were able to be heard well’.

(49) I -nzu i -le -yomba –kha obulayi

CL9-house-SM-PRES-built-STAT- well

‘The house is able to be built well’.

(50) Omu – saala – kuno –ku- nyala okhureme -kha

CL3- tree- DEM SM- capable - cut - STAT

‘This tree is capable of being cut.’

(51) Emi –limo chi -le – khole -kha obulayi

CL4-work SM-PRES-do- STAT -well

‘Work is able to be done well.’

As examples 48 -51 shows, when the stative morpheme {-kha-} is added to the verb it leads to a stative construction which has a meaning expressing a process. In (48) the verb *hulilikha* (able to be heard) expresses the process of being heard. Likewise, the verb *yombokha* (able to built) in (49) expresses the process of building. In (50) and (51) ,when the word *nyala* (can) precedes the morpheme {-kha-} then the resulting stative construction has the meaning expressing possibility. In (50) the word *nyala* (can) precedes the verb *okhuremekha* (capable of being cut) and has the meaning expressing a possibility of being cut.In (51) the word *nyala* (can) precedes the verb *okhwikholekha* (able to be done) and leads to a construction expressing a possibility of being done. Thus, in Lutsotso the stative morpheme {-kha-} has two meanings depending on the syntactic environment in which it occurs. It has the meaning of possibility when the morpheme *nyala* (can) precedes it; as in examples 50, and 51 and when ‘*nyala*’ is not used, the stative construction has the meaning expressing a process as (48) and (49) above illustrate.

The stative in Lutsotso applies mostly to divalent verbs which have agent and patient arguments as (52) shows.

(52a) Anyona ye – kale li – dirisha (divalent)

Anyona SM – close SM – window.

‘ Anyona closed the window’.

(52b) li - drisha li – kali – khe (univalent)\

CL5 – window SM– close – STAT

‘The window was able to close.’

Example (52a) is a divalent sentence with two arguments, *Anyona* the subject/agent who performs the action of closing the window and *lidirisha* (window) the object/patient that is affected by the act of closing. According to the GB theory (Chomsky, 1981) a verb like *ikala* (close) in (52a) is a two place predicate in which the NP *Anyona* has the surface function of a subject while the NP *lidirisha* (window) has the surface function of direct object of the verb. After the addition of the stative morpheme {-kha-} to the verb *ikala* (close) in (52b), the subject NP *Anyona* is eliminated and the object *lidirisha* (window) becomes the subject of the stative sentence. In example (52b) there is no agent whatsoever, triggering the process. This example presents a case of a state or condition expressed by the univalent verb. Thus, 52b confirms the ideas of Mchombo (1999) that the stative does not allow the expression of the agentive NP. Mchombo's work focuses on morphological encoding of argument structure and morpho-syntactic categories using Chichewa language of Malawi as a case of investigation.

The argument structure of example (52b) is shown in Table 9

TABLE 9: Stative argument structure

external argument	Verb	Internal argument	Valence	Gloss
Anyona Subject Agent	Yekale	Lidirisha Direct object Patient	Divalent	Anyona closed the window
Lidirisha Subject Patient	Likalikhe		univalent	The window was able to close.

Table 9 shows the basic sentence; *Anyona yekale lidirisha* (Anyona closed the window) and the derived sentence; *Lidirisha likalikhe* (the window was able to close). There is a re-arrangement of arguments in the basic and the derived sentence.

The re – arrangement of arguments in the basic and the derived sentence shows a change of functions where the direct object/ patient *lidirisha* (window) of the basic sentence becomes the subject/patient of the derived sentence. The subject/agent in the basic sentence is deleted in the derived sentence since there is an expression of a state or of potential situation without making reference to the agent. Payne (1994:175) describes such a sentence as “expressing a semantically transitive structure in terms of a process that the patient faces rather than an action initiated by the agent. This means that although the direct object is a subject in the derived sentence, it is still the primary constituent affected by the process thus the patient.

The principle of full interpretation (Chomsky, 1995) specifies that a representation for any given sentence must contain all and only those elements which contribute directly to its interpretation at the relevant level. For us to ensure that the constituents of sentence (52b) bear the right features, the feature checking aspect of MP (Chomsky, 1993, 1995) is employed to check the relevant features which include, nominative case features, mood, stative features, tense and finally agreement features. There is movement of constituents; the subject *lidirisha* (window) and the verb *likalikhe* (was able to close) for the purpose of feature checking.

The subject *lidirisha* window moves to the SPEC/AGRS from SPEC/VP leaving behind a trace (ts) to check nominative case features as figure 8 illustrates. The category STAT which expresses the process of the verb is introduced in the structure since it is morphologically licensed by a morpheme *-kha-*. The verb *likalikhe* moves to MOOD/MOOD, ‘STAT/STAT’ and finally to ‘AGRS/AGRS’ as shown in figure 8. Movement of the verb ensures all the relevant features are checked. As the verb moves it leaves behind traces (tv).

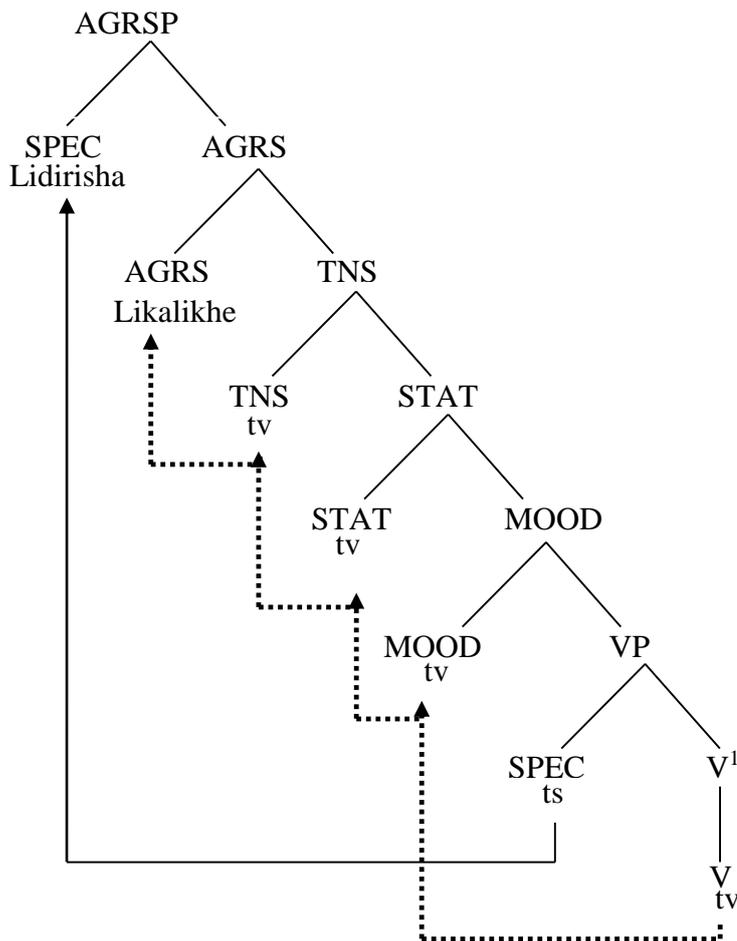


Figure 8: Stative argument structure

As Figure 8 illustrates, the line (_____) shows the movement of the subject *lidirisha* window from SPEC/VP to SPEC/AGRS leaving behind a trace (ts) to check nominative case features . The trace (ts) is coindexed with the subject *lidirisha* (window) which is its antecedent. The dotted line (- - - - -) shows the movement of the verb *likalikhe* (be able to close) from its V/V position to ‘AGRS/AGRS’ where it settles after checking all the relevant features.

4.3.3.3 Reciprocal morpheme in Lutsotso

This refers to constructions in which two or more participants act upon each other. As the name depicts, participants involved reciprocate each other in the action expressed by the verb. Mchombo (2004) observes that in Bantu languages, the reciprocal appears to be involved in

morpho-lexical operation of verb derivation. The reciprocal derives a one place predicate from a two place predicate or in general reduces by one the array of arguments of the non-reciprocalized predicate. Mchombo`s work reveals that the reciprocal morpheme in Bantu is realized as a verbal suffix and in its morphological realization, it is encoded by the suffix –an-. However, Mchombo`s work uses examples from Luganda and Ci-Yao Like in other Bantu languages, the reciprocal morpheme in Lutsotso is {-an-}. It is inserted between the last consonant and the final vowel of the verb as in:

Khupa = khup – an – a = beat each other.

Rema = rem – an – a = cut each other.

The verbs khupana (beat each other) and remana (cut each other) are exemplified in (53) .

(53a) Anyona a – khupil - e Masero

Anyona SM – PST – beat- FV– Masero

‘Anyona beat Masero.’

(53b) Anyona nende Masero ba – khup – an – a

Anyona and Masero SM – beat – REC -FV

‘Anyona and Masero beat each other’.

Example (53a) is divalent with an external argument *Anyona* and an internal one *Masero*. In example (53b) the external argument *Anyona* and internal argument *Masero* are co – joined and are taken as one entity. The derived verb *khupane* (beat each other) shows inter – dependence of action as participants interact in the action expressed in the verb. Thus, (53b) confirms Mchombo`s (2004) assertion that syntactic configuration in which the reciprocal appears are largely similar in that the reciprocal requires a plural or group subject NP.As (53b)

illustrates, the subject *Masero nende Anyona* (Masero and Anyona) represent a group or plural NP.

The reciprocal argument structure is defined by Table (10) :

TABLE 10: Reciprocal argument structure

External argument	Verb	Internal argument	Valency	Gloss
Anyona Subject Agent	Akhupile	Masero Object Patient	Divalent	Anyona beat masero
NP and NP 2 Masero nende Anyona Subject and object Agent and patient	Bakhupana		Univalent	Anyona and masero beat each other

Table 10 shows that, the object *Masero* in the basic sentence merges with the subject *Anyona* to create a compound external argument *Anyona nende Masero* (Anyona and Masero) with a plural manifestation. The compound argument has two participants *Anyona* and *Masero* who are equally agent and patient because they are co – referential.

In order to satisfy the requirement of the principle of full interpretation that only those elements which contribute to the meaning of the sentence should be left in the sentence, there will be

movement of constituents for the purpose of feature checking as Figure 9 illustrates. As such, the subject *Anyona nende Masero* (Anyona and Masero) moves from SPEC/ VP to SPEC/AGRSP leaving a trace (ts) behind for nominative case feature checking. The verb *bakhupana* (beat each other) moves to MOOD/ MOOD to check its mood features then to RECP/ RECP to check the reciprocity features then to TNS/TNS for tense checking before settling at AGRS/AGRS after checking the agreement features with the subject *Anyona nende Masero* (Anyona and Masero) as figure 9 shows. The verb leaves traces at all those places where it has moved through as figure 9 shows. As far as the GB theory of Chomsky (1981, 1982) is concerned, the presence of the trace means non violation of the Empty category principle which states that a non pronominal empty category must be properly governed either through head theta government or antecedent- government.

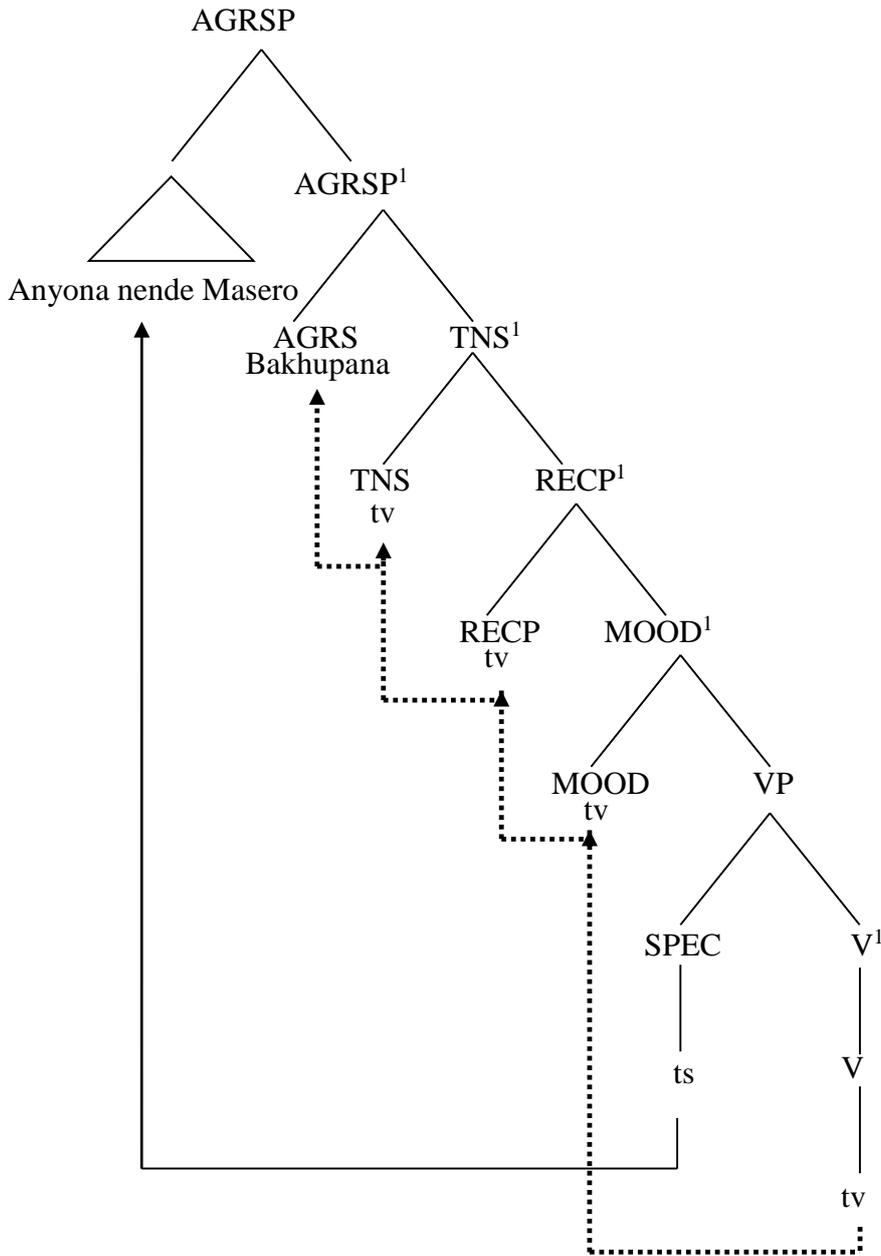


Figure 9: Reciprocal argument structure

The line (_____) shows the movement of the subject *Anyona nende Masero* (Anyona and Masero) from SPEC/ VP to SPEC/AGRSP where its nominative case feature is checked. The dotted line (-----) shows the movement of the verb *bakhupana* (beat each other) from its base position to AGRS/AGRS where it settles after checking all the relevant features.

Within the government and binding theory (Chomsky, 1981), referential relations between NPs in a sentence are handled by what have been called the binding principles. One of the principles states that:

A: an anaphor must be bound in its governing category.

Reciprocal constructions are anaphors. The sentences (53) can therefore be analyzed using the A principle.

The reciprocal anaphor – *an* – cannot be free. That is to say, it cannot have independent reference in its governing category. It must be A – bound to a C- commanding NP and the only eligible binder of –*an* – in (53b) is the NP ‘*Anyona and Masero*’

Consider more examples (54-56) :

(54) Tsi - mbwa tsi – la – lum – an – a
CL10-Dogs SM – FUT- bite each other
‘Dogs will bite each other.’

(55) Aba – ana ba – rem – an – e
CL2- children SM - cut- rec-FV
Children cut each other

(56) Aba – siani ba – la – til – ana
CL2 – boy SM – FUT- hold -each other
‘Boys will hold each other.’.

In GB theory (Chomsky,1981), the C- commanding NP and eligible binder of {-an-} in sentence (54) is *tsimbwa* (dogs), in sentence (55) the eligible binder of {-an-} is *abaana* (children) and in (56) the binder of {an} is *abaasiani* (boys). In GB theory, the NP which the

reciprocal morpheme {-an-} requires to be plural; *tsimbwa* (dogs) in (54) *abaana* (children) in (55) and *abaasiani* (boys) in (56) are antecedents of {an}. According to GB theory the said antecedents in (54), (55) and (56) reciprocally binds the reciprocal empty categories licenced by {-an-} .

4.3.3.4 Reflexive morpheme in Lutsotso

Givon (2001:95) gives the semantic definition of a reflexive as a construction where the subject and the object of the event or state regardless of their semantic roles are co-referent. That is, the subject acts upon (or relates to) itself. According to Leech & Svartvik (1978) reflexive pronouns are used as objects, complements and often as prepositional complements where these complements have the same reference as the subject of the clause or sentence. In other words, in reflexive constructions, two arguments in an action have identical references or relate to the same entity. This is an anaphoric relationship where the first participant is the same as the second. In Lutsotso, the reflexive morpheme is {-i-} or {-ene-} as (57) illustrates.

(57a) Dina ya -i- rem – a omu - khono

Dina 3PSG- REF –cut –FV- CL3– hand

‘Dina cut her hand.’

(57b) Dina ya- i – remil - e

Dina 3PSG -REF – cut- FV

Dina has cut herself

Sentence (57a) is divalent with the external argument ‘Dina’ and the internal argument *omukhono* (hand). The prefixation {-i-} of the reflexive brings the idea that the hand that the subject cut is hers. The reflexive morpheme inflects on object/ patient in the derived sentence

(57b). The subject *Dina* and the object *omukhono* (hand) have been merged into one argument *Dina* playing subject and agent role.

In the terminology of GB theory, the reflexive observes the normal locality conditions associated with bound anaphora in its binding properties, that is, that it must have an antecedent within the same clause (Chomsky, 1981). Sentence (57b) satisfies the locality condition in the sense that the subject *Dina* is the antecedent of the reflexive *i* (herself) and both *Dina* and *i* (herself) are in the same sentences.

The argument structure for example (57) is shown in Table 11

TABLE 11 : The reflexive argument structure.

external argument	Verb	Internal argument	Valency	Gloss
NP 1 Dina Subject Agent	Yeremile	NP 2 Omukhono Object Patient	Divalent	Dina has cut her hand
NP 1 NP 2 Subject 2 object Agent 2 patient	Yeremile		univalent	Dina has cut herself

Table 11 shows the basic sentence; *Dina yermile omukhono* (Dina has cut her hand). As Table 11 illustrates, the basic sentence has two arguments; *Dina* and *omukhono* (hand) while the derived sentence has one argument *Dina*. This is because in the derived sentence, the subject

Dina and the object *omukhono* (hand) have been merged into one entity that agrees in number and person fulfilling the two syntactic roles of agent and patient. By agreeing in number and person, it means that the argument *Dina* refers to one person called *Dina* and agrees with the subject marker {-ya-} which is also in singular. Agreement element in Lutsotso is associated with subject prefixes affixed to the verb and as (57b) shows the agreement feature {-ya-} on the verb *remile* (cut) inflects according to the subject NP *Dina* (Subject *Dina* agrees with the subject marker {-ya-} which is also in singular) . The reflexive morpheme {-i-} has power to delete the object of the basic sentence because it refers to the external argument, thus its antecedent.

To ensure that the derived sentence bears relevant features, the feature checking aspect of the Minimalist program (Chomsky, 1995) is employed to check the argument *Dina* and the verb *rema* (cut) for respective features. As such, there is movement of constituents for the purpose of feature checking. According to the feature checking approach, movement is meant for checking the correctness of the inflectional and derivational features against their syntactic positions in the sentence structure. Therefore, as Figure 10 illustrates, the argument *Dina* moves from /SPEC/VP to SPEC/AGRSP for nominative case checking leaving behind a trace (ts). The verb *rema* (cut) moves to MOOD/MOOD, REF / REF and TNS/ TNS to check relevant features before landing at AGRS/AGRS for agreement feature checking. The verb leaves traces (tv) behind in all the places that it moves checking relevant features as Figure 10 shows.

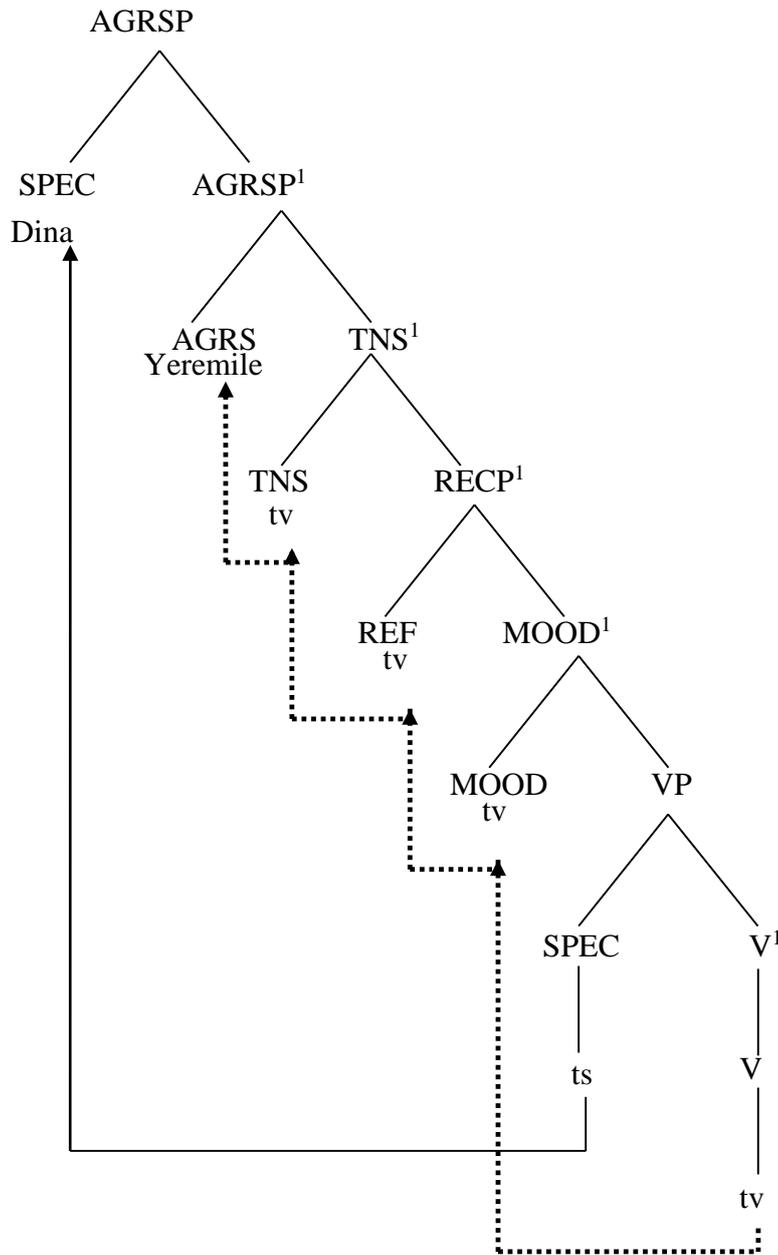


Figure 10: Reflexive argument structure

As Figure 10 illustrates, the line (_____) shows the movement of the subject (the argument) Dina from SPEC/VP to SPEC/AGRSP for nominative case checking leaving behind a trace (ts) .The dotted line (-----) shows the movement The verb *rema* (cut) from its base position to check relevant features before landing at AGRS/AGRS for agreement feature checking.

Lutsotso can also permit a divalent verb with an external and internal argument optional as shown .

(58) Dina ya -i- rem il- e (omwene)

Dina SM – REF- PST – cut-FV herself

Dina cut herself

Repetition of *omwene* creates redundancy since the same idea is reflected by the reflexive morpheme {i} in the verb. The sentence is grammatical without its overt realization since it refers back to ‘Dina’ the subject. On the other hand, *omwene* is used to show emphasis. For example, in (58) , the use of *omwene* emphasizes the fact that there is no other person who cut Dina apart from Dina herself.

Within the government and binding (GB) referential relations between NPs in a sentence are handled by what is called binding principles (Chomsky, 1981). These are:

A: an anaphor must be A – bound in governing category

B: A pronominal must be free in its governing category.

C: An R – expression is free everywhere.

These principles can be applied in the description of NP relations in the Lutsotso reflexive sentence . A sentence like (58) has one NP Dina and can be analyzed as shown: according to the binding principle A, the reflexive must be A bound in its governing category. In sentence (58) the reflexive *omwene* (herself) is bound by a C – commanding argument *Dina*. This means that the reflexive *omwene* (herself) is bound to the subject *Dina* by virtue of the fact that it is coindexed with and C- commanded by the subject NP *Dina*. The subject *Dina* is the antecedent of the reflexive *omwene* (herself). In other words, the acceptable interpretation in (58) is for

the reflexive *omwene* (herself) to be bound (that is to say, to have an antecedent) in its governing category. *Omwene* (herself) must refer back to *Dina* and not to anything else. We can therefore generalize that in Lutsotso, reflexives are compulsorily A – bound in their governing categories.

In order for reflexives to be bound to a C – commanding argument, they must have same number – class agreement features with the binding NP. Thus

59a. Dina a – le – singa abeene

Dina SM-FUT -bath-FV -themselves

‘Dina will bath themselves.’

59b. Enywe mu – la – tsia omwene

‘You (Pl) will go yourself (sing)’

59 (a) and (b) are ungrammatical because the features of the reflexives do not match with those of the antecedents. In (59a), the antecedent is *Dina* and refers to one person called *Dina*. The subject *Dina* is coindexed with the reflexive *abeene* (themselves). The antecedent features of *Dina* do not match with those of the reflexive *abeene* (themselves) because since the antecedent is in singular, the reflexive should also be in singular form. Thus, (59a) should read as (60a):

60a Dina a-le- sing -a omwene.

Dina SM-FUT-bath-FV herself

‘Dina will bath herself.’

Likewise, (59b) the antecedent you (PL) refer to more than one but the reflexive *omwene* (yourself) is in singular form. Since the antecedent you (PL) is in plural, the reflexive should also be in plural form. The correct form of (59b) should read as (60b):

(60b) Enywe mu- la - tsi -a abeene

You (PL) SM-FUT- go-FV yourselves

‘You will go yourselves.’

The referential behavior of the pronominal on the other hand is different. While anaphors require that they be bound in their governing categories, pronominals are always free in their governing categories (Chomsky, 1981). For example:

61a. enywe mwa – sila aba – ana abafuru

You (Pl) SM – hate CL2 children rude

You hate rude children

61b. omu – khana a – khu – katile ewe

CL1 – girl SM – cheat you

‘The girl cheated you.’

In the sentences (61a and 61b), the pronouns *enywe* (you) (61a) and *ewe* (you) (61b) are not bound in their governing category. Thus, the binding principle ‘B’ makes correct predictions about referential relations of the pronominals in the sentence. Nominals must be free in the Lutsotso sentence.

The third category of the binding theory says, R – expressions are free everywhere. R – expressions are NPs with lexical heads which potentially refer to something . In Lutsotso R-

expressions can be exemplified by proper names such as Anyona, Masero, Kakamega and common nouns such as *omukhasi* (woman), *omukhana* (girl) and *omusatsa* (man). Within the simple sentence this type of NPs are always free. Therefore, an R- expression whenever it occurs in the sentence cannot be constructed with another NP, be it another R – expression or a different type of NP. For example:

62. Odera ya – khupa Anyona

Odera SM – beat Anyona

Odera beat Anyona.

In the sentence above, the person called ‘Odera’ must not be the same as the person bearing the name ‘Anyona’. In other words, Odera and Anyona must refer to two different individuals.

4.3.3.5 Reversive morpheme in Lutsotso

The Reversive morpheme in Lutsotso is {-ul-}. This morpheme can be added to the same verbs in Lutsotso. The result of such an addition is a verb with a meaning which is opposite of the verb stem to which the morpheme is added as can be seen in the following verbs.

(63a) Funga (close) – (b) fung –ul – a –(open)

(63b) Reka (set) - (b) rek – ul – a (unset)

(64a) Fwala (dress) – (b) fwal-ul-a (undress)

The following sentences 65, 66 and 67 illustrate how Reversive verbs are used in Lutsotso sentence.

65a Dina a - la fung -a omu – liango

Dina SM- FUT-close-FV CL3 – door

Dina will close the door

65b. Dina a- la fung – ul- a omu- liango

Dina SM –FUT-open-REV –FV – SM-door

‘Dina will open the door’.

66a. Omu-siani ya –reka omu –teko

CL1– boy SM –set CL3-trap

The boy set the trap

66b Omu-siani ya-rek-ul –a omu –teko

CL1-boy SM-set-REV-FV-SM-trap

‘The boy unset the trap.’

67a. Mama ya – fwal- a omwa – ana i-ngubo

Mother SM – dress-FV- CL1 -child CL9-dress

‘Mother dressed the child. a dress.’

67b. Mama ya – fwal – ul- a omwa – ana ingubo

Mother SM –remove- REV–FV-CL1 – child dress

‘Mother undressed the child.’

Example (65a), (66a) and (67a) are basic sentences showing the verb *funga* (close) in (65a) *reka* (set) in (66a) and *fwala* (dress) in their original forms before the reversive morpheme [ul] is added. Sentence (65b), (66b) and (67b) show the derived sentences after adding the reversive morpheme {-ul-}. As can be seen from the examples (65b), (66b) and (67b) above, the addition of the reversive morpheme {-ul-} to the verb stem has no syntactic effects to the sentence in which the extended verb occurs as compared to the original sentence. The addition of the reversive morpheme neither increases nor decreases the valence of the verb.

As noted in the literature Chomsky (1981), the lexicon contains all known words in a language (and for this study, Lutsotsotso). In addition, the lexicon specifies idiosyncrancies of all lexical items. Taking the example of verbs, it can be noted that verbs in Lutsotso differ a great deal in terms of what they select or do not select to occur with. This information is contained in lexical entries for verbs, treating what a verb selects as an idiosyncratic property of that particular verb. Thus, indicating transitivity or non transitivity is the work of the lexicon. Verbs such as *funga* (close), *reka*, (set) and *kona*, (sleep) are represented in the lexicon in the manner of (68) below:

(68) *Funga* (close): V+ [-NP]

Reka (set): V+ [-NP]

Kona: sleep: V,-[- NP]

Where + means the verb can be inserted in the position marked by a dash in the VP. that is [- NP], while the (-) means the verb cannot, hence it is intransitive

The features in 68 are subcategorization features and show whether the verb in question subcategorises for an NP or not. For instance the verb *funga* (close) and the verb *reka* (set) require to be followed by an NP while the verb *kona* (sleep) does not need to be followed by an NP.

Table 12 shows the structure of the reversive sentence

TABLE 12; Structure of the reversive sentence

EXTERNAL ARGUMENT	VERB	ARGUMENT 2	ARGUMEN T 3	VALENCY	GLOSS
Dina Subject Agent	ala funga	Omuliango Object Patient		divalent	Dina will close the door
Dina Subject Agent	ala- fungula	Omuliango Object Patient		divalent	Dina will open the door

Mama subject agent	Yafwala	Omwana Object Patient	Ingubo	trivalent	Mother dressed the child
Mama Subject Agent	yafwalula	Omwana Object Patient	Ingubo	trivalent	Mother undressed the child

Table 12 shows the basic sentences; *Dina alafunga omuliango* (Dina will close the door), *mama yafwala omwaana ingubo* (mother dressed the child), and the derived sentences; *Dina alafungula omuliango* (Dina will open the door). *Mama yafw alula omwaana ingubo* (mother undressed the child). As Table 12 shows the addition of the reversive morpheme {-ul-} to the verb stem has no syntactic effects to the derived sentence. The reversive morpheme {-ul-} neither increases nor decreases the valence of the verb as Table 12 shows.

Sentences 65, 66, and 67 must be looked at as having NPs that show a defined relationship with the verb. These sentences reflect relationships such as who is performing the action and to whom it is being done. A sentence like (65b) above;

Dina ya – fungula omuliango

Dina opened the door

Expresses such a relationship in which a person called Dina is the author of the action while the receiver of the action is ‘*omuliango*’ door.

Verbs in Lutsotso reversive sentences therefore do have lexical entries specifying the theta [θ] roles – agent/patient/recipient, goal , among others, thus the entries :

68. rekula, V, + [-NP] `agent, patient’ unset

69. fungula : V, + [-NP] `agent, patient’ remove.

The sentences above capture the relationship that hold between the lexical head of the VP and its complements on the one hand and its subject on the other.

The verbs in (68 and 69) can be exemplified in sentences (70 and 71):

70a omu-siani ya- rekul- a omu-teko .

CL1- boy SM-unset-FV –CL3-trap

‘The boy unset the trap’.

70b *omu-siani ya- rekul- a

CL1-boy-SM -unset-FV

‘The boy unset .’

71a Papa ya- fungul- a omu-liango

Father-SM-opened-FV-CL3 -door

‘Father opened the door’.

71b Papa ya-fungula

* Father –SM-opened

‘Father opened.’

As the examples (70a) and (71a) show, the verbs *rekula* (unset) and *fungula* (open) not only c-select what to occur with but also semantic selects (s-selection) the arguments (NPs) to which they can theta mark their roles. In (70a), the verb *rekula* (unset) theta marks the NP Dina as the agent and the NP *omuteko* (trap) as patient. S-selection and therefore theta marking being the function of the verb, we can explain the grammaticality of (70a) and (71a) on one hand and on other, the ungrammaticality of (70b) and (71b). Examples (70b) and (71b) are ungrammatical because of violating the projection principle of theta theory of GB (Chomsky 1981, 1982) which requires that representations observe the sub categorization properties of lexical items, where

sub- categorization is understood to include categorial features. The lexical entry for the verb *rekula* (unset) in (70b) specifies that it must occur with a following NP, hence the c-selection of *omuteko* (trap) in 70a, but as can be observed, the following NP is missing leading to its ungrammaticality. Likewise, the verb *fungula* (open) in (71b) sub-categorises for a following NP, but the NP is missing and this renders sentence (71b) ungrammatical. Consequently, (70a) is grammatical in accordance with the projection principle; the NPS *omusiani* (boy) and *omuteko* (trap) are available to be assigned the theta role of agent and recipient respectively. The same applies to (71b) as it has the NPs *papa* (father) and *omuliango* (door) to be assigned theta roles of agent and recipient. Sentence (70b) and (71b) are ungrammatical because they each have one theta role less in open violation of the projection principle. No meaning can therefore be made out of (70b) and (71b).

Sub-categorisation properties play a crucial role in determining meaning relations. The projection principle ensures that the sub-categorisation properties of lexical items are accurately reflected in all syntactic levels of representation (Chomsky, 1981).

This section was geared towards achieving the first research objective in this study. In Lutsotso, the derivational morphemes modify the syntactic and semantic structure of the sentence. There is syntactic and semantic difference between the basic and the derived sentence.

Valence increasing processes of applicative, instrumental and causative in Lutsotso have their effect on the internal argument while valence decreasing processes of the passive affect the external argument. Valence decreasing processes of the reciprocal and reflexive have effect on both external and internal arguments. The valence decreasing process of the stative has effect on the external argument as it is deleted from the sentence. All verbal derivations in Lutsotso have a fixed position.

There are some derivational morphemes in Lutsotso which do not alter the syntactic structure of the sentence. These derivational morphemes include the stative and the reversive. The reversive morpheme only alters the meaning of the sentence in Lutsotso. Moreover, verbs in Lutsotso reversive sentence do have lexical entries specifying the theta roles such as, agent, patient, recipient and goal among others.

The principles of GB were successfully used in the identification and description of argument changing processes in the Lutsotso sentence.

All derivational morphemes are considered as independent morphemes –syntactic categories with head status in the minimalist program. Valence increasing processes take specifiers with landing sites for their respective objects. Valence decreasing processes on the other hand have heads in the structure that enables the verb to check its features. There is therefore a need for verb movement for feature checking to ensure the full interpretation of the features at interface based on morphological evidence and lexical properties of sentence constituents.

After identifying and describing the valence increasing and valence decreasing operations in the sentence of Lutsotso, the co-occurrence of these valence changing operations can now be discussed in the next section.

4.4 Suffix ordering in Lutsotso

4.4.1 Introduction

This section sets out to achieve objective two by discussing and analyzing the data from the field elicited by tools discussed in Chapter three. Section one of this Chapter dealt with verb derivation processes and their effect on the sentence. Valence increasing operations like the applicative, causative and instrumental were discussed. Valence decreasing operations like the passive, stative, reflexive and reciprocal were also discussed. Verbs in Lutsotso have the

capacity to generate two or more derivational affixes. In Lutsotso it is possible to have argument changing processes co-occurring or combining on the verb. This section discusses the effects of co-occurrences of several derivational affixes, the constraints that determine their order and their syntactic and semantic implication on the basic SVO sentence structure of Lutsotso. The mirror principle which states that ‘morphological derivations must directly reflect syntactic derivations and vice versa’ (Baker, 1988: 13) is applied. This principle shows that there is a certain order in which morphemes co-occur in a given derived verb.

4.4.2 Co-occurrence of valence increasing processes

The morphological processes of the verb that add one extra argument in Lutsotso are the applicative, the instrumental and the causative. The causative suffix is {-ia-} while the applicative suffix is {-il-} when the preceding vowel is a, i, u. When the preceding vowel is o or e the infix is *el*. When the two processes combine the applicative suffix comes first followed by the causative.

Thus; il+ ia =ilia. APPL +CAUS = ilia (cause to kill for)

.

Various verbal suffixes described in Chapter 4 can co-occur with each other. There are however order and co-occurrence restrictions in a similar way as Polome (1967) has noted for Swahili verb suffixes. The following section 4.4.3 discusses some examples of verbal suffixes that can co-occur with each other together with the order in which they must occur.

4.4.3 Applicative +causative morphemes

This section looks at the co-occurrence of the applicative suffix and the causative suffix on the same verb. The verb *khupa* (hit) and *lola* (see) have been used to illustrate the co-occurrence of the applicative and the causative in the Lutsotso sentence. When the applicative and the causative co-occur, the suffixes must follow each other in the order: 1 applicative 2. Causative.

Verb	applicative +causative
<i>Khupa</i> (hit)	khup-il + i-a =khupilia
<i>Lola</i> (see)	lol - il + i-a =lolilia

As observed earlier in 4.3.2.1 and in 4.3.2.2, the applicative morpheme increases by one the number of arguments in a Lutsotso sentence. The argument that is introduced in the sentence is an applied object. Likewise the causative morpheme increases the number of arguments by one in a sentence. When the applicative and the causative morphemes occur on the same verb, then the Mirror principle (Baker, 1988) which states that morphological derivations must directly reflect syntactic derivation must be observed.

The co-occurrence of the applicative and the causative suffixes is illustrated in (72) using the verb *khupa* (hit).

72a Anyona a – khupil - e likondi

Anyona SM – hit -FV-sheep

‘Anyona has hit the sheep.’

b Anyona a- khup – i – a omukhana likondi

‘Anyona made/caused the girl hit the sheep.’

c Anyona a- khup – il – e omu-khana li-kondi

Anyona SM –hit –APPl –FV CL1 -girl CL5-sheep

‘Anyona has hit the sheep for the girl.’

d Anyona a – khup – il –i-a omukhana likondi

Anyona SM – TNS-hit –APPL – CAUS –FV omukhana likondi

‘Anyona has caused the sheep be hit for the girl’

Example (72d) is a result of the combination of the applicative and the causative; two valence increasing processes. From this example both the applicative and the causative have the same referent *omukhana* (girl). This argument is therefore likened (made to refer to the same thing) by both the applicative and the causative affixes. The object *omukhana* (girl) thus plays the multiple roles of an applied object and the causer of the action. This means that we cannot have two arguments, one playing the role of applied object and the other since two affixes, these are, applicative and the causative create the same argument, the sentence is complete without another second overt ‘NP’ since *omukhana* (girl) cannot be repeated twice. The displaced argument is however implied. The order of arguments in (72d) follows the requirement of the Mirror Principle (Baker 1988:13) which states that ‘Morphological derivations must directly reflect syntactic derivations (and vice versa). This means that morphological changes take place in exactly the same order as the associated syntactic changes.

If the two processes do not have the same referent, another logical question arises. Can the Lutsotso verb licence two extra internal arguments in addition to the direct object in the basic sentence. Consider the following example;

(73a) omu – satsa ya – lol -a i -nzokha

CL1- man SM-saw-FV-CL9-snake

The man saw a snake

b omu-satsa ya – lol –i - a aba – ana i- nzokha

CL1- man SM – see CAUS-FV CL2-children CL9-snake

‘The man made/ caused the children see snake’

c omu-satsa a – lol – il – e aba-ana i -nzokha

CL1 – man SM – see Appl –fv CL2 children CL9-snake.

‘The man has seen a snake for the children’

d omu-satsa ya – lol – il – i -a omu-khasi abaana inzokha

CL1-man-SM-see-APPL-CAUS-FV-CL1-woman children snake

‘The man made the woman see the snake for the children’

The derived sentence (73d) has four arguments. One external *omutsatsa* (man) and three internal, the causative *abakhasi* (woman), the applicative *abaana* (children) and the direct object *inzokha* (snake). The structure here has changed from subject verb object (SVO) to subject verb object object object (SVOOO).

In Lutsotso natural order of arguments, a verb can only take three arguments. In this case it follows that sentence (73d) is ungrammatical because it has four arguments. For the sentence to be grammatical, one of the licensed arguments has to be omitted. To choose which argument between the causative argument *omukhasi* (woman) and the applicative argument *abaana* (children) should be removed, the idea of proximity of the action represented by the verb can be used to make a choice of which argument should be omitted. In the previous analysis Chapter 4 section 4.3 where the two valence changing processes were tackled separately, the applicative argument *omucheni* (visitor) is an applied object with the beneficiary role in (45c) while the causative argument *mama* (mother) is a direct object with a secondary agent role in (49b). The applicative argument as an internal argument has the action being applied on behalf of it. The causative argument on the other hand has agental features of an external argument

by virtue of being indirectly involved in the initiation of the action. In Lutsotso, the applicative argument *abaana* (children) in (73d) is thus preferred since its analysis shows its part of the verb. The causative argument *omukhasi* (woman) is not very close to the verb for it has some agent characteristics. This means that it is implied as external. This interpretation leads to a grammatical sentence as shown in (73e) ;

73e omu- satsa ya – lol – il – ia aba -ana i-nzokha

CL1– man SM –see AppL – CAUS – CL2-children CL9-snake

‘The man, made/ caused the snake be seen for the children.’

Sentence (73e) shows the interpretation of the co –occurrence of the applicative morpheme – {il} and the causative morpheme{ia} on the verb *lola* (see). (73e) shows that one of the arguments, the causative arguments *omukhasi* (woman) has been eliminated since it has the characteristics of an agent. Sentence (73e) satisfies the requirement of the Extended projection principle of the theta theory of GB that states that every sentence must have a subject. The subject in (73e) is *omusaatsa* (man)

To ensure that the principle of Full Interpretation (Chomsky, 1995) is adhered to, all arguments; *omusaatsa* (man) *abaana* (children) and *inzokha* (snake) will have their case features checked under their respective heads .This means that the AGRSP head and specifier will be built to check the argument (subject) *omusaatsa* (man) for nominative case, APPLP head and specifier will be built to check the argument (applied object) *abaana* (children) for accusative case and then the AGROP head and specifier will be built to check the argument (direct object) *inzokha* (snake) for accusative case . There will be movement of constituents for the purpose of checking relevant features using the feature checking aspect of the MP

(Chomsky,1993, 1995) as figure 11 shows. The verb *lola* (see) will also move to various heads checking relevant features.

The constituents that move are the arguments; *omusaatsa* (man), *abaana* (children) and *inzokha* (snake) and the verb *lola* (see). The features that are checked are, nominative case features, accusative case features, mood, agreement, causative features. The feature checking approach of MP (Chomsky, 1993, 1995) is employed in this exercise as figure 11 illustrates. The subject *omusatsa* (man) is raised from VP-Specifier position (SPEC-VP) and moves to SPEC/AGRSP leaving (ts) behind for nominative case feature checking while the direct object *inzokha* (snake) moves to SPEC /AGRO leaving a trace (to) behind for accusative feature checking (see figure 11). The applied object *abaana* (children) moves to SPEC/ APPLP for accusative feature checking. The verb moves from its base position to MOOD/ MOOD, AGRO / AGRO' to check all the relevant features before landing at AGRS/AGRS where it checks its subject agreement features as figure 11 shows. The verb leaves traces (tv) behind in all the places it moves. The causative does not receive a SPEC since no overt argument is licenced by it.

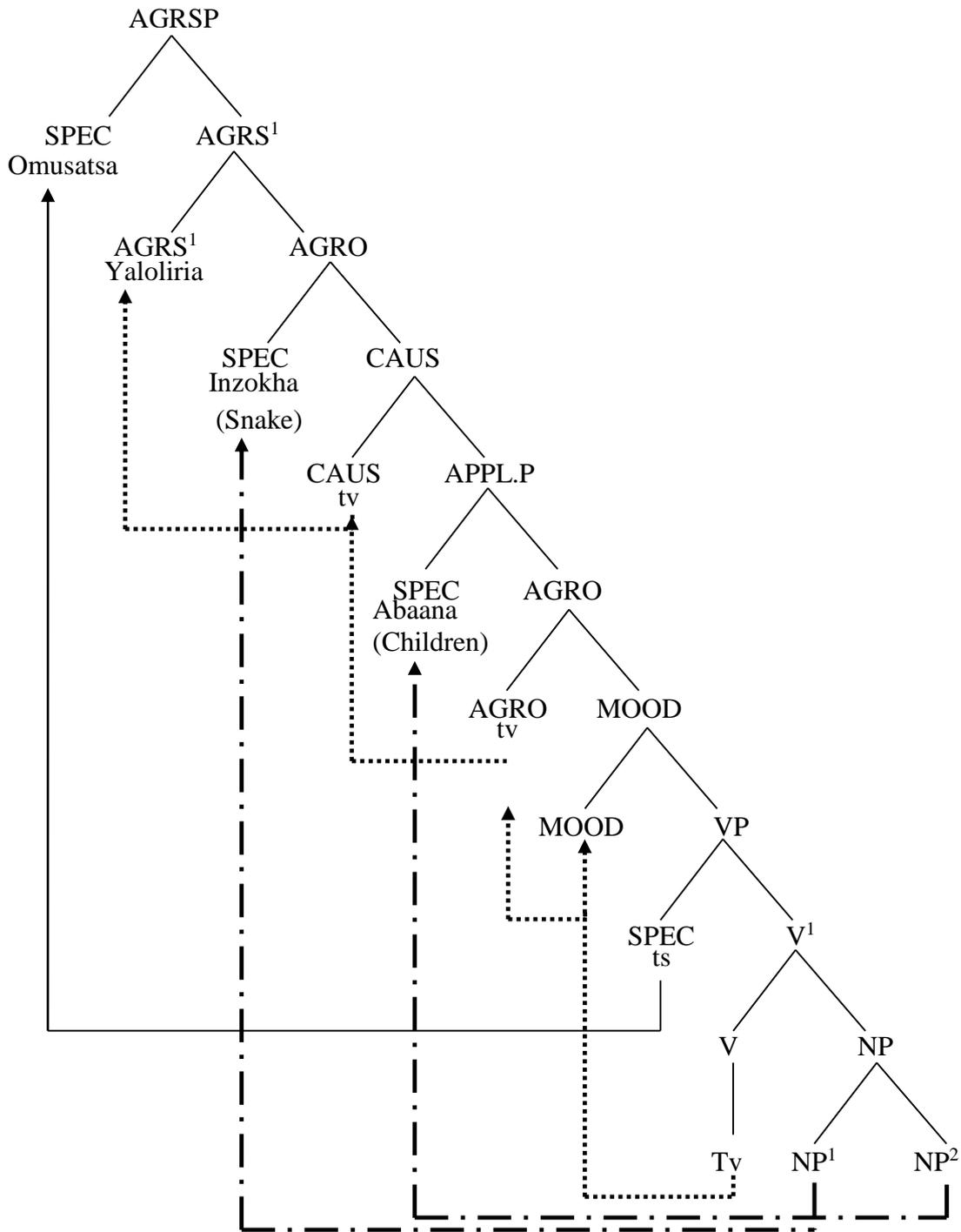


Figure 11: Applicative and causative argument structure

The first line (_____) shows the movement of the subject *omusatsa* (man) from VP-Specifier position (SPEC-VP) to SPEC/AGRSP leaving the subject trace (ts) behind for nominative case feature checking. The second line (_____._____.) shows the movement of the direct object *inzokha* (snake) to SPEC /AGRO for accusative feature checking (see figure 11). The third line (_____._____.) shows the movement of The applied object *abaana* (children) to SPEC/

APPLP for accusative feature checking. Lastly, the dotted line (.....) shows the movement of the verb *lola* (see) to AGRS/AGRS where it settles after checking all the relevant features.

In Minimalist program (MP) the purpose of movement is to check off uninterpretable features (Chomsky 1993, 1995). Feature checking is seen as a way of eliminating features that would otherwise be uninterpretable. Feature checking ensures that categories in a particular sentence have the right features for the sentence to be grammatical. After checking the relevant features as illustrated in figure 11, we conclude that sentence (73e) is grammatical and that there are no vacuous positions in the sentence. In Lutsotso, the arguments *inzokha* (snake) and *abaana* (children) can exchange their positions and the sentence still remain correct.

Mchombo (1999) argues that verbal morphology in Bantu languages encodes various aspects of grammatical information. Mchombo's work reveals that in many Bantu languages, the verb prefixes encode information pertaining to morpho-syntactic categories such as negation, tense, aspect, agreement and modals. The verb suffixes encode information relating to argument structure and thematic information associated with various arguments of the verb. However, Mchombo's work limits itself to investigating the extent to which verbal morphology offers support for the architecture of Universal Grammar and fails to discuss the order of argument licensing morphemes and the constraints that govern their occurrence in a sentence of a Bantu language. Further to this, Mchombo uses illustrations from Chichewa language of Malawi and fails to refer to Luluhya language which is also Bantu. Mchombo's work deviates from the current study in terms of theory application. While Mchombo employs the theory of lexical – functional grammar, the current study employs the GB theory, the feature checking aspect of MP (Chomsky, 1993, 1995) and the Mirror principle (Baker, 1988).

A univalent verb can also take two valency increasing affixes. Consider example (74) .

74a. odera a – la – lir –a

Odera SM – FUT –FV - cry

‘Odera will cry.’

b odera a – la – lir – i- a omwaana

Odera SM -FUT – cry CAUS – FV-baby

‘Odera will cause/ make the baby cry’

c Odera a –la – lir - ir – a mama

Odera SM – FUT – cry APPL – FV mother

‘Odera will cry for mother’.

d odera a – la – lir – il – i a mama omwaana

Odera SM – FUT- cry – APPL –CAUS-FV mama baby

‘Odera will cause/ make the baby cry for mother’

Sentence 74a is a univalent sentence when the causative affix {i} and the applicative affixe {il} combine the sentence that result is grammatical as (74d) above indicates. The first internal argument in (74d) is an applicative (applied) object *mama* (mother) while the second internal argument is a causative object *omwaana* (baby).

In this process, the applicative process precedes the causative process and this explains the order of the morphemes on the verb as required by the Mirror Principle (Baker, 1988). A

reverse of the morphological order results in ungrammaticality. Consider example (74e) where the causative precedes the applicative:

74e * Odera a- la- lir- ia- ir- a mama omwaana

Odera-SM-FUT-cry – CAU-APPL-FV- mother baby

‘Odera will cause the baby cry for mother’.

The syntactic order of the arguments *mama* (mother) and *omwaana* (baby) must reflect the morphological derivations. *Mama* (mother) which is the applied object precedes *omwaana* (baby) which was the original object. Likewise, the morphemes that mark the applicative {il} and the causative {i} must follow the order that reflects the syntactic order of these arguments. This idea was discussed by Baker (1988) in what is termed as the Mirror principle.

4.4.4 The applicative and the instrumental morphemes

These two processes increase the arguments of the verb in Lutsotso. The applicative marker is ‘ir’ in Lutsotso while the instrumental one is ‘il’. Kwamboka (2007) did a morpho-syntactic analysis of Ekegusii verb derivation in minimalist program. Kwamboka`s work reveals that the applicative morpheme in Ekegusii has power to increase the valence of the verb. Kwamboka`s work deviates from the current study in terms of theory application. While Kwamboka utilizes the Minimalist program, the current study employs the GB theory (Chomsky, 1981) the Feature checking aspect of MP (Chomsky, 1993, 1995) and the Mirror principle (Baker, 1988). Kwamboka fails to discuss the co-occurrence of the applicative and the instrumental morphemes on the same verb. When the applicative morpheme and the instrumental morpheme morphologically co – occur on the verb, the applicative comes closer to the verb root than the instrumental one. The applicative marker is ‘il’ in Lutsotso while the instrumental one is ‘il’ as the data from Lutsotso illustrates in (75).

75a. omu-khasi ya – rem - a omu-saala

CL1 – woman SM – cut –FV- CL3 -tree

‘The woman cut a tree.’

b. omu-khasi ya – rem – il - a omwa-ana omu-sala

CL1 –woman –SM cut –APPL –FV – CL1 – child CL3-tree

‘The woman cut the tree for the child’.

c. omu-khasi ya – rem – il – a olu- panga omu-saala

CL1 – woman SM- cut-INST – FV –CL 11-panga –CL3-tree

‘The woman cut a tree with a panga.’

d. omu-khasi ya – rem – il – il – a omwa-ana olupanga omusaala

CL1 – woman SM – cut APPL –INST – FV –CL1-child - panga – tree

‘The woman cut the tree for the child using a panga.’

In the examples (75a – d) it is evident that the arguments increase simultaneously with the derivational morphemes. The basic sentence (75a) has two arguments, *omukhasi* (woman) who is the subject and *omusaala* (tree) the direct object.

Sentence (75b) has three arguments due to the applicative morpheme {ir} which licenced an additional argument. These arguments are *omukhasi* (woman) the subject *omwaana* (child) who is then beneficiary and *omusaala* (tree) the direct object.

Example (75c) has three arguments *omukhasi* (woman), *omusala* (tree) and *olupanga* (panga).

Sentence (75d) where the applicative affix {ir} and the instrumental affix {il} morphologically

co – occur on the verb *rema* (cut) has four arguments. The arguments are the subject *omukhasi* (woman) which precedes the verb and the benefactive (applied object) argument *omwaana* (child) which follows the verb *rema* (cut), followed by the instrumental argument *olupanga* (panga) and finally the direct object *omusaala* (tree). This combination is in line with the mirror principle (Baker,1988) discussed earlier since the first morpheme on the verb is the applicative (benefactive) and the first derived argument is the beneficiary (applied object) the word order changes from subject verb object (SVO) to subject , verb object, object , object, (SVOOO),

Chomsky (1981, 1982) argues that verbs not only C- select what to occur with , but also semantic selects (s-selection) the NPs to which they can theta mark their roles. In (75d), the verb *rema* (cut) theta marks the argument (NP) *omukhasi* (woman) as agent, the argument (NP) *omwaana* (child) as beneficiary and *omusala* (tree) as patient .

Though this (75d) is grammatical, in normal speech, one of the licensed arguments; applied object *omwaana* (child) and the object *olupanga* (panga) must be omitted or made optional. To do this, the idea of proximity of the action represented by the verb can be used to make a choice between the applicative and the instrumental.

In (75d) the applicative argument *omwaana* (child) as an internal argument has the action being applied on behalf of it. The instrumental argument *olupanga* (panga) on the other hand has the features of an external argument by virtue of being indirectly involved in the initiation of the action as (75c) illustrates. In Lutsotso, the applicative argument is as such preferred since its analysis shows its part of the verb. This means that the instrumental argument will be omitted or made optional. This interpretation leads to a grammatical sentence as shown in (75e) .

(75e) omu –khasi ya – rem – ir – a omwaana omusaala

SM – woman –SM – cut –APPL – FV – child tree

The woman cut the tree for the child

In sentence (75e) the instrument that was used is not important. What matters is the person for whom the tree was cut and who cut the tree. To ensure that the constituents in (75e) have the correct features, the following features are going to be checked using the feature checking aspect of Chomsky's (1993, 1995) Minimalist program; nominative case features, accusative case features, mood, agreement, instrumental and applicative features.

In minimalist program (Chomsky, 1995) the derivative morphemes like the applicative, causative, instrumental among others are considered to be feature bearing affixes, hence heads and specifiers have to be built for them depending on their lexical and morphological evidence. According to Chomsky (1995) the verb moves to various heads for checking of respective features while the noun moves to specifier for case checking. Thus for the derived sentence (75e) above, the subject agreement head and specifier (SPEC/AGRS), the object agreement phrase head and specifier (SPEC/AGROP), the applicative head and specifier (SPEC/APPL) will be built to enable the nouns *omukhasi* (woman), *omusaala* (tree) and *omwaana* (child) to check case features as figure 12 illustrates.

There is movement of constituents for the purpose of feature checking. In the process of movement, the subject *omukhasi* (woman) moves to SPEC/AGRS leaving behind a trace (ts) for nominative case feature checking while the direct object *omusaala* (tree) moves to SPEC/AGROP leaving behind a trace (to) for accusative feature checking (see figure 12). The applicative object *omwaana* (child) moves to SPEC / APPL leaving a trace (to) behind for accusative feature checking. The verb moves from its base position to AGRO/ AGRO', APPL/ APPL' and INST/INST' to check all the relevant features before landing at AGRS/AGRs where

it checks its subject agreement features and aspect features(see figure 12). The instrumental does not receive a SPEC since no overt argument is licensed by it as figure 12 shows

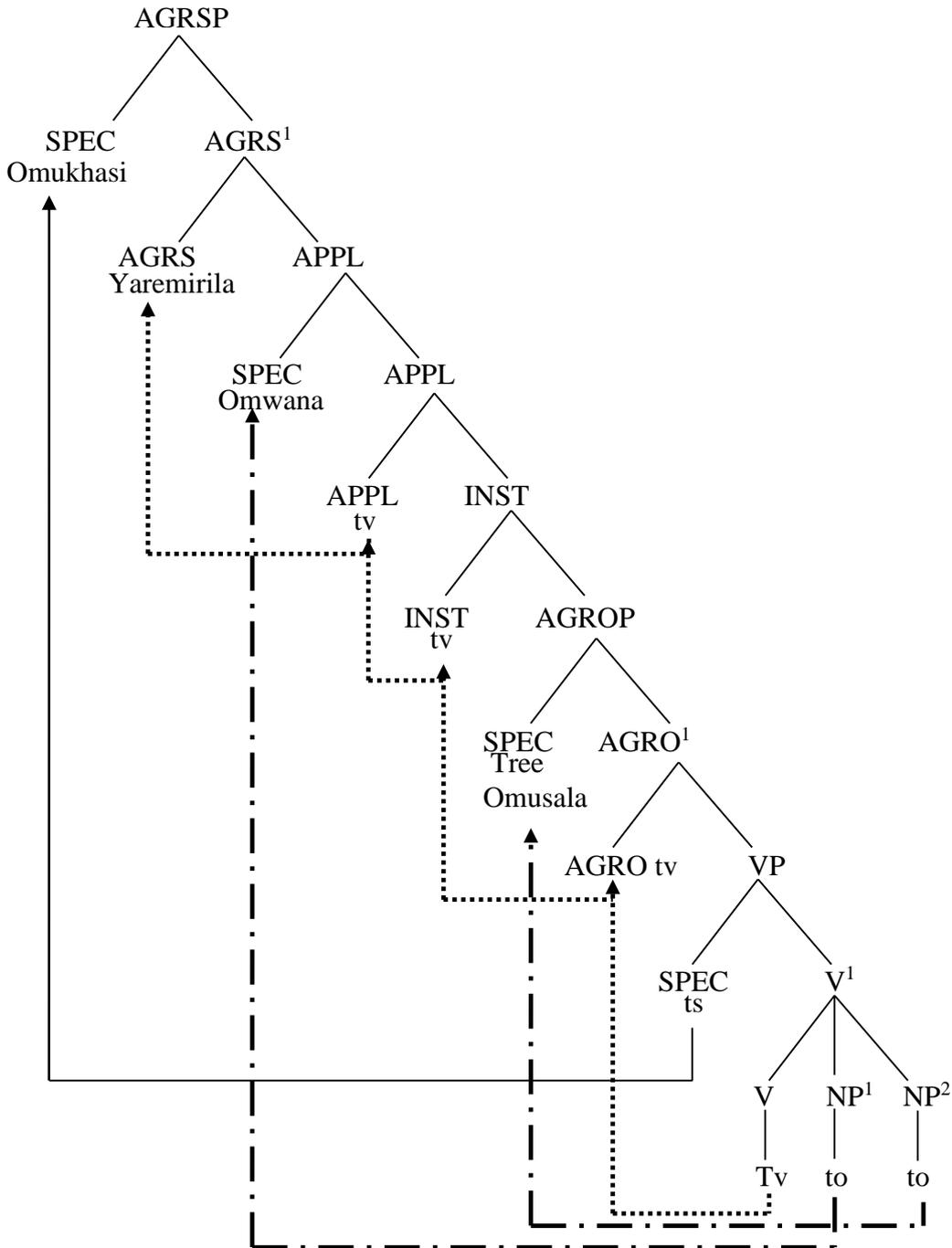


Figure 12: Applicative and instrumental argument structure

4.5 Co –occurrence of valence decreasing processes

In section 4.3.3 it was noted that the valence decreasing operations in Lutsotso are the passive, stative, reciprocal and the reflexive. These processes can combine to cause different changes in the argument structure and as such affect the basic sentence structures of Lutsotso. In the next section 4.5.1 the co-occurrence of the passive and the reflexive processes is discussed.

4.5.1 The passive and the reflexive morphemes

In a reflexive construction the subject /agent of the action is the same as the object/patient of the action. Two syntactic and semantic roles are merged into one. In the passive construction, the subject receives an oblique role and more focus is given to the object. In other words the object becomes the subject of the sentence. The reflexive morpheme is a prefix, so it precedes the passive morpheme which is a suffix and this will lead to the combination shown below:

Reflexive	passive	reflexive
Isinge	singwa	isingwe
Bath yourself	be bathed	

Example 76 illustrates the combination of the passive and the reflexive.

(76a) Masero a- la – i- singa

Masero SM-FUT-REFL- bath

Masero will bath himself.

(76b) Masero a- la- sing –w- a

Masero SM-FUT-bath-PASS- FV

Masero will be bathed

(76c) Masero a- la- i- sing- w- a

Masero SM-FUT-REFL-bath-PASS-FV

Masero will himself be bathed.

Sentence (76a) is a reflexive sentence with one argument *Masero*. (76b) is a passive sentence with one argument *Masero*. (76c) is a combination of the reflexive and the passive. The combination of the passive and reflexive as shown in (76c) is ungrammatical in Lutsotso. This is because the reflexive cannot be passivised since the subject and object refer to the same person called Masero.

4.5.2 The reciprocal and the reflexive morphemes

Givon (2001) gives the semantic definition of a reflexive as a construction where the subject and object of the event or state regardless of their semantic roles are co-referent. That is, the subject acts upon (or relates) itself.

These two processes are related because they both have a characteristic of co – reference. In reciprocal, there is an associative participation by the subject and the object while in the reflexive; two functions subject and object are performed by the same entity. The co – occurrence of the two will lead to the structure

Reflexive +Reciprocal = ref + reciprocal

Isinge + Singana = isingane

This occurrence is unacceptable because the reciprocal involves different participants in mutual relationship. As such, the same entity as represented by the reflexive cannot create a mutual “do for me I do for you situation.”

4.5.3 The passive and the reciprocal morphemes

Spencer (1991) defines a passive as ‘...a morpho-syntactic operation that suppresses the external argument.’ The external argument may not be syntactically expressed but is available semantically. In other words, a verb is said to be in the passive voice when the subject is not active, its role and that of the object are reversed. In the active voice, the subject always comes first and is seen to do something. But when the roles are reversed, it is the object that takes the initial position and the subject may be mentioned or eliminated.

The passive reduces the verb valence by eliminating the subject which is a core argument while the reciprocal reduces it by merging two participants into one. The passive morpheme is {-w-} while the reciprocal morpheme is {-an-}. In a construction involving the two processes the reciprocal morpheme precedes the passive one. This is in line with the Mirror principle (Baker, 1988) which states that morphological derivations must directly reflect syntactic derivations (and vice versa). This means that there is a certain order in which morphemes occur in a given derived verb. The result of combining the passive and the reciprocal is shown in the examples (77 a-d):

(77a) Odera a – la – khup – a Anyona

Odera SM –FUT – hit –FV Anyona

‘Odera will hit Anyona.’

b Anyona a- la – khup- w- a (nende odera)

Anyona SM –FUT – hit – PASS –FV (by Odera)

‘Anyona will be hit (by Odera).’

c Odera nende Anyona ba –la-khup-an –a

‘Odera and Anyona will hit each other.’

d Odera nende Anyona ba – la - khup –an – w –a

Odera and Anyona SM – FUT –hit –RECP –PASS –FV

‘Odera and Anyona will be forced to hit each other (by something).’

Sentence (77a) is the basic sentence and has two arguments *Odera* and *Anyona*. (77b) is a passive sentence with one argument *Anyona* and an optional prepositional phrase *nende Odera* (by Odera), (77c) is a reciprocal sentence in which the subject *Anyona* and the object *Odera* are conjoined and act as one entity.

Example (77d) represents passivization of a reciprocal. In this construction *Odera* and *Anyona* combine to form the subject. Apart from this, the state of the constituents remains and there is the syntactic implication of a passive. To ensure that the derived sentence (77d) has the relevant features, the feature checking approach of the MP (Chomsky 1993, 1995) is employed as figure 13 shows. The features that are checked include: nominative case features, accusative case features, mood, passive, reciprocity features, tense and agreement features.

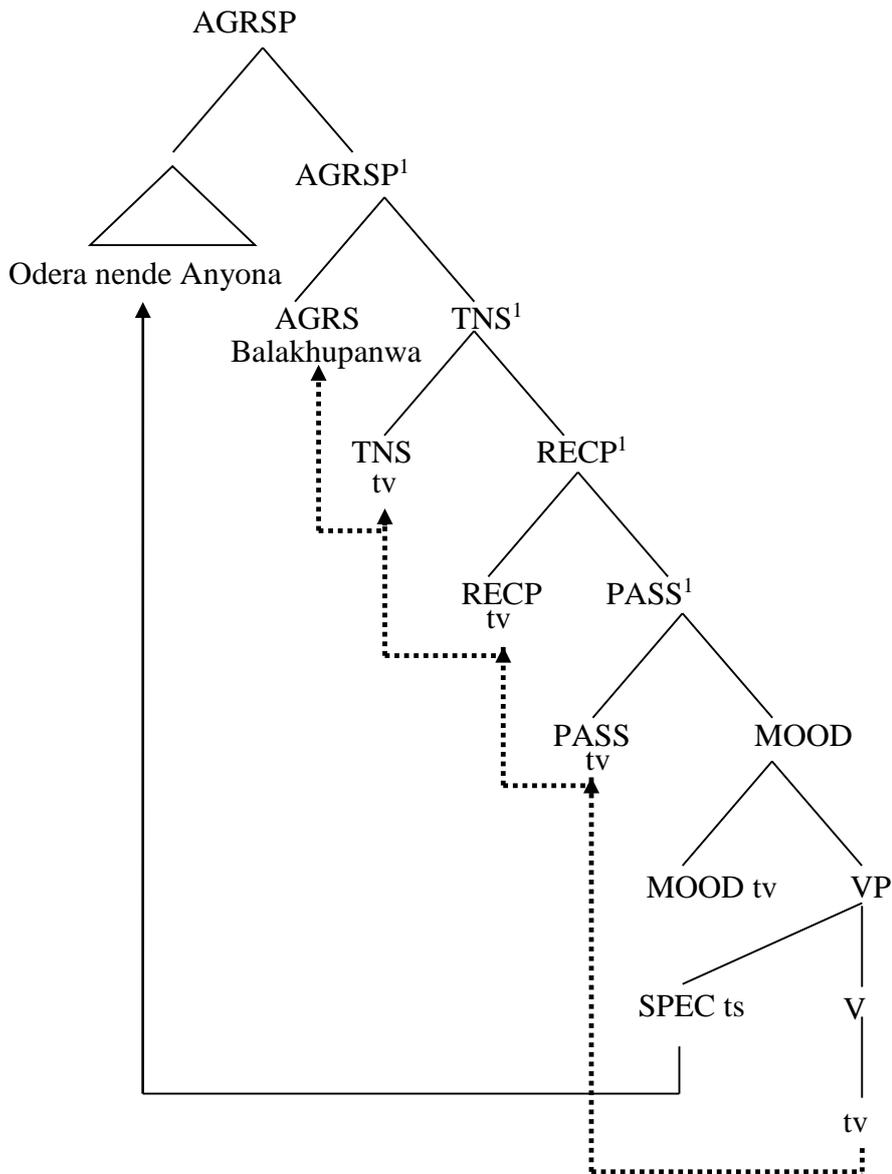


Figure 13: Passive and reciprocal argument structure

For the purpose of feature checking the plural subject *Odera* and *Anyona* and the verb *balakhupanwa* will move to check relevant features (see Figure 13). Derivative morphemes like the passives are considered to be feature bearing affixes (Chomsky, 1995). As such, the subject agreement phrase head and specifier (SPEC/AGRSP) will be built to provide a landing site for the plural subject *Odera* and *Anyona* and to have nominative case checked as figure 13 illustrates.

The plural subject *Odera* and *Anyona* moves to SPEC/AGRSP for nominative feature checking. The verb *balakhupanwa* (hit) moves to MOOD/ MOOD for checking of mood features then to PASS/PASS to check passivity features , RECP/RECP to check reciprocity features then to TNS/TNS for tense feature checking then to AGRS/AGRS for agreement feature checking with the subject (see Figure 13). Movement of the subject *Odera* and *Anyona* and the verb *balakhupanwa* (hit) eliminates any uninterpretable elements in the sentence.

4.6 Co-occurrence of valence increasing and valence decreasing processes

Valence increasing and valence decreasing morphemes co – occur morphosyntactically on the Lutsotso verb. As stated earlier, some derivational affixes have the power to add an argument, while others have the power to take away an argument. The co – occurrence of the applicative with the passive, the applicative and the reciprocal, the applicative and the reflexive, the causative and the passive, the causative and the reciprocal, the causative and the reflexive are going to be discussed.

4.6.1 The applicative and the passive morphemes

The applicative morpheme {il} or {el} in Lutsotso has the meaning of “doing on behalf of “ it can combine with various verb decreasing operations. The combination of the applicative and the passive can be exemplified using the verb ‘*khupa*’ hit.

Applicative + passive = applicative +passive

Khupia + khupwa = khupirwa

The applicative morpheme /ir/ precedes the passive morpheme /w/ and the two have the meaning of “be done something on behalf of” consider the example 78a-d below;

78a Bunoro a- la – khup – a imbwa

Bunoro SM – FUT – hit – FV dog

‘Bunoro will hit the dog’

b Bunoro a – la – khup – il – a abaana imbwa

Bunoro SM –FUT –hit –APPL – FV children dog

‘Bunoro will hit the dog for the children’

c i- mbwa i -la- khup – w - a (nende Bunoro)

CL 9-Dog SM – FUT-hit - PASS - FV (by Bunoro)

‘The dog will be hit by Bunoro.’

d Aba-ana ba – la khup –il – w- a imbwa

CL2 –children SM- FUT –hit – APPL – PASS –FV dog

‘Children will be hit for the dog.’

Sentence (78a) is an active sentence with two arguments, *Bunoro* and *imbwa* (dog). Sentence (78b) is an applicative sentence with three arguments, *Bunoro*, *abaana* (children) and *imbwa* (dog). Sentence (78c) is a passive sentence with one argument *imbwa* (dog) and an optional prepositional phrase *nende Bunoro* (by Bunoro). (78d) is the combination of the applicative and the passive morphemes in the verb *khupa* (hit). In this construction the applied object *abaana* (children) become the subject of the passive. In a normal passive sentence, it is expected that the object / patient for this case *imbwa* (dog) takes the subject position. But if we bring the basic object into the subject position in an applicative construction or sentence this leads to an ungrammatical construction (78e) .

(78e) *.Imbwa i – la – khu – pir –w – a (abaana nende Bunoro)

The dog will be hit for the children (by Bunoro).

The divalent verb in (78a) is made trivalent in (78b) and then passivised in (78d).

In MP (Chomsky, 1993, 1995), the relevant projections are built to allow the various features to be checked as figure 14 shows. These features include case features, mood, passive, applicative and agreement features. There is movement of constituents for the purpose of feature checking.

The passivised applied object *abaana* (children) will move to SPEC/ AGRSP for nominative case checking while the basic object *imbwa* (dog) will move to SPEC/ A GRO for accusative case checking as Figure 14 illustrates. The verb movement is as follows: MOOD/MOOD to check mood features AGRO/AGRO to check agreement case features with the verb, PASS/PASS and APPL/ APPL' to check passivization and applicative features respectively before landing at AGRS/AGRS where it checks agreement features with the subject. Oblique phrase *nende Bunoro* (by Bunoro) does not move as Figure 14 illustrates.

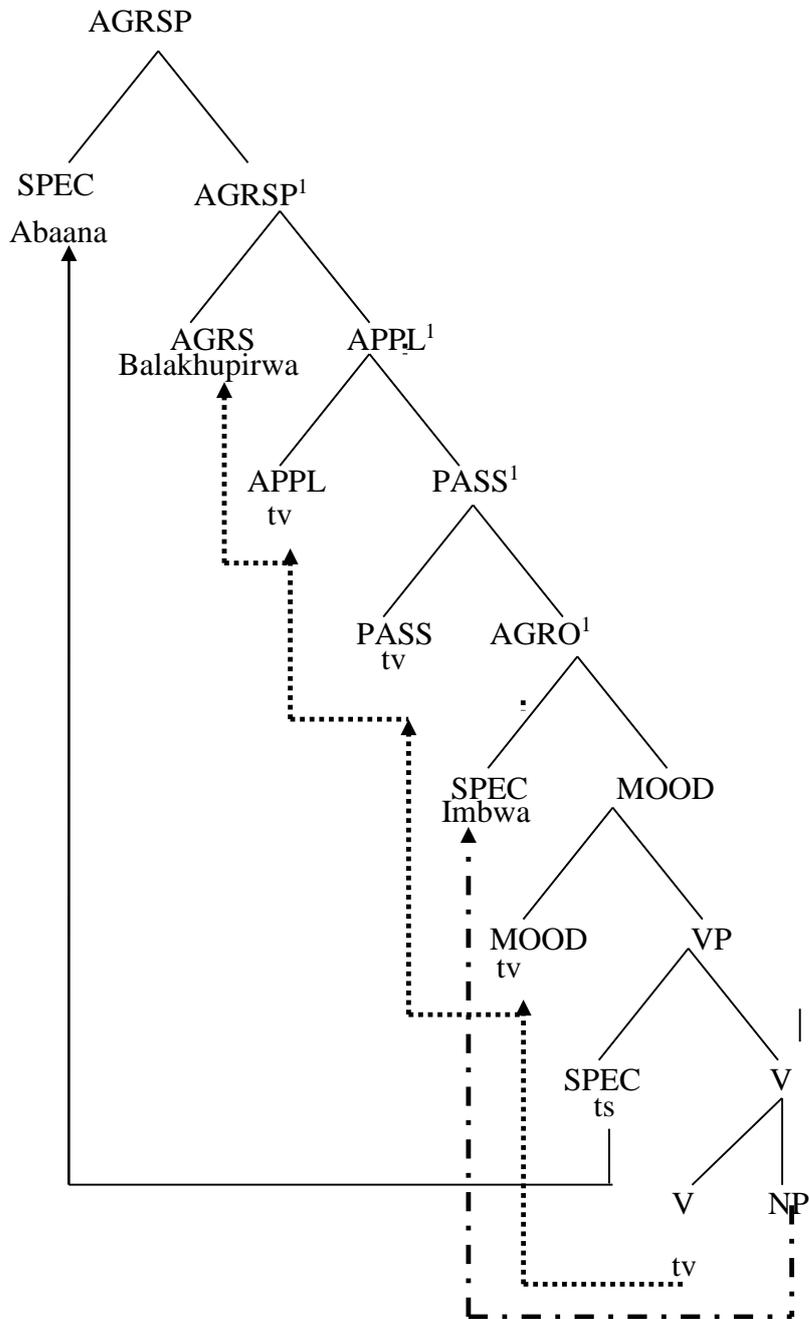


Figure 14: Applicative and passive argument structure

When a sentence is univalent, the applicative applied object is passivised as shown in the example 79a-c

79a. Ambwaya a – la – lil - a

Ambwaya SM – TNS – cry-FV

Ambwaya will cry

b. Ambwaya a – la – lil – ir – a omwaana

Ambwaya SM – TNS – cry AppL – FV baby

Ambwaya will cry for the baby

c. omwa – ana a- la – lil – ir – w – a (nende Ambwaya)

SM – baby SM -TNS –cry AppL – PASS -FV

The baby will be cried for (by Ambwaya)

Omwa – ana (child) is added by the presence of the applicative morpheme /ir/ and it moves to the subject position. This is because the univalent verb *lila* (cry) is made divalent by the addition of the applicative morpheme /ir/. If the divalent sentence is passivised, as GB proposes (Chomsky, 1981) the argument (NP) *Ambwaya* in (79b) is assigned the external theta role of agent by the verb *lila* (cry) because active transitive verbs have a theta role that they assign to their subjects. Sentence (79c) the subject *omwaana* (child) is not assigned a theta role because the passive participle has no theta role to assign.

4.6.2 Applicative and reciprocal morphemes

This subsection examines the co-occurrence of the applicative and the reciprocal. In its co – occurrence with the applicative, the reciprocal is constrained to appear after the applicative suffix irrespective of the nature of the applicative argument. Consider the example 80 a and 80b below

80a. Ambwaya a – kul – ir – e Anyona ingubo

Ambwaya SM – buy –APPL –FV Anyona dress

‘Ambwaya has bought a dress for Anyona.’

80b *Ambwaya nende Anyona ba – kul – ir – an – e tsingubo*

Ambwaya and Anyona SM – buy – APPL – REC – FV clothes

Ambwaya and Anyona have bought clothes for each other

Sentence (80a) is an applicative sentence with three arguments, *Ambwaya*, *Anyona* and *ingubo* (dress). Sentence (80b) is a combination of the applicative and the reciprocal process. The order of the applicative and reciprocal morphemes is in line with the Mirror principle (Baker, 1988) which states that `morphological derivations must directly reflect syntactic derivations (and vice versa). In (80b) the applicative process precedes the reciprocal process and the two processes yield a grammatical sentence. We also notice that the two processes of the applicative and the reciprocal reduce the number of arguments as can be seen in (80b) above. *Ambwaya* and *Anyona* act as one (subject). The applied object *Anyona* is in a reciprocity relationship with the subject *Ambwaya*. The action is therefore done by the subject in association with the applied object and they do it together for their benefit. The beneficiary therefore becomes that of the plural agent. In theta theory of GB (Chomsky, 1981, 1982), the plural subject *Ambwaya nende Anyona* (*Ambwaya* and *Anyona*) is the agent while the object *ingubo* (dress) is the patient.

In MP (Chomsky 1993, 1995) the applicative and the reciprocal morphemes license creation of the applicative head and reciprocal head for purposes of feature checking as figure 16 shows. The feature checking aspect of MP (Chomsky 1993, 1995) is employed to ensure that the derived sentence (80b) has the relevant features. As figure 15 illustrates, there is movement of constituents for feature checking which takes place in successive cyclic fashion (successive steps) (Radford, 1997).

As figure 15 illustrates, the combined subject *Ambwaya nende Anyona* (*Ambwaya* and *Anyona*) moves to SPEC/ AGRSP for nominative feature checking leaving behind a trace (ts) while the direct object *tsingubo* (*dresses*) moves to SPEC/AGROP for accusative case checking leaving behind a trace (to). The verb *bakulilana* (*bought*) moves from its base position to MOOD/MOOD APPL /APPL, REC /REC and then to AGRS/AGRS where it lands to check agreement features with the subject and aspect features. The verb leaves traces (tv) in all the places it passes (see figure 15).

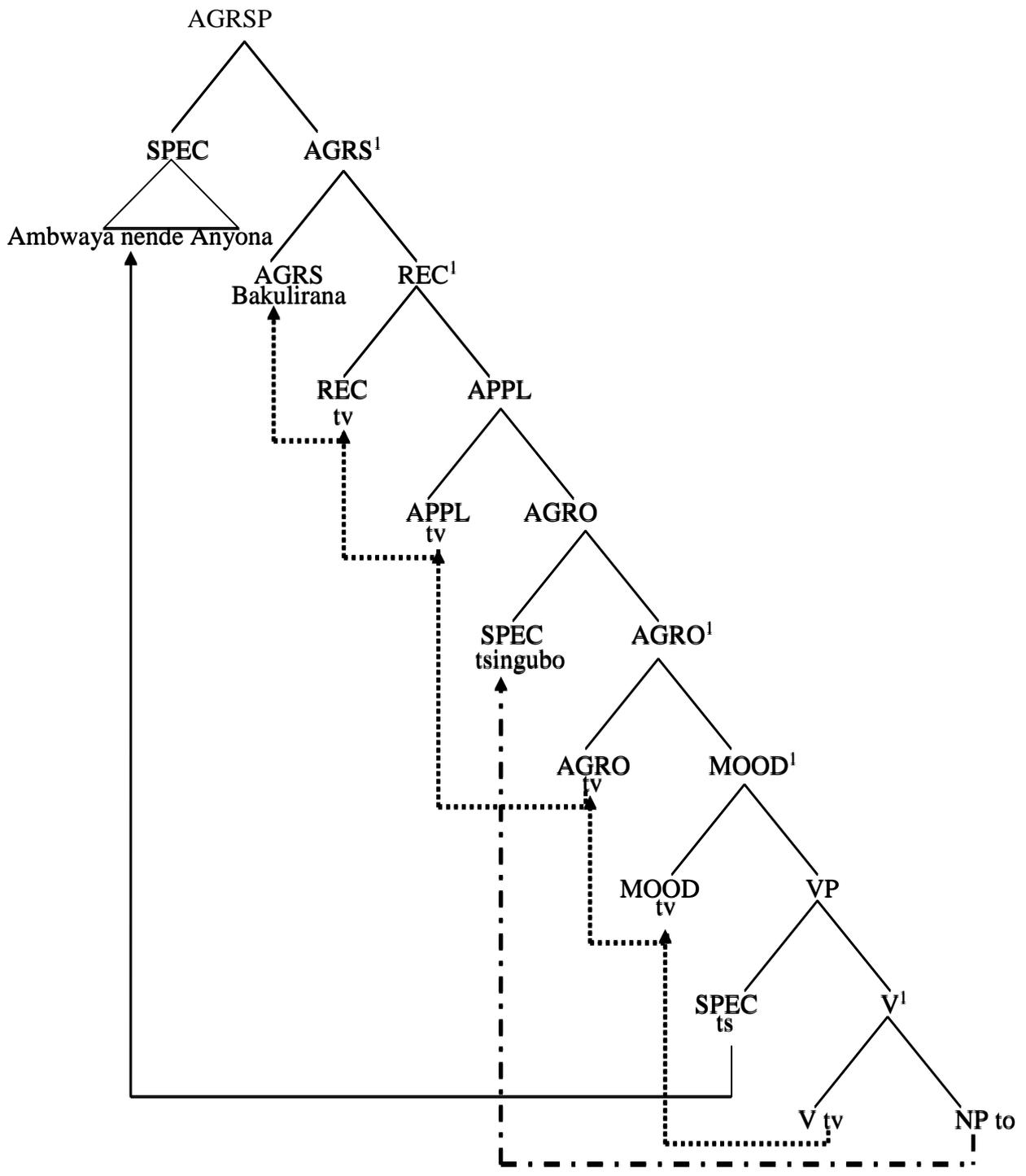


Figure 15: Applicative and Reciprocal argument structure

4.6.3 Applicative and reflexive argument structure

In instances where a reflexive and an applicative co – occur, the resultant meaning is doing something for the benefit of oneself. In this co-occurrence the reflexive morpheme is constrained to precede the applicative. Consider the example 81 below:

81 a. omuhenje ya – khup –a i-nzokha

Omuhenje SM- hit – FV CL9-snake

‘Omuhenje hit a snake.’

b Omuhenje e – khup – i – a omwene

Omuhenje SM – hit – REF – FV herself

‘Omuhenje hit herself.’

c Omuhenje a – khup- i – ir – e Dina inzokha

Omuhenje SM – hit – REF – APP –FV Dina snake

‘Omuhenje hit a snake for Dina’

d: omuhenje ya – i- khup – ir – e i-nzokha

Omuhenje SM – REFL- hit – AppL – FV CL9-snake

‘Omuhenje hit a snake for herself.’

Sentence (81a) is the basic sentence and has two arguments; *Omuhenje* and *inzokha* (snake).

In GB Chomsky 1981, 1982) *Omuhenje* is the functional subject while *inzokha* (snake) is the

functional object. Sentence (81b) is a reflexive sentence with one argument *Omuhenje*. In the binding theory of GB (Chomsky 1981, 1982), the reflexive object *omwene* (herself) is co-indexed to the argument *Omuhenje*. In other words, *Omuhenje* is the antecedent of the reflexive object *omwene* (herself). Sentence (81c) is an applicative sentence and has three arguments; *Omuhenje*, *Dina* and *inzokha* (snake). The external argument *Omuhenje* is the agent; the internal argument *Dina* is the beneficiary while the internal argument *inzokha* (snake) is the patient. Sentence (81d) is a combination of the applicative process and the reflexive process. In this co-occurrence, the subject/agent (*Omuhenje*) is doing for her benefit so she is also the applied object/ benefactor of the action.

According to Chomsky (1993, 1995) a computational system builds structures by selecting numerated elements and combines them in the relevant way. The verb moves to various heads to ensure features are in place, while the noun moves to specifier (SPEC) to ensure case is correct to avoid superfluous words. As figure 16 shows, In the derived sentence (81d) a subject agreement phrase head (AGRSP) and specifier (SPEC), the object agreement phrase head and specifier (AGROP) are put in place to check the subject *Omuhenje* for nominative case and the object *inzokha* (snake) for accusative case and the verb *khupa* (hit) for relevant features.

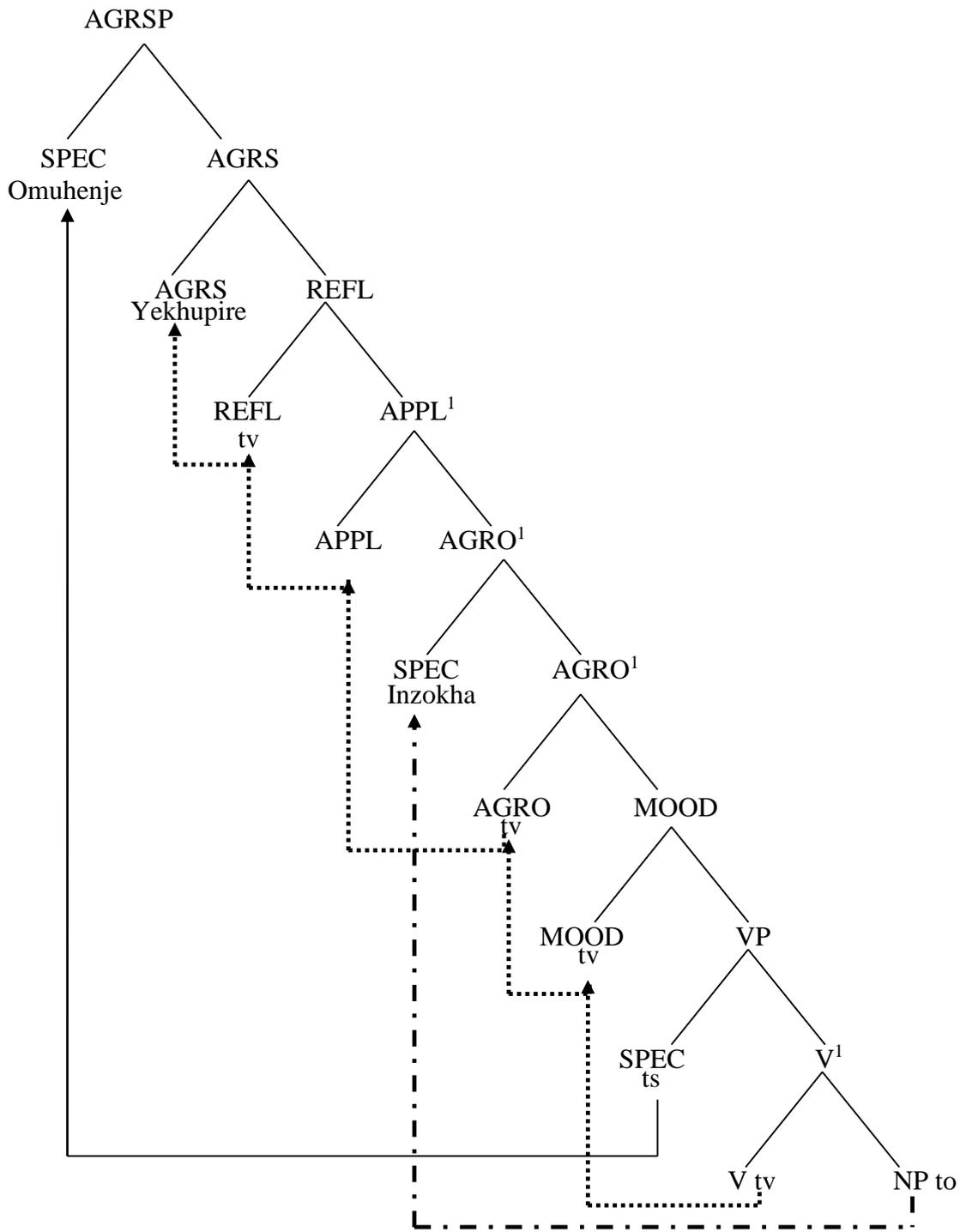


Figure 16: Applicative and Reflexive argument structure

In MP (Chomsky 1993, 1995) it is important that constituents in a sentence bear correct features. Therefore the feature checking aspect of MP is applied for the checking of the following features in the derived sentence (81d); case features, mood, agreement, applicative

and reflexive. As figure 16 illustrates, there is movement of constituents which takes place in a successive cyclic fashion (Radford, 1997).

The subject *Omuhenje* moves to SPEC/AGRSP for nominative case checking leaving behind a trace (ts) while the object *inzokha* (snake) moves to SPEC/AGROP for accusative checking leaving behind a trace(to) (see figure 16). The verb *khupa* (hit) moves to MOOD/ MOOD' , AGRO/ AGRO¹, APPL / APPL¹ and REFL /REFL¹ to check all the morphologically and lexically licensed features and then it lands at AGRS/AGRS where it checks agreement with the subject as figure 16 shows. The verb leaves traces all through its movement.

4.6.4 The causative and valence decreasing processes.

The argument increasing processes of a causative brings out the meaning of causing/making somebody do something (Mchombo, 2004). The causative can combine with various valence decreasing processes and this affects the basic sentence structure. The causative in Lutsotso is realized by the morpheme {-ia-}. The causative morpheme is suffixed to the verb with the result that there is a new NP introduced in the structure. This section introduces the various valency decreasing processes that can combine with the causative. This processes include the reciprocal, the reflexive and the passive.

4.6.5 The causative and the reciprocal morphemes

This sub-section examines the co-occurrence of the causative and the reciprocal processes. The causative morpheme in Lutsotso is {-i-} and has the power to increase the valence of the verb while the reciprocal morpheme {-an-} and has the power to reduce the valence of the verb. The causative has the notion of causation or idea of making someone do something while the reciprocal refers to constructions in which two or more participants act upon each other. A combination of the two processes is discussed.

A combination of the causative and the reciprocal leads to verb with the meaning of “causing each other do things mutually together”. Example (82) illustrates this:

(82)

- a. Nekesa ya – ching- a aba-ana

Nekesa SM –carry –FV CL2-children

‘Nekesa carried the children.’

- b. Nekesa nende Anyona ba – ching – an – a

Nekesa and Anyona SM – carry – RECP – FV

‘Nekesa and Anyona carried each other.’

- c. Nekesa ya – ching – i-a Anyona aba-ana

Nekesa SM – carry CAUS Anyona CL2-children

‘Nekesa caused/made Anyona carry children.’

- d. Nekesa nende Anyona ba – ching –an –i- a aba-ana

Nekesa and Anyona SM – carry – REC –CAUS -FV CL2-children

‘Nekesa and Anyona caused/ made the children carry each other’

Sentence (82a) is the basic sentence and has two arguments; *Nekesa* and *abaana* (children). In GB (Chomsky, 1981, 1982), *Nekesa* could be described as the functional subject while *abaana* (children) could be described the functional object. Sentence (82b) is a reciprocal sentence in which the two arguments *Nekesa* and *Anyona* which are co-joined function as one entity (subject). Sentence (82c) is a causative sentence with three arguments, *Nekesa*, *Anyona* and

abaana (children). *Nekesa* is the subject/agent; *Anyona* is another agent that is object of causation. This agent (*Anyona*), is inactively involved in performing the action expressed by the verb, thus a secondary agent. The external argument, *Nekesa* is actively involved in initiating the events so it is a primary agent. The argument *abaana* (children) is the object/patient in the terms of theta theory of GB theory (Chomsky, 1981, 1982). Sentence (82d) is a combination of the causative morpheme {-i-} and the reciprocal morpheme {-an-}. This co-occurrence of the causative and the reciprocal conforms to the requirement of the Mirror principle as was discussed by Baker (1988). The Mirror principle states that morphological derivations must directly reflect syntactic derivations (and vice versa). This principle shows that there is a certain order in which morphemes co-occur in a given derived verb so as to produce a grammatical sentence.

In sentence (82d) the reciprocal morpheme precedes the causative one leading to a grammatical sentence. The causer *Nekesa* is in an associative relationship of acting with the subject of cause *Anyona*. The mutual relationship between *Nekesa* and *Anyona* involves causation. The causer is thus represented by the composed subject, *Nekesa nende Anyona* (*Nekesa* and *Anyona*) in (82d).

In (Chomsky 1993, 1995) the derivative morphemes like the causative and reciprocal are considered being feature bearing affixes, hence heads have to be built for them depending on their lexical and morphological evidence. An X-bar structure is composed of heads selected from the lexicon (Chomsky, 1993). In this case, a computational system builds structures by selecting numerated elements and combines them in the relevant way. The verb moves to various heads to ensure features are in place while the noun moves to specifier (SPEC) to ensure case is correct to avoid superfluous words.

In the derived sentence (82d) a subject agreement phrase head (AGRSP) and specifier, an object agreement phrase head and specifier (AGROP) will be built to check the subject *Nekesa*

and Anyona for nominative case and the object *abaana* (children) for accusative case as Figure 17 illustrates.

Thus, there is movement of constituents for the purpose of feature checking in order to ensure that constituents in the derived sentence (82d) have the correct features as figure 17 shows. Using the feature checking aspect of MP (Chomsky, 1993, 1995), the following features are checked; case, mood, agreement, causative and reciprocal. The subject *Nekesa* and *Anyona* moves to SPEC/AGRSP for nominative case checking leaving behind a trace (ts). The direct object *abaana* (children) moves to SPEC/AGRO for accusative case checking leaving behind a trace (to). The verb checks all its features starting at MOOD/MOOD; AGRO/AGRO, CAUSO/CAUSO and finally AGRS/AGRS/ where it lands (see figure 17). There is no SPEC for CAUSOP since it has been merged with the subject. The verb leaves behind traces in all the places it passes.

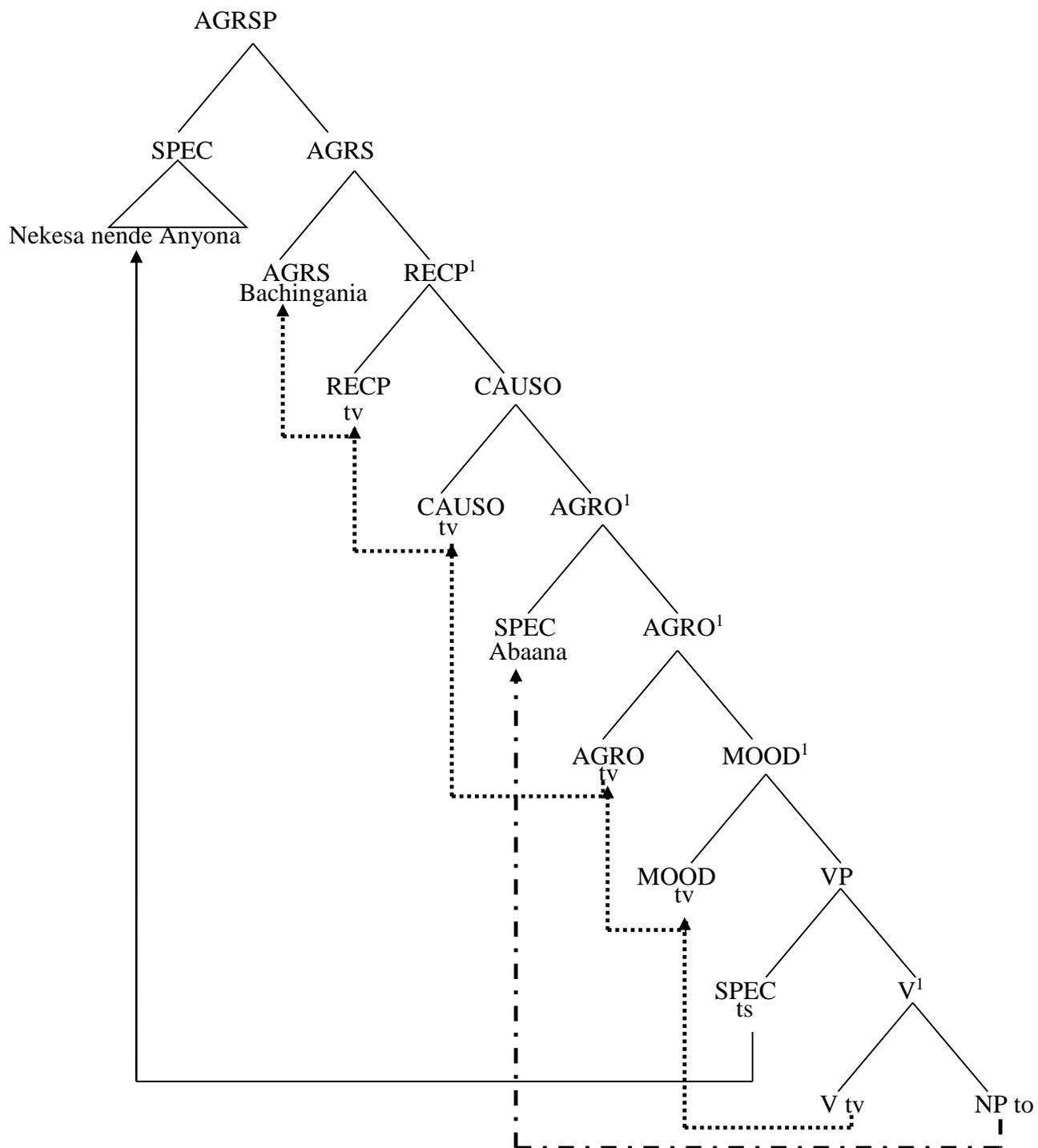


Figure 17: Causative and reciprocal argument structure.

4.6.6 The causative and the reflexive argument structure

The co-occurrence of the causative and the reflexive is discussed in this sub –section. As observed earlier in section 4.4.2.2 and 4.4.3.4 the causative morpheme in Lutsotso increases the valency of a verb while the reflexive morpheme reduces it.

The causative morpheme in Lutsotso is –ia’ while the reflexive morpheme is –i-. The order of the combination is as follows:

Refelexive + causative = reflexive + Causative

Ikhupe + khupia = ikhupie

The meaning of the two combinations is ‘cause/ make’ yourself something. This is illustrated as (83) below;

(83 a.) aba – siani ba – khupil –e omutoka

CL2 – boys SM – hit – FV car

‘Boys have hit the car.’

(83 b) aba – siani ba – i- khupil – e

CL2 – boys SM – REFL-hit – FV

‘Boys have hit themselves.’

(83 c) aba-siani ba – khup – i – a i-mbuzi omu-toka

CL2– boy – SM- hit – CAUS –FV CL9-goat CL3-car

‘The boys caused/ made the goat hit the car’.

(83 d) aba-siani ba– i- khup –i - e omu-toka

CL2 – boys – SM – REFL- hit– CAUS – FV CL3-car

The boys have caused / made themselves hit the car

Sentence (83a) is the basic sentence with two arguments, *abasiani* (boys) and *omutoka* (car). In the theta theory of GB (Chomsky, 1981, 1982), the argument *abasiani* (boys) is the agent while the argument *omutoka* (car) is the patient. Sentence (83b) is a reflexive sentence and has one argument *abasiani* (boys). Based on our knowledge of subcategorization properties of the verb *khupa* (hit) it can be concluded that it is a transitive verb that has become an intransitive as a result of the addition of the reflexive morpheme {-i-}. In a reflexive construction, two grammatical relations collapse into one syntactic constituent as there is a relationship between the antecedent subject and the reflexive object (Schroder, 2002). Sentence (83c) is a causative sentence and has three arguments, *abasiani* (boys) *imbusi* (goat) and *omutoka* (car). According to theta theory of GB (Chomsky, 1981, 1982) the argument *abasiani* (boys) is the primary agent as it is actively involved in initiating the action expressed by the verb, while the internal argument *imbusi* (goat) is a secondary agent because it is inactively involved in performing the action described by the verb *khupa* (hit). The argument *omutoka* (car) is the patient. Sentence (83d) is a combination of the reflexive morpheme {-i-} and the causative morpheme {-ia-}. In this derivation, the reflexive morpheme {-i-} precedes the causative morpheme and this conforms to the requirement of the mirror principle as discussed by Baker (1988). In the derivation (d), the subject /agent *abasiani* (boys) is causing something to themselves hence same as the causer.

To ensure that constituents in the derived sentence (83d) have relevant features, the following features are going to be checked using the feature checking aspect of Minimalist program (Chomsky, 1993, 1995): case features, mood, agreement, causative, reflective. The verb moves to various heads checking relevant features while the subject *abasiani* (boys) and the object *omutoka* (car) move to specifier (SPEC) positions to check case as figure 18 shows. Thus, the subject *abasiani* (boys) moves to SPEC / AGRSP and the object *omutoka* (car) moves to SPEC / AGROP for checking nominative and accusative case features respectively. The verb *khupia*

(hit) moves to AGRO/AGRO, CAUSO/ CAUSO, REFL/REFL and then it lands at AGRS/AGRS' checking agreement with the subject and the object features as figure 18 illustrates. SPEC of CAUS is not created because the cause and causer are the same.

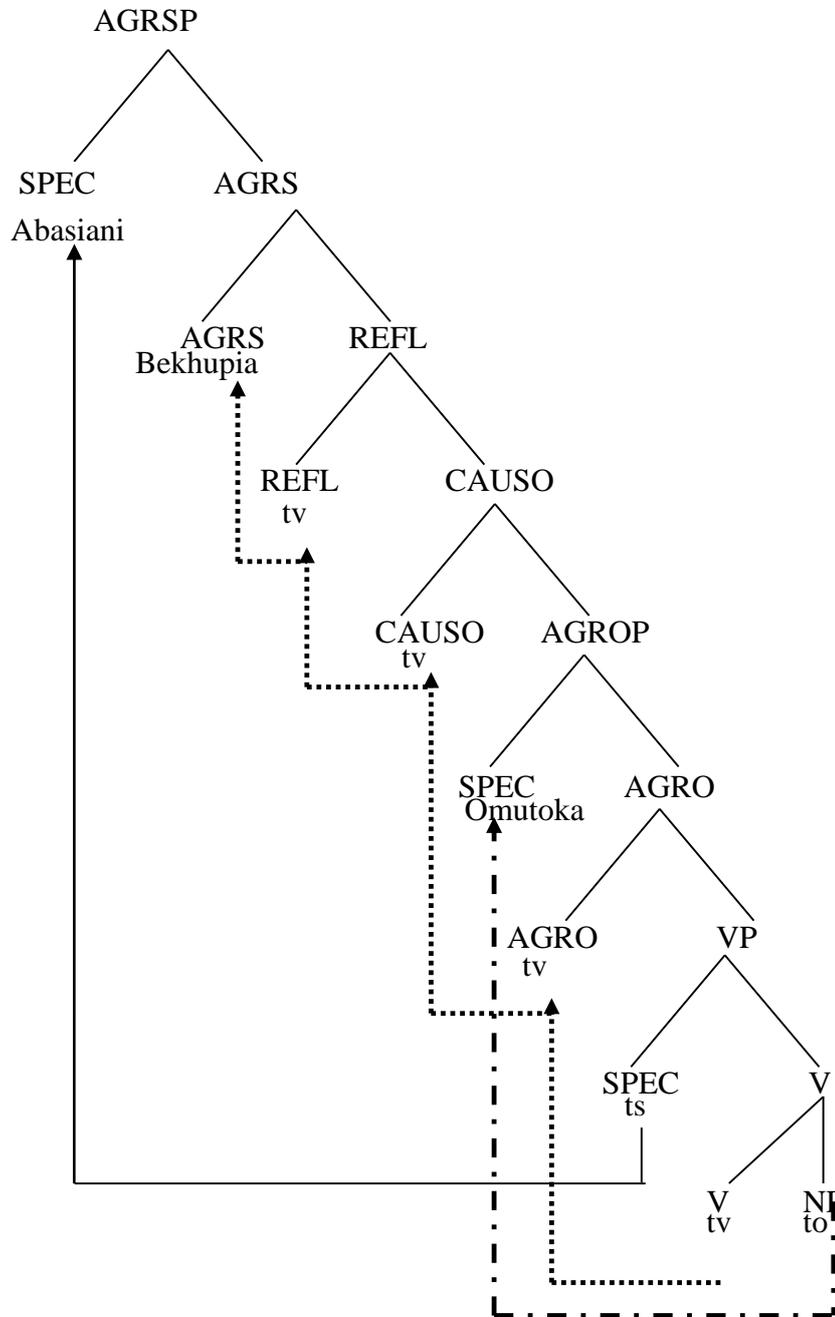


Figure 18: Causative and Reflexive argument structure

4.6.7 The causative and the passive argument structure

This subsection examines the co-occurrence of the causative and the passive on the same verb in order to establish the argument structure that they portray. Mchombo (2004) observed that in Bantu languages the causative morpheme increases the valency of the verb while the passive morpheme decreases it.

The causative morpheme in Lutsotso is {-i-} while the passive morpheme is {-w-}. When the two processes of the causative and the passive co-occur the order is as (84) illustrates. The verb *khupa* (hit) is used for illustration.

(84) Khupia + passive = causative +passive

Khupia + khupwa = khupiwa

The causative morpheme precedes the passive one and their combination results to a meaning of “the caused / made to do something “consider example (85) from the Lutsotso data

85 a Ambwaya a – la – khup - a i-ng’ombe

Ambwaya SM – FUT– hit — FV CL9- cow

‘Ambwaya will hit the cow.’

85 b Ambwaya a – la – khup - i- a Dina i-ng’ombe

Ambwaya SM – FUT – hit – CAUS – FV Dina CL9- cow

‘Ambwaya will cause/make Dina hit the cow.’

85c i-ng’ombe i – la – khup- w- a (nende Dina)

CL9-Cow SM – FUT –hit – PASS – FV (by Dina)

‘The cow will be hit by Dina.’

85d Dina a – la – khup – i – w – a i-ng'ombe (nende Ambwaya)

Dina SM - FUT – hit – CAUS – PASS – FV CL9cow (by Ambwaya)

‘Dina will be caused / made to hit the cow by Ambwaya.’

The basic sentence (85a) has two arguments, *Ambwaya* and *ing`ombe* (cow). In Chomsky (1981) the argument *Ambwaya* could be considered as the subject/agent while the argument *ing`ombe* (cow) could be considered as the object/patient. Sentence (85b) is a causative sentence and has three arguments, *Ambwaya*, *Dina* and *ing`ombe* (cow). The extra argument *Dina* has been licensed by the addition of the causative morpheme –i- to the verb *khupa* (hit). As a requirement of the extended projection principle of theta theory of GB (Chomsky, 1981, 1982) that every sentence must have a subject position, the subject of sentence (85b) is *Ambwaya*. Sentence (85c) has one argument *ing`ombe* (cow) and an optional prepositional phrase, *nende Dina* (by Dina). The derived sentence (85d) has two arguments, *Dina* and *ing`ombe* (cow) and an optional prepositional phrase *nende Ambwaya* (by Ambwaya). The causative object or causer *Dina* becomes the subject of the passive. The co-occurrence of the causative morpheme {-i-} and the passive morpheme {-w-} seems to add and reduce an argument and hence there is a balance with the basic sentence. This is because while the causative adds an argument (causer) the passive reduces or eliminates it. In terms of GB theory the argument *Dina* is the subject/agent while the argument *ing`ombe* (cow) is the object/patient of the derived sentence

There is movement of constituents for checking of features in order to ensure that the derived sentence (85d) bears the correct features. Subjects carry a strong nominative case feature which can only be checked if the subject raises to specifier subject agreement (SPEC/AGRSP) position. The feature checking of MP (Chomsky, 1993, 1995) is employed in this process and as can be observed in figure 19, the subject *Dina* moves from SPEC/ VP to SPEC / AGRSP for

nominative case checking leaving behind a trace (ts) while the basic or direct object *ing'ombe* (cow) moves to SPEC/ AGROP for accusative feature checking leaving behind a trace(to). The verb *khupa* (hit) moves to MOOD/MOOD then to AGRO/ AGRO' to check agreement case features with the object, then to PASS / PASS and CAUSO/ CAUSO to check passivization of a causative, then to TNS/ TNS to check tense features (see figure 19). The verb then checks agreement with the subject at AGRS/AGRS and as this is the last domain it lands there. The prepositional phrase *nende Ambwaya* (by ambwaya) remains at its base position as it is not licensed by anything that enables its movement as figure 19 illustrates

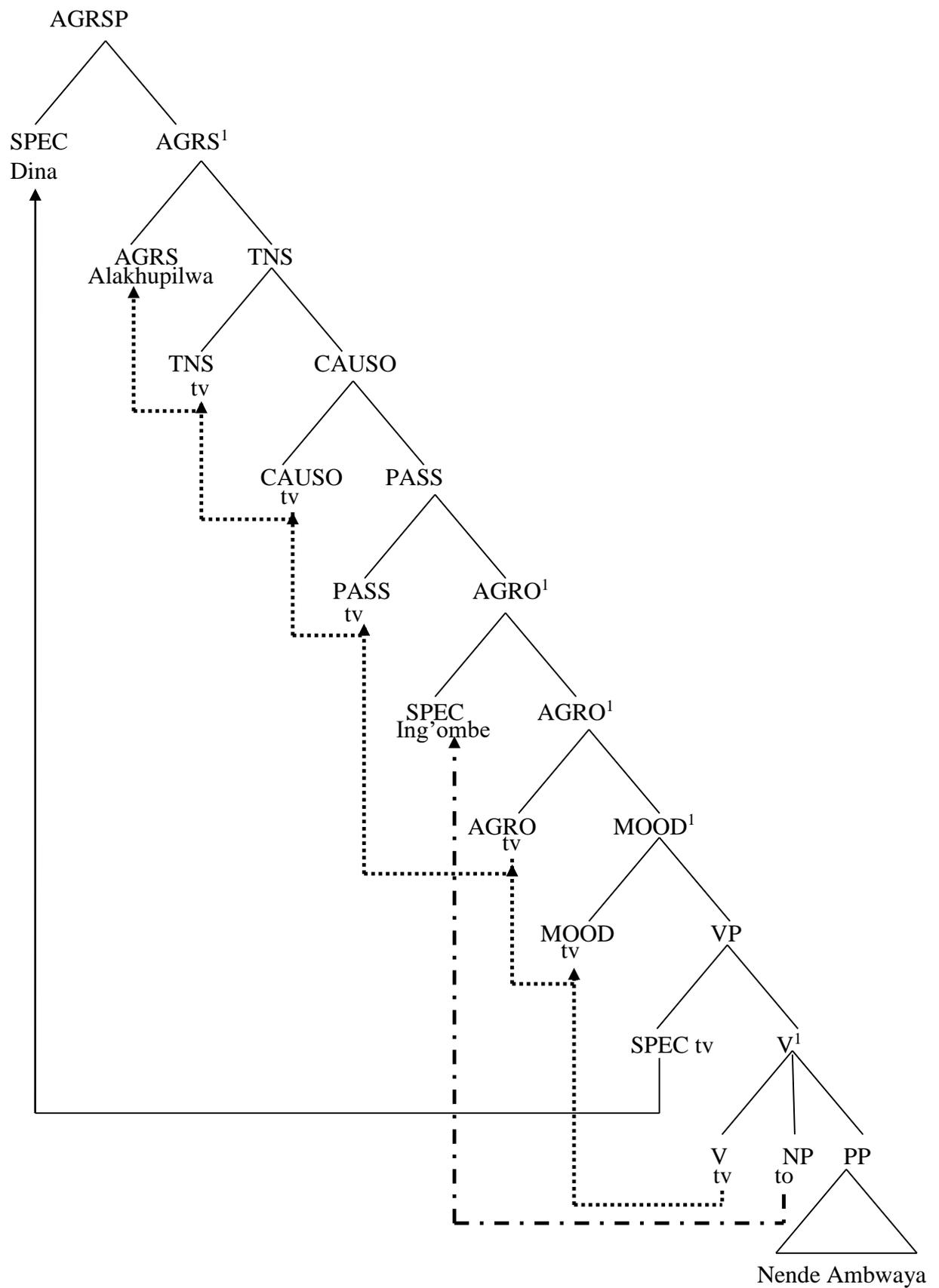


Figure 19: Causative and Passive argument structure

In a divalent sentence, passivization of a causative is possible and since there is no direct object the causative argument is passivized taking the subject position while the subject position of the basic sentence takes an oblique role. Example 86 illustrates this.

86 a i-ngokho yi –rush –e

CL9-Hen SM– run – FV

‘The hen ran.’

86 b. i- mbwa yi – rus – i- e i-ngokho

CL9-Dog SM –run CAUS- FV –CL9- hen

‘The dog has caused/ made the hen to run’

86 c i-ngokho yi – rus – ib- w – e nende imbwa

CL9-Hen SM – run – CAUS – PASS – FV (by the dog)

‘The hen has been caused to run (by the dog).’

Sentence (86a) is the basic sentence and has one argument *ingokho* (hen). Sentence (86b) has two arguments, *imbwa* (dog) and *ingokho* (hen). This is because the causative morpheme {-i-} has licensed an extra argument. The argument *imbwa* (dog) is the subject/agent while the argument *ingokho* (hen) is the object/agent. The derived sentence (86c) has one argument *ingokho* (hen) and an optional prepositional phrase *nende imbwa* (by the dog). 86c is a passivized causative where the causative object *ingokho* (hen) takes the subject position.

4.6.8 Co – occurrence of the instrumental and the passive argument structure

The instrumental directs attention to the object or instrument with which a person or animal acts and it expresses the notion of ‘by means of’ (Appleby, 1961). The passive has been defined by Spencer *et al* (1991) as a morpho-syntactic operation that suppresses the external argument. The external argument may not be syntactically expressed but is available semantically. The instrumental morpheme in Lutsotso is {il} while the passive morpheme is {w} in this co – occurrence the instrumental morpheme {il} comes first followed by the passive morpheme ‘w’ and they both combine to form INST/PASS morpheme as sentence (87) illustrates. This co-occurrence conforms to the Mirror principle (Baker, 1988) which states that ‘Morphological derivations must directly reflect syntactic derivations (and vice versa). This principle shows that there is a certain order which morphemes co-occur in a given verb.

In this derivation the doer of the action is eliminated due to passivisation. While the instrumental adds an argument to the verb, the passive eliminates an argument. As such, the argument of the derived sentence balances with those of the basic sentence.

87 a. omu –khana ya – tet- a i-nyama

CL1 – girl SM – cut-FV CL9- meat

‘The girl cut meat.’

b. omu- khana ya – tet- il – a omu-bano i-nyama

CL1 – girl –SM – cut – INST – FV – CL3-knife CL9-meat

‘The girl cut meat with a knife.’

c. i-nyama ya – tet – w – a

CL9-Meat PST– cut – PASS – FV

‘Meat was cut.’

d. i-nyama ya – tet – il – w – a omu-bano

CL9-Meat PST cut – INST –PASS – FV –CL3- knife

‘Meat was cut with a knife.’

Sentence (87a) is the basic sentence and has two arguments; *omukhana* (girl) and *inyama* (meat). In terms of the extended projection principle, the argument *omukhana* (girl) is the subject while the argument *inyama* (meat) is the object. Sentence (87b) is an instrumental sentence in which the instrumental morpheme {–il-} has licensed an extra obligatory argument *omubano* (knife) and now the verb is tivalent with the following arguments; *omukhana* (girl) , *omubano* (knife) and *inyama* (meat). In theta theory, the argument *omukhana* (girl) is the subject/agent, the argument *omubano* (knife) is the instrument and the argument *inyama* (meat) is the patient. Sentence (87c) is a passive sentence.

In applying the feature checking aspect of MP (Chomsky, 1993, 1995) the instrumental head and the passive head will be built in the tree to check the verb *teta* (cut) for the respective features as figure 20 shows. The subject agreement phrase (AGRSP) head and specifier (SPEC) will be built to check the subject *inyama* (meat) for nominative case, likewise, the object agreement phrase head (AGROSP) and specifier (SPEC) will be built to check the object *omubano* (knife) for accusative case as figure 20 illustrates. Thus, there is movement of the argument *inyama* (meat), *omubano* (knife) and the verb *teta* (cut) for the purpose of checking respective features.

The subject *inyama* (meat) moves from SPEC/ VP to SPEC /AGRSP for nominative case checking leaving a trace (ts) behind,while the basic or direct object *omubano* (knife) moves to

SPEC/ AGROP for accusative features checking leaving a trace (to) behind, the verb *teta* (cut) moves from its base position to MOOD/ MOOD to check the mood features then to AGRO/ AGRO' to check agreement case features with the object , then to PASS /PASS' and INST/INST' to check passivisation of the instrumental then to TNS/TNS' to check tense features the verb then checks agreement with the subject at AGRS/AGRS' and this is the last domain it lands there as figure 20 shows . The verb leaves traces (tv) behind in all the places it passes.

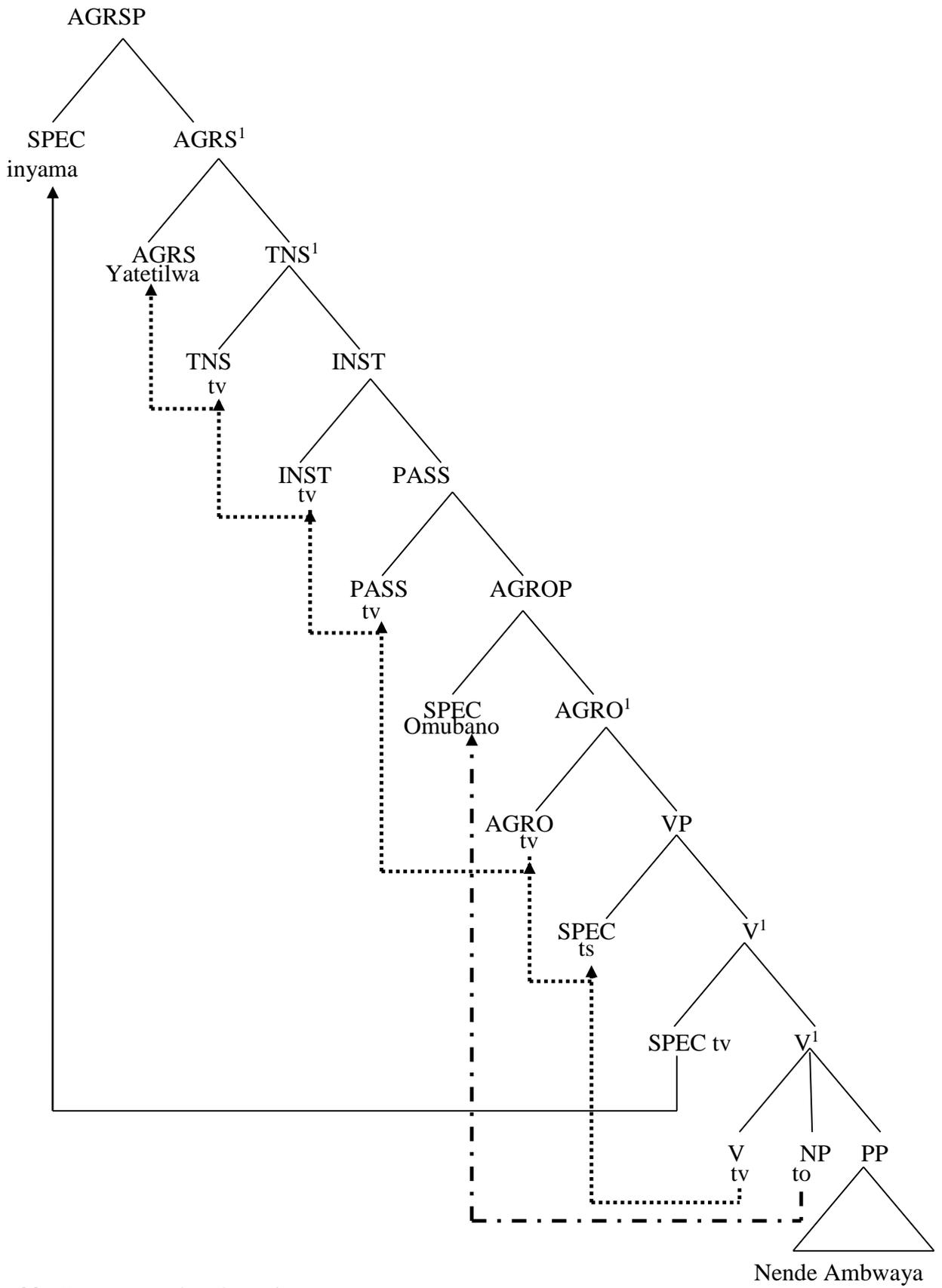


Figure 20 : Instrumental and passive argument structure

In the derived sentence (87d) the object *inyama* (meat) becomes the subject of the verb. The instrument *omubaano* (knife) follows the verb. There are two arguments in the derivation *inyama* (meat) and *omubano* (knife). The doer of the action *omukhaana* (girl) has been eliminated due to passivisation. The X-bar theory of GB theory determines how complements are structurally represented in relation to the categories they modify. Sentence (87d) is in line with the X-bar principle as the complement *omubano* (knife) is placed in the right position in relation to the subject *inyama* (meat) which it modifies.

Lutsotso verbs have the capacity to generate two derivational affixes with valence changing power. In this section it has been observed that the co – occurrence of valence increasing morphemes changed the word order to SVOOO meaning that a verb could take four arguments and still remain grammatical. But in natural speech, one of the arguments is made optional or omitted

The co – occurrence of valence increasing and valence decreasing morphemes did not affect the word order a lot since it either remained SVO or changed to SVOO. The co – occurrence of valence decreasing processes namely the passive, reflexive and reciprocal; deleted arguments and the word order was SV.

4.7 Licensing of null arguments

4.8 Introduction

This section sets out to achieve the third objective of the study.

This section will concern itself with the analysis of null arguments in the syntax of Lutsotso.

The section will devote itself to the analysis of null pronominals that is the big PRO and the small pro. In general terms a null argument refers to a lexical noun phrase that is devoid of phonetic features but logically and syntactically active. In the present model of analysis it will

be argued that null arguments are the NPS that are not visible to the LF rules and rules of the base component.

4.8.1 Pronouns

Generally, pronouns can take the place of nouns in sentences. In dealing with pronouns in Lutsotso, it is important to distinguish between pronouns and subject/ object markers. While a pronoun can stand in isolation and constitute an utterance, a subject or object marker cannot and must be part of the verb morphology. For instance, in (88a) , the subject marker is part of the verb morphology while (88b) is the personal pronoun and constitutes an utterance in isolation.

88a. a – la – reny – el - a kukhu tsi – khwi

SM – fut – collect –APPL- FV grandmother –SM-firewood

He/ she will collect firewood for grandmother

88b. esie nda – la – reny- el - a kukhu tsi -khwi

I SM – fut – collect –APPL-FV grandmother –SM-firewood

I will collect firewood

It is also important to note that (88b) is a marked sentence while (88a) is not. In Lutsotso, where an overt pronoun appears in an argument position the sentence is marked.

In Lutsotso, a pronoun gives the features specification for number and person, its referent but it cannot specify semantic features for gender that is (+male)

4.8.2 NULL pronominals: PRO and pro

PRO and pro are phonetically null pronominal which exist at the D – structure level of representation. By null pronominal it means that they are subject to principle (B) of the binding theory which requires that a pronominal be free in its governing category .Just like overt pronouns, null pronominal differ from overt pronouns in that the former fail to receive phonetic interpretation and as a consequence lack a phonetic matrix.

Meaning of PRO.

PRO is a covert pronominal subject that is base generated at the subject position of infinitival clauses. The interpretation of PRO is established in a module of grammar termed as the control theory. Bresnan (1982 a: 372) says the following;

“The term control is used to refer to a relation dependency between an unexpressed subject (the controlled element) and an expressed or unexpressed constituent (the controller). The referential properties of the controlled element ---- are determined by those of the controller (quoted in Hageman 1991:245). Haegeman (1991) studies reveal that the EC PRO is a covert pronominal subject that is base generated at the subject position of infinitival clauses. The distributon of the null argument PRO is thoroughly constrained in that it can occur only in the subject position of infinitive clauses. In addition, PRO must be ungoverned as required by the PRO theorem.

In Lutsotso, PRO is only limited to the subject position of non – finite clauses. It cannot appear in any other position in grammatical sentences as in (89a) .

89a Abacheni be – nya - PRO okhu – li- a obusuma

Visitors SM – want - PRO - to – eat-FV- food.

Visitors want to eat food.

89b. [IP shibuli obulayi PRO okhu – rema liramwa ta

[IP not good PRO to cut FV bananas]

It is not good PRO to cut bananas

89c. Odera ye – nya omu – pira

Odera SM – wants – a ball

Odera wants a ball.

The presence of PRO is obligatory if the extended projection principle is not to be violated. Additionally, the theta criterion demands the presence of PRO in the subject position for syntactic saturation. This follows from the sub categorization properties of the verb in question. The verb *rema* (cut) is a two place predicate and therefore requires an external argument and internal argument. Thus both arguments must be saturated at the LF representation as is the requirement of the theta criterion. Chomsky (1981: 36) states the theta criterion as follows;

“Each argument bears one theta role, and each theta role is assigned to one and only one argument.”

Clearly, without postulating syntactic presence of PRO in the above sentences, projection principle, the theta criterion and the extended projection principle stand to be violated.

In (89a) the verb *nya* ‘want’ has the lower infinitive clause as its complement. Based on ones knowledge of its subcategorisation features, it is clear that it is a two place predicate and that it can take an infinitive clause as in (89a) or an NP as in (89c). Accordingly, based on subcategorisation properties of the verb ‘lia’ eat in the embedded sentence, it is a two place predicate and that it takes an NP as its complement. Note that, it is the principle of GB theory that these subcategorisation properties must be reflected or projected in the syntax as per the

requirements of the projection principle. However, it can be noted that in (89a), the subject position of the lower infinitive clause is empty. The extended projection principle requires the presence of a subject position in every sentence.

4.8.3 The distribution of PRO

As noted earlier in 4.8.3, the distribution of PRO is thoroughly constrained in that it can only occur in the subject position of infinitive clauses. The examples (90a – d) show the syntactic position in which PRO is allowed in Lutsotso.

* 90a. Omu -saatsa a – lim -ir – e PRO

SM man SM – dig -past – FV

The man dug

* 90b. PRO a – ku – li – re eshitanda

PRO SM – buy – FV bed

PRO bought a bed

* 90c. Opati a – khup – il – e omukhana wa PRO

Opati SM – beat past – FV girl of PRO

Opati beat the girl of PRO

90d. Odera ye – nya - PRO okhu – kula eshi-tanda

Odera SM – wants PRO- to - buy - SM- bed

Odera wants to buy a bed.

In (90a) PRO is the internal argument of the verb. It is thus governed and theta marked by the verb. This sentence is ruled out since PRO will be governed.

In (90b) PRO is the subject of finite clause. It is governed by the tensed 'I'. For the same reasons as in (90a) the sentence is ungrammatical.

In (90c) PRO is the object of a preposition. It is therefore governed and theta marked by the preposition and as a result the sentence is ungrammatical.

In (90d) PRO is the subject of the infinitival lower clause and the sentence is grammatical. Thus, it can be concluded from the data above that an empty category that is governed cannot be PRO since from the data (90a – d) PRO is licenced in sentence positions that are not governed.

4.8.4 Properties of PRO

In the preceding section, it has been observed that PRO is the subject of an infinitival clause, that is, the infinitival clause must have a null NP subject (specifically PRO) in view of the extended projection principle. Based on the data analyzed so far, it can be observed that the NP subject in these clauses that is PRO does not result from movement and therefore control theory operates at the D – structure and the LF levels of representation.

Therefore it can be argued that PRO is present at the outset in that its appearance is not licenced by any movement operation.

4.8.5 Binding Theory and PRO

In section 4.8.2, it was stated that PRO is a pronominal and therefore it is expected to be logically free in terms of A – binding. The idea here is that PRO bears the feature specification [+pronominal]

Consider (91)

91a. Muteshi a – para – PRO okhwo – sia – eshikombe

Muteshi SM – thinks FV PRO to – wash FV a cup

Muteshi thinks to wash a cup.

91b. Shibuli – obulayi PRO okhu – khomba esukari

It is not good PRO to lick sugar

It is not good to lick sugar

91c. Shibuli obulayi PRO okhw -i – rema ta

It is not good PRO to cut –REF- yourself.

It is not good to cut yourself.

In (91a), PRO must be construed as co – referential with ‘Muteshi’ that is, it is co – indexed with Muteshi as its antecedent. Following Chomsky (1973: 262) as cited from Lightfoot (1977:214) PRO in a sentence as (91a) is not controlled by the verb in the matrix clause but by the subject ‘Muteshi’ and therefore ‘Muteshi’ is a specified subject.

In this respect PRO is dependent on the NP ‘Muteshi’ for its reference just like an anaphor. In (91b) PRO does not depend on any antecedent for its interpretation and therefore it bears the feature [+pronominal] the same is true of (91c). This analysis shows that PRO is both [+anaphor] and plus [+pronominal].

The above conclusion presupposes that PRO is subject to both principle A and principle B of the binding theory. This means that PRO is both locally free and locally bound – a rather contradictory requirement.

Following GB framework, it can be concluded that PRO must be ungoverned. This is the requirement of the PRO theorem.

PRO theorem means that if PRO is ungoverned, it lacks a governing category. This allows it to violate binding principle without major consequences. The claim that is being advanced here and in the literature (see for instance, Napoli 1995, Cook and Newson 1996) is that PRO by virtue of being a pronominal anaphor is subject to both principle A and B of binding theory. It thus means that if it is [+pronominal] it violates principle A and if it is [+anaphor] it violates principle B. The solution for the contradiction, it can be argued that since PRO is ungoverned, it can be allowed to violate the binding principle stated above.

4.8.6 The pro –drop phenomenon in Lutsotso

Languages which allow a pronoun subject to be left unexpressed are called pro –drop languages. They drop the subject pronouns. For example Italian is a pro – drop language while English is not. This cross linguistic variation is referred to as the pro –drop parameter.

Pro – drop phenomenon concerns the omission of lexically represented pronouns from grammatical sentences. The reference of the omitted pronoun may then be recovered through analysis of contextual features. Chomsky (1981) following Taraldsen (1978) suggests that the pro – drop parameter involves the inflectional element INFL, or more precisely the agreement element. (AGR) is the crucial component of INFL with respect to government and binding theory. The assumption here is that AGR plays a key role in pro – drop languages.

4.8.6.1 The theta theory and occurrence of null NPS (null arguments)

Lutsotso allows the occurrence of null arguments (NPS). Sentences 92a - e illustrate this:

92a. aba – khana ba – lum – il - e omwa – ana

SM – girl SM bit – PST- FV-- SM – child

The girls bit the child.

92b. aba – khana ba – mu – lumi -le - e

SM – girls SA – OA – bit – PST - (him)

The girls bit him.

92c. e- ba – lum – ile omwa – ana

SA- PST- child

They bit the child.

92d. e- ba – mu – lum – il - e

SA –OA – bit – PST- FV

They bit him

92e. * aba – khana ba – mu – lum – il - e –

SM – girls SA – OA bit - PST- FV

The girls they bit him.

(The prefix ‘mu’ means he or she)

All the sentences in (92) are grammatical except (92e).

An interesting observation about (92) is that b – d are considered instances of (a) and carry the same meaning. They however all differ in their surface representations. Semantically (92a) is

grammatical because the verb 'lum' has two arguments and in the lexicon it is entered as a two predicate verb. The subcategorisation of 'luma' bite in the lexicon is given as (92f) .

(92f) V, + [-NP]

When used in a sentence, *luma` bite`* should take an object NP. As far as this argument goes, 92a is grammatical. The verb in (92a) has two theta roles to assign its arguments. This is in accordance with the theta criterion. It therefore assigns agent and patient theta roles to subject and object positions respectively.

(92b) has no overt object. Still it is considered grammatical despite its not showing the subcategorization characteristics of the verb. The extended projection principle of GB can successfully be used to explain the grammaticality of (92b). This principle requires that the theta criterion hold at all levels of syntactic representation (D- structure, S- structure and LF). It therefore follows that the verb '*luma`* bite must assign two theta roles (agent and patient) just like in (92a) since (92b) is an instance of (92a). The argument here is that the verb will assign the patient theta role to the object position occupied by an empty or null NP (argument) represented by e. This is in line with (92a) where the object position occupied by '*omwaana`* child is assigned patient theta role.

It is from this argument that we would interpret (92e) as ungrammatical since the object position is not occupied by anything at all. In this case, we differentiate between structures where the missing NP is structurally realized as a phonetically null element represented by `e' as in (92a and b) and where the NP is missing as in the more radical sense of a total absence of structure represented by (-) as in (92 e).

The argument for the assignment of a theta role to the object position in (92b) also holds for (92c) but in a different sense in that the verb in this case has to assign its agent theta role to the subject position. Failure to do this, the sentence will be ungrammatical as in (93)

93 *--- ba – lumile omwana

They bit the child.

According to the theta theory, a position that is assigned a theta – role must be occupied by an NP. The ungrammaticality of (93) results from the lack of an NP in subject position that is assigned a theta role.

Our analysis of the sentences in 92 is supported by the extended projection principle (EPP) of GB.

All sentences must have subjects defined in terms of grammatical function as the NP of S, the N immediately dominated by an S. (Chomsky 1982a: 10) According to the structural requirement of EPP, every sentence must have an external argument (subject). This is what makes (93) ungrammatical as opposed to (92c).

In (92c) the null NP is the obligatory external argument while (92b) the null object is the internal argument which is understood to be part of the lexical meaning of the verb ‘*luma*’. It follows that (92d) where both the subject and the object NPS have been dropped is also grammatical given the lexical properties of the verb and the requirement of the EPP.

4.8.6.2 Meaning of Licensing

One condition that allows null subjects to occur in Lutsotso is the AGR inflected on the verb. This has directly been demonstrated in the preceding sections. However, AGR does not specify the conditions that allow the null NPS to occur in a given environment. In this section, we

investigate the structural condition that allow the occurrences of null subject and object NPS.

(Null arguments)

4.8.6.3 Licencing of null subject in Lutsotso

The environment in which the null argument occurs can be determined from the following sentences from Lutsotso data:

94a Okonji a – la –khola shina?

Okonji - SM – FUT-do -FV- what?

What will Okonji do?

94b. e - a – la- rem –il -a mama omusaala

SA – FUT-cut – FV –mother tree

He will cut a tree for mother

In (94b) AGR (SA) governs the subject position (e) as figure 21 illustrates. In GB, the governor of a null subject (argument) must contain the rich AGR for the governed NP. This appears to be the case in (94b) since INFL is the node that contains the SA. A further observation from (94b) is that INFL C – commands e which is a requirement for government. On this note, we can consider the head of inflection which is AGR to be the governor of the null subject and it thus licenses it to occur in the subject position of (94b). Figure 21 shows the position occupied by the null argument e in the sentence structure of Lutsotso.

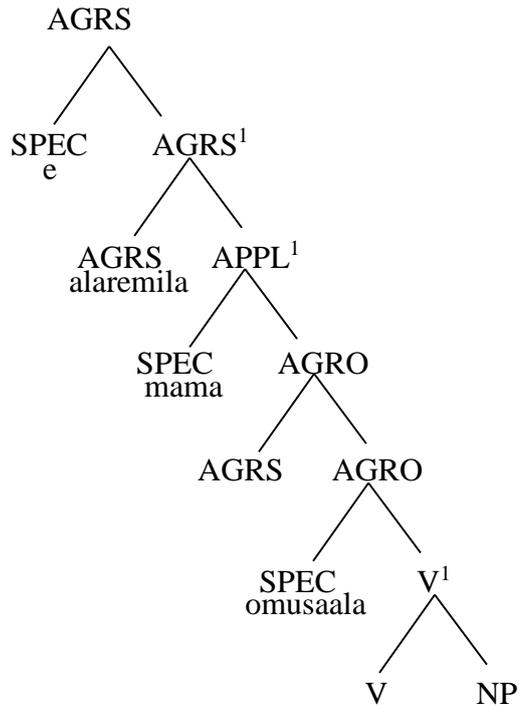


Figure 21: Null subject argument structure

According to Rizzi (1982) Italian is a pro-drop language as it allows subject pronoun to drop. Italian allows subject pronouns to drop because their content can be recovered from the subject Agr. Morpheme on the verb as (94c) and (94d) illustrate:

94c Gianni ha parlato

Gianni has spoken

94d e ha parlato

Has spoken

4.8.6.4 Licencing of the null object in Lutsotso

Consider the example in (95) which is a derivation of (94a).

95 Okonji a –la – ku – rema e

Okonji SA –OA – cut (it)

Okonji will cut it.

In (95) the null object position is C – commanded and governed by the verb ‘*rema*’ cut. The null object is therefore licenced by a verb.

From these observations, we can conclude that a null NP ‘e’ in Lutsotso is licensed by either the INFL or the verb depending on the structural position of the NP. In the previous sections we described AGR as the head of INFL. V is the head of VP. It follows therefore that the two licencing heads for null NPS in Lutsotso are the verb and the AGR in the INFL.

4.8.6.5 Null subject position

Chomsky (1981) and Rizzi (1982) argue that in pro – drop languages, the subject is dropped from the sentence and since the node dominating that subject does not disappear a null pronoun (underlying pro) is dominated by the node in question. For instance consider (96) from Lutsotso data:

96a. Esie n – dala – khupa omupira

I - SM – FUT – kick ball

I will kick ball

b. pro n – dala – khupa omupira

SM – FUT – kick ball

I will kick the ball.

Following Chomsky (1981) and Rizzi (1982) the underlying pro occupies the subject position in view of the extended projection principle. This kind of analysis is known as agreement analysis since it argues that the subject of (96b) may be recovered from the inflectional element,

that is, the INFL. Jaegli & Safir (1986) expand the requirement for licencing (and identification) of pro to include case assignment.

“AGR can identify an EC as thematic pro if the category containing AGR case – governs the EC” (ibid: 35)

Along with this statement, the category having the identifying features of pro should also be the focus of case assignment. Since pro in GB is defined as the empty subject of a tensed clause, it is then logical to assume that the tense morpheme in the INFL of (96a) and (96b) is the source of case assignment. It also follows that the tense and AGR elements in the verbal inflection of languages such as Lutsotso should be represented in the same node.

Rizzi (1982) gives reasons why Italian allows the subject to be unexpressed and English does not. According to Rizzi, in Italian, the verb inflection is rich. This can be seen in six different present tense forms in Italian, one for each person and number combinations. According to Rizzi this will allow one to identify the person and number of the subject even when the overt pronoun is absent. Rizzi says that a rich INFL can identify an empty category in the subject position while a poor INFL fails to do so. In other words, Italian allows subject pronouns to drop because their content (grammatical features) can be recovered from the subject agreement morpheme on the verb. In English, these features are not recoverable because its not an agglutinating language like. Italian. Rizzi`s observations are relevant to the current study since Lutsotso like Italian has rich verbal inflection.

Rizzi (1982) claims that “The AGR features (person, class and number) in the inflection are lexical in nature. For this reason, AGR is considered to have the status of a noun with the features specification (+N, -V) since AGR is contained in the INFL node. INFL is marked (+pronominal) and acts as a proper governor in null subject languages (NSLS). Example (97a) and (97b) illustrate government and case assignment by INFL.

97a Pro a – la – lia obusuma

e- SM - FUT- eat Ugali

Pro he will eat Ugali.

In (97) INFL C – commands and properly govns pro. Pro is in an ideal position to receive nominative case from INFL. consider example (98) from Lutsotso data:

* 98 –okhu – lia obusuma ne – inyama

Inf n - eat Ugali with meat

To eat Ugali with meat.

(98) is an infinitival clause. It has neither SA nor OA

The subject position in 98 is ungoverned because INFL is [- pronominal]. This means that it has no AGR and tense as well. Since it was established earlier in (97) pro occupies a case marked position, hence the subject position of (98) cannot be pro.

4.8.6.6 Null object position

The study has noted in section (4.8.8.2) that null object NP occupies a case marked position where a lexical NP can also occur. It has also been observed that the object NP that has been inflected on the verb can be dropped from a sentence structure. This means that the possibility of a null object NP in Lutsotso is tied to the presence of the OA in the verb form.

This can be illustrated using example (99) from Lutsotso data:

99a. Omukambi a – la – kula ingubo

Pastor SA – tns – buy dress

Pastor (he) will buy a dress.

99b. Omukambi a – la – chi – kula e

Pastor SA –tns – OA – buy (it)

Pastor will buy it

99c. Omukambi a – la – kula –

Omukambi SA – tns – buy

Pastor will buy.

In 99a above, the lexical object NP is governed and assigned objective case by the verb. The verb '*kula*' buy is transitive so it must take an object NP. Similarly, the null NP *e* in 99b is also governed and case marked by the verb '*kula*' buy. The verb also inflects for the AGR features of the object.

From the foregoing discussion, this study can conclude that licencing of a null NP either in subject or object position is dependent on rich AGR, government and case assignment. The AGR is inflected on the governor that also case marks the null NP. In this section it has also been observed that a null NP (*pro*) does not occur in the subject position of an infinitival clause; and the possibility of a null NP in the object position is tied to the presence of AGR in the verb form.

4.8.6.7 Pro

In GB, identification of null subjects of tensed clauses is determined by government relations. According to Chomsky (1982) the empty category *pro* must be identified by a governor with sufficiently rich features. The same views are expressed by Raposo (1986). According to Raposo, rich AGR is not a sufficient condition to achieve identification of *pro*. Government is crucial and the governor of *pro* must contain the rich AGR for the NP in question. For example in 100 we would expect SA or the category containing it to govern *pro*.

100a. e ba – la – aka amakanda

SA tns – weed beans

They will weed beans.

In (100), the null subject 'e' has the same index as SA ba -. These features of 'e' recoverable from SA allow 'e' to function as a definite pronoun. This is also a property of pro meaning that 'e' in (100) is pro. Figure 22 illustrates the subject position of pro in Lutsotso.

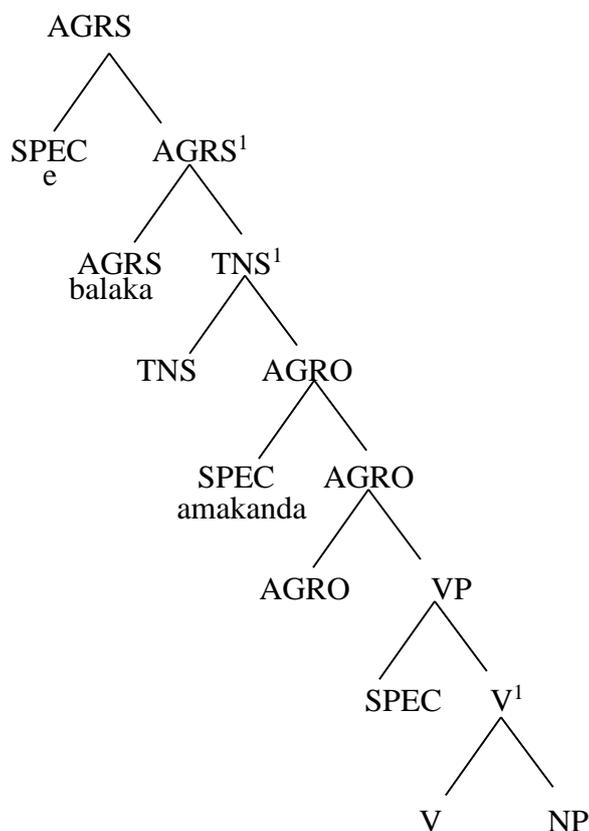


Figure 22: Null subject argument structure

4.8.6.8 Null object NP (pro)

Ouhalla (1994) observes that in addition to the agreement relation between the subject and the agreement (Agr) category of finite inflection, some languages also display an overt agreement relation between the object and an agreement (Agr) category attached to the verb (object agreement). One such language is Chichewa. The relevance of object agreement to the issue of null arguments lies in the fact that languages which have overt (rich) object agreement

inflection allows null objects with a pronominal interpretation just as languages with overt subject agreement like Italian were shown to allow null subjects with a pronominal interpretation. The object in Chichewa can be dropped as example (100b) below illustrates in which case the missing object has a pronominal interpretation:

100 b Mikango yanu i-na-zi thamangits e

Your lions chased them (the goats)

As stated earlier in section 4.8.8.4, in Lutsotso the object NP can be dropped when OA marker is inflected on the verb. OA in the previous section 4.8.8.4 has been analysed as being under the inflection node. This is further illustrated by (101)

101. a. Akola a – la – khupa – imbwa
 Akola SA – FUT – beat – dog
 Akola will beat the dog

b. Akola a – la – chi - khupa e
 Akola SA – FUT – OA – beat
 Akola will beat it.

c. *Akola a – la –chi- khupa imbwa
 Akola SA- FUT- it -beat -dog
 Akola will beat it the dog

(101c) is ungrammatical because the object NP cannot co occur with the OA.

In 101 the null object NP 'e' is governed by the verb 'khupa' beat. OA is contained in the inflection (INFL). To argue that the verb identifies 'e' would require that the OA be contained in the verb. In Lutsotso, there seems to be no problem with such an argument since AGR and tense are actually part of the verbal morphology. The verb is therefore the identifying category

of the null object NP. e receives its feature specification from OA. This relationship is captured by co – indexing as shown in 102

102. Akola a – la - mu – pa e

Akola will beat him.

The null NP 'e' in (102) as represented in figure 22 has definite pronominal status because it can be identified by AGR features in a similar way to the null subject NP. The null NP in either position is similar in reference to English pronouns like he, she, they, them, it e.t.c. depending on the AGR (the class, person and number agreement marker).

Figure 23 illustrates the null object argument position in Lutsotso.

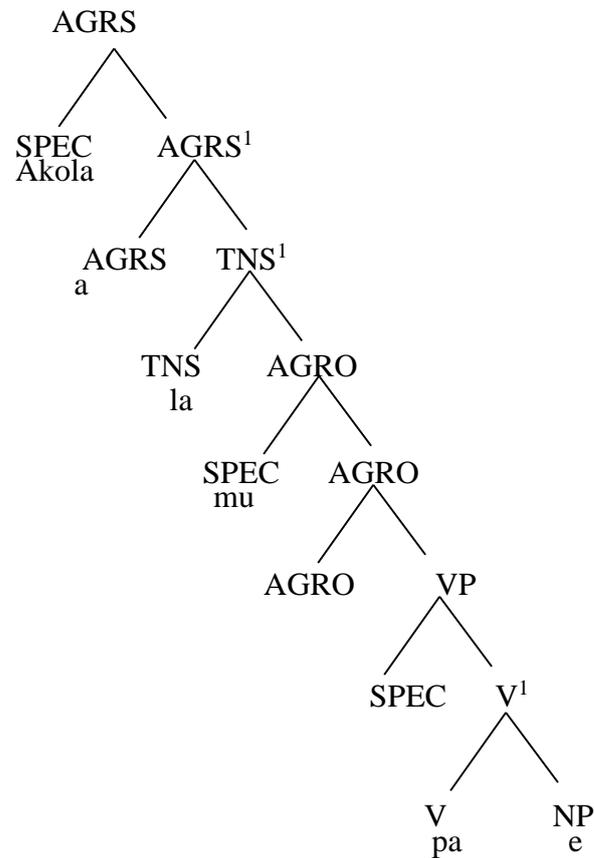


Figure 23: Null object argument structure

4.8.6.9 Binding of null subject argument in Lutsotso

Binding as explained in Chapter one deals with referential relations between NPS in a sentence. In 4.8.8.2 the study observed that in Lutsotso NPS are deleted under identity. This means that if a null argument can be identified by the features of AGR then it is [+pronominal] this in turn means that the null argument should be subject to condition B of the binding conditions of Chomsky (1981), which states that:

- A: An anaphor must be bound in its governing category.
- B: A pronominal must be free in its governing category.
- C: A lexical NP is free everywhere.

Consider the following sentences from Lutsotso data;

103. pro a – la – khupa omwana

He will beat the child.

103 is grammatical because pro is not co – indexed with ‘omwaana’ child.

Consider further example 104.

104. pro o – la – tsia omwene

Pro AGR – will go yourself

You will go yourself

In the above example 104 pro is free on the account that it is not c – commanded by any NP.

No NP (argument) therefore binds it. Notice therefore that pro binds the reflexive. In other words pro just like pronominals can bind but it is not bound by any c – commanding NP.

Some linguists like Rizzi (1982) have argued that it is a general characteristic of the pro – drop languages to have free subject - verb inversion. For instance, Rizzi (1982) observes that inversion of the subject in Italian is free in the sense that it is possible with all types of verb.

Rizzi uses illustration from Italian as in (105) :

105a Gianni ha telefonato

Gianni has phoned

105b pro ha telephonato Gianni

Pro has telephoned Gianni

As in null subject sentence, pro in 105b is properly licensed by the overt Agr category I. The subject position vacated by an inverted subject can only be occupied by pro as 105b illustrates.

Subject verb inversion is not permissible in Lutsotso as the ungrammaticality of (106) shows:

106a *a - le - tsa Muteshi

AGR-will come Muteshi

106b *ba -la- chenda abakhaana

AGR- will walk girls

Thus, Lutsotso is a pro – drop language but does not allow free interchange of the verb and subject.

4.9 Summary

This study has established that rich verbal morphology and strong agreement licence the dropping of NPS from sentences in Lutsotso. The GB explanation of empty subject and object positions in Lutsotso is satisfactory and bears a high degree of validity. Lutsotso can therefore be classified as a pro – drop language and the reference, distribution; licencing and identification of null arguments (pro) resulting from dropped NPS can be determined by the principles of GB.

The investigation reveals that the rich verbal morphology and strong agreement is quite evident in Lutsotso and points to the existence of null arguments (pro) in both subject and object positions whenever the lexical NPS are dropped from the sentence. Given the strong grammatical agreement, the reference of the null arguments (pro) resulting from dropping the NPS can be recovered from AGR since AGR carries the features of the dropped NP. The

investigation also reveals that, Lutsotso is a pro – drop language but does not allow free interchange of the verb and subject.

In this section it has also been observed that a null NP (pro) does not occur in the subject position of an infinitival clause; and the possibility of a null NP in the object position is tied to the presence of AGR in the verb form.

The distribution of PRO is thoroughly constrained in that it can only occur in the subject position of infinitive clauses. The subject position that is governed cannot be PRO. PRO does not result from movement and therefore control theory operates at D-structure and the LF representation

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This section details summary, conclusions, recommendation and further reading for study

5.2 SUMMARY OF FINDINGS

The study set out to describe and analyze the argument licensing morphology in Lutsotso Syntax and in particular; first ,valence changing morphemes and effect on word order and second, the co-occurrence of valence changing processes and finally, null arguments EC PRO and null argument EC pro in sentence structure of Lutsotso.

This study is based on government and binding (GB) theory , the feature checking aspect of the minimalist program developed by Chomsky and the Mirror principle (Baker, 1988) . The data is from Lutsotso an agglutinating dialect of Luluhya language which is spoken in the western region of Kenya.

The research observed that the Lutsotso verb consists of more than one morpheme expressing a particular grammatical meaning. These morphemes or affixes may be inflectional or derivational and must occur in a particular order otherwise, if they do not, ungrammatical forms result. The morphological and syntactic components of grammar do not function in isolation but form a single interface of description in the verbs of Lutsotso. Lutsotso verbal forms are as such complex entities which can be equivalent to a whole sentence with subject object and verb structure.

In objective I the study examined the various argument adjusting operations in the Lutsotso sentence . The study established that the derivational morphemes modify the syntactic and the semantic structure of the Lutsotso sentence.

The study revealed that the valence increasing operations in Lutsotso sentence include the applicative, the causative and the instrumental, while the valence decreasing operations include the reciprocal, the passive, the reflexive and the stative.

The investigator further established that valence increasing operations of the applicative, instrumental and the causative affect the internal argument while the valence decreasing operations of the passive reciprocal and the reflexive have effect on the external and internal arguments. On the same note, the stative process has effect on the external argument.

The research established that verbal derivations in Lutsotso have a fixed position as they are generated immediately after mood projections. The study has established that the derivational morpheme of the reversive does not change the Lutsotso syntax but only alters the meaning. Further to that, verbs in Lutsotso reversive sentence do have lexical entries specifying the theta roles such as agent, patient, recipient and goal.

It has emerged that the stative has two meanings depending on the syntactic environment in which it occurs. It has the meaning of possibility when the morpheme '*nyala*' can or capable of, precedes it. When '*nyala*' is not used, the stative construction has the meaning expressing a process.

It has emerged that the morpheme {il} marks both the applicative and the instrumental.

The research revealed that in some derived sentences, the arguments were capable of trading places without changing the meaning of the sentence. This means that in such constructions the Mirror principle is not obeyed.

It was found out that when arguments are deleted through the valence decreasing devices, then no heads are created for them since minimalism does not allow superfluous elements. A structure will be built without the deleted argument head and spec so the tree will not show these positions.

In Lutsotso, the derivational morphemes modify the syntactic and semantic structure of the sentence. There is a syntactic and semantic regulation between the basic and the derived sentence. The SVO structure is affected by the re – arrangement of arguments after verb derivations takes place.

In Lutsotso, some constructions can have two versions such that one version obeys the mirror principle while the other does not.

There are morphological processes of inflection and derivation that take place within the verb therefore interfering with the subcategorization frames of the verbs in question. For instance, it has emerged that once the applicative, causative or instrumental morpheme is introduced in the verb, the applicative, causative or instrumental noun phrase or morpheme has to be introduced, thus, resulting in valence increase and therefore increasing the arguments of the verb. On the other hand, processes such as passivisation, reciprocalization and reflexivization have been seen to reduce the number of nominal arguments that the verb has to take.

In objective II the study examined the co-occurrence of various valence adjusting operations in the Lutsotso sentence. This section was geared towards achieving the second objective. The study revealed that there is co-occurrence of valence adjusting operations within the same sentence.

The investigator established that the co – occurrence handled in section 4.5 changed the word order in various ways. The co – occurrence of valence increasing morphemes changed the word

order to subject, verb, object, object, object (SVOOO) meaning that a verb could take four arguments and still remain grammatical.

The study revealed that co – occurrence of valence increasing and valence decreasing morphemes did not affect the word order a lot since it either remained subject verb object (SVO) or changed to subject verb object object (SVOO) , a structure that is acceptable in Lutsotso. The co – occurrence of valence decreasing processes namely the passive, reflexive and reciprocal; deleted arguments and the word order was subject verb (SV) which is also acceptable in Lutsotso sentence.

The valence adjusting morphemes that can co-occur morphologically on the same verb are; the valence increasing processes of the applicative and causative, the valence decreasing processes of reciprocal and passive ,the valence increasing processes of the applicative and causative co-occur with any of the three valence decreasing processes. The reflexive does not combine with other valence decreasing processes .The valence increasing processes of the instrumental and valence decreasing processes of the passive co-occur.

The tenets of the GB theory and the feature checking aspect of the Minimalist program have been found to be adequate in handling the valence adjusting processes in Lutsotso. The feature checking theory handles each argument created sufficiently by creating corresponding heads that check the verbs for respective features. The theory adequately handles multiple arguments by simply creating heads (and specifiers) for them. Every argument added moves to its respective head SPEC for necessary case assignment. The theta theory of GB assigns semantic roles to the created arguments. For example as agent, patient, instrumental, beneficiary, among others.

In objective III Null arguments EC PRO and EC pro were discussed. The investigation reveals that the rich verbal morphology and strong agreement is quite evident in Lutsotso and points

to the existence of null arguments (pro) in both subject and object positions whenever the lexical NPS are dropped from the sentence. Given the strong grammatical agreement, the reference of the null arguments (pro) resulting from dropping the NPS can be recovered from AGR since AGR carries the features of the dropped NP.

From the discussion of theta role assignment, government, case assignment and binding, we have established that both the null subject (pro) and null object (pro) NPs occur in argument positions.

The distribution of PRO is thoroughly constrained in that it can only occur in the subject position of infinitive clauses. The subject position that is governed cannot be PRO. PRO does not result from movement and therefore control theory operates at D-structure and the LF representation. In this section it has also been observed that a null NP (pro) does not occur in the subject position of an infinitival clause; and the possibility of a null NP (pro) in the object position is tied to the presence of AGR in the verb form.

5.3 CONCLUSIONS

From this analysis, the following conclusions are made:

This thesis has demonstrated that the verbal derivations in the sentence of Lutsotso are systematic and rule governed. Lutsotso has valence adjusting morphemes occurring morphologically on the verb. It has valence increasing and valence decreasing morphemes that affect the word order in various ways. The valence increasing morphemes affect the internal arguments while the valence decreasing morphemes have effect on the external and internal arguments. The morpheme {il} marks both the applicative and the instrumental. Valence increasing processes of the applicative, causative and instrumental add arguments while valence decreasing processes of the stative, reciprocal, passive and reflexive delete arguments. In Lutsotso, the derivational morphemes modify the syntactic and semantic structure of the

sentence. There is a syntactic and semantic regulation between the basic and the derived sentence. The SVO structure is affected by the re – arrangement of arguments after verb derivations takes place.

In Lutsotso, some constructions can have two versions such that one version obeys the mirror principle while the other does not. The valence adjusting morphemes can co-occur morphologically on the same verb. The reflexive does not combine with other valence decreasing processes. This study also concludes that co-occurrence of valence increasing processes result in complex sentences.

This study further concludes that rich verbal morphology and strong agreement licence the dropping of NPS from sentences in Lutsotso and that given the strong grammatical agreement, the reference of the null arguments (pro) resulting from dropping the NPS can be recovered from AGR since AGR carries the features of the dropped NP. The subject position that is governed cannot be PRO. The study also concludes that subject verb inversion that is allowed in other pro- drop languages such as Italian is not permissible in Lutsotso.

5.4 RECOMMENDATIONS

(1) The research study has demonstrated cases of overlaps where the same morpheme for example {il} marks both applicative and instrumental . The study therefore recommends further research to investigate if there are specific markers for the instrumental and applicative that eliminates the overlaps.

(2) The research study has shown that the reflexive morpheme does not combine with other valence decreasing processes; the reciprocal and the passive. The study recommends further research on the reflexive using other valence decreasing processes such as the antipassive which the current study did not use.

(3) The fact that one construction can have two versions such that one version obeys the mirror principle while the other does not is a wealthy area for research.

(4) The current study investigated the EC PRO and the EC pro and left out other empty categories such as wh-traces, parasitic because of the scope. The study recommends research to be done on those null arguments in Lutsotso that were not handled in the current study.

5.5 SUGGESTIONS FOR FURTHER STUDY

(1) Some phonological processes take place during verbal derivation but these were not examined. A study into these processes that accompany verbal derivation would be of utmost importance to the language users.

(2) The mismatch between the logical and the natural order needs to be investigated. This is especially in some cases where the logical form (LF) of the derived sentence does not appear to reflect the natural order and pronunciation. This study suggests further reading on the morphological licensing of some morphemes which are not semantically and logically interpreted.

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APPENDICES

APPENDIX 1: Data from Lutsotso: Informal interview.

State whether the following sentences are:

(a) Incorrect but acceptable

(b) Definitely correct

(c) Definitely wrong

Lutsotso

English Gloss

1. Omwaana yatosia Omuleli grow thin.	The child caused/made the maid
2. Omwaana Omuleli yatosia grow thin	The child the maid caused/made to
3. Masero yaremula eshikuri	Masero slashed the field
4. Eshikuri Masero yaremula	The field Masero slashed
5. Tsingubo tsiafuywa nende Dina	Clothes were washed by Dina
6. Tsiafuywa nende Dina tsingubo	They were washed by Dina clothes
7. Amakhubake kahulilikha obulayi	His words were able to be heard well.
8. Abacheni batseshia abaana	Visitors made the children laugh
9. Anyona nende Masero bakhupana	Anyona and Masero beat each other.
10. Omusiani yeremile	The boy has cut himself
11. Yeremile omusiani	He has cut himself the boy
12. Mama yalisia Anyona liramwa	Mother made Anyona eat a banana
13. Liramwa mama yalisia Anyona	A banana mother made Anyona eat
14. yerwa imbusi	It was killed a goat
15. Imbusi yerwa	a goat was killed
16. Juma nabisule obwatoto	Juma will reveal the truth
17. Anyona alakhupiria omukhana likondi for the girl	Anyona will make the sheep be hit

RESEARCHER: Please translate the following sentences in the most natural way into your mother tongue.

Causative constructions

English	Lutsotso
(1)The baby made the maid thin.	
(2)The visitors made the children laugh.	
(3)The woman has made the baby cry.	
(4)Rhoda will make the boys laugh.	

Passive constructions

1. Clothes were washed by (by Dina).	
2. Cups have been washed (by mother).	
3. Bread was cut (by the girl).	
4. Potatoes will be cooked (by Odera).	
5. A rat was killed (by Ambwaya.)	

Reciprocal constructions

English	Lutsotso
1. Boys are beating each other.	
2. Children held each other.	
3. Children are feeding one another.	
4. The girls followed each other.	

Reversible constructions

English	Lutsotso
1. Masero, open the door.	
2. Mother undressed the baby.	
3. Dina will reveal the truth.	
4. Juma, unfill that hole.	

Stative constructions

English	Lutsotso
1. The potato skins are peeling.	
2. This disease is treatable.	
3. This house is able to be built properly.	
4. This tree is capable of being cut.	

Applicative constructions

English	Lutsotso
1. Mary has cooked potatoes for the baby.	
2. A person left a baby in the house.	
3. They kept the book for the girl.	
4. The dog barked at a person at night.	

Reflexive constructions

English	Lutsotso
1. I have dressed myself.	
2. I have bathed myself.	
3. They helped themselves.	
4. Rose has cut herself.	

RESEARCHER: Please construct for me sentences using the following Lutsotso verbal forms.

Causative+Reciprocal

VERB	Lutsotso sentence
1)Tsheshania.(cause each other to laugh)	
(2)Lisania (cause each other to eat)	
(3)chingania (cause to carry each other)	
(4)Imbisania (cause each other to sing)	

Instrumental +Passive

1. tetelwa (be cut with)	
2. khupilwa (was beaten with)	
3. yosilibwa.(was washed with)	
4. tekhelwa (was cooked with)	
5. remelwa (was cut with)	

Reciprocal constructions

Verb	Lutsotso sentence
1. khupana(beat each other)	
2. Tilana (hold each other).	
3. Remana (cut each other).	
4. Lisania (feed each other).	

Instrumental constructions

Verb	Lutsotso sentence
1. yosilia (wash with)	
2. ikalila (close with)	
3. remila (cut with)	
4. khobolela (peel with)	

Applicative +Reciprocal

Verb	Lutsotso sentence
1. kulilane (buy for each other)	
2. limilane (dig for each other)	
3. khalachilane (cut for each other)	
4. ibilane	

Applicative + passive

Verb	Lutsotso sentence
1. khupilwa(be seen for)	
2. limilwa (be dug for)	
3. ikulilwa (be opened for)	
4. lolelwa (be seen for)	

Applicative +Reflexive

Verb	Lutsotso sentence
1. ikhupile(beat/hit for yourself)	
2. ilimile (dig fo yourself)	
3. ikhalachile (cut for yourself)	
4. ichinjile (carry for yourself)	

SENTENCES COLLECTED FROM THE ABOVE INTERVIEW

Lutsotso data	English Gloss
1 Abaana batseshania	The children caused each other to laugh
2 Omwaana yatosia omuleli	The baby made the maid grow thin
3 Tsingubo tsifuywa	Clothes were washed
4 bakhupaana	They fought each other
5 abaana batilana	The children held each other
6 balakhupilwa likondi	The sheep will be beaten for them
7 Alechinjila eshikapo	Hes/she will carry the bag for himself/herslf
8 Ikhalachile inyama	Akali will cut meat for himself
9 Abakhaana balakulilaan tsingubo	Girls will buy clothes for each other
10 amakhubake kahulilikha obulayi	His words were able to be heard well

APPENDIX 2: DATA FROM PARTICIPANT OBSERVATION

Lutsotso data	English Gloss
1 .Akola a la-mu –pa-e	Akola will bit him/her
2.Okonji ala –ku-rema e	Okonji will cut it.
3. e- ba la rema omusaala	They will cut a tree
4.Imbisianilia	Cause to sing for each other.
5.Imbusi yerwa	A goat was killed.
6.e -la-tsia omwene	he/she will by himself/herself.
7.Omusiani alalima omukunda	The boy will dig the farm
10.Anyona yachorila omukhana epicha	Anyona drew a picture for the girl
11.Anyona alalia liramwa	Anyona will eat a banana
12.Mama yalisia Anyona liramwa	Mother made Anyona eat a banana
13.Omukhasi yakhobolela omubano amapwon	iThe woman peeled potatoes with a knife
14Mama yosiye ebikombe	Mother has washed cups
15.Ebikombe biosibwe nende mama	Cups have been washed by mother
16. Omukhana yateta omukati	The girl cut bread
17 e- ala renyela mama tsikhwi	he/she will collect firewood for grandmother
18 Abacheni benya okhu lia liramwa	visitors want to eat bananas
19 Shibuli obulyi okhurema liramwa ta	it is not good to cut bananas
20 Odera yenya okhukula eshitanda	Odera wants to buy a bed
21. Abasiani balatilana	boys will hold each other
22. Omwaana yeremile	The child has cut himself.
23 Ingokho yasinzwa	A hen was slaughtered
24. Dina alakhupiria omukhana likondi	Dina willcause the sheep be hit for the girl.
25 .Omusaatsa alolire abaana inzokha	The man has seen a snake for the children.

Interpersonal interactions

Researcher: Bushiere owefu (Good morning our own)

X : Bushiere (Good morning)

Researcher: Ebifumbi ebimji bino nebiashi? (What are these many chairs for?)

X : khwabere nabacheni. (We had visitors)

Researcher: Shimwayanangakhu ta.Kho ni wina walisia abacheni?(You did not invite me. So who made the visitors eat?)

X : Anyona yalisia abacheni ebiakhulia.(Anyona made the visitors eat food)

Researcher: Abacheni nabalayi. (Visitors are good)

X : Omucheni mulala yatseshia omwaana (one of the visitors made/caused the baby laugh)

Y : Anyona naye nakulilra mama ingubo imbia (Anyona bought a new dress for mother)

Researcher: Kata shikuri shiaremulwa obulayi po.(Even the field was well slashed)

X : Hee; omusiani yaremulila lipanga eshikuri. (Yes, the boy slashed the field with a panga)

Researcher: Omukhaana wa endutsi hano lwanditsile atsile hena? (Where is the girl I saw when I came?)

Y : Omukhaana ali mujikoni ateshelanga omucheni eshilibwa (The girl is in the kitchen cooking food for the visitor.

Researcher: Mucheni shina? (Which visitor?)

X : Eyuwe (you)

Researcher: Nobulayi. (That is good)

APPENDIX 3: DATA FROM NON-PARTICIPANT OBSERVATION

Liguru`s local barasa

OMWAMI: Emilimo chilekholekha obulayi kaba abandu boshi baliho. (Work is able to be done well if all people concerned are present).

OMWAMI: Akali, khaboole (Akali, talk)

AKALI (complainant) : Omusiani yali alalimilanga mama omukunda (The boy was digging the farm for mother). Masero nende Shipaka betsa balondakananga (Masero and Shipaka came chasing each other)

ARUNGA (village elder): Maana shina shikholekha? (What happened then?)

AKALI: Masero nende Shipaka bakhupana nibafunaka amatuma kanje. (Masero and Anyona beat each other and broke my maize)

OMWAMI (village head): wina warema Masero omukhono? (Who cut Masero`s hand)

AKALI: Masero yerema omwene nanulanga Shipaka olupanga. (Masero cut himself as he was snatching apanga from Shipaka).

OMWAMI (village head): Masero yiteteye (Masero, defend yourself)

MASERO: Shindafunaka amatuma tawe. Amatuma kafunikha butswa. (I did not break maize. Maize was able to break just)

ARUNGA: (village elder): Shina shiekholekha khu mukhonokwo? (What happened to your hand?).

MASERO: Shipaka yaremila omukhono olupanga (Shipaka cut my hand with a panga)

Liguru`s local baraza

OMWAMI (village head): khuli hano nende omuse kwomukunda hakari wa Osuka nende Swaka (we have a shamba case between Osuka and Swaka).

OMWAMI (village head): Buli mundu witsa okhubola, amakhubake kahulilisho obulayi. (everyone who talks, his/her words should be able to be heard well).

MANDU (village elder): Osuka, omunyakhanokwo nishina? (Osuka, what is your problem?)

OSUKA: Swaka wayenjira mmukunda kwanje. (Swaka has encroached on my land)

OMWAMI: Wamanya orie? (How do you know?)

OSUKA: Emapu yemikunda yamanyisia mbu Swaka wayenjira mukunda kwanje (land map made me know that swaka had encroached on my land)

Data from the church

Lutsotso data

- 1 .Odera alakulira Mary ingubo
- 2.Rebecca yalisia abacheni
- 3.Omukhaana ateshelanga abacheni amapwoni visitors
- 4.Imbisianilia
- 5.Imbusi yerwa
- 6.omusiani yakhupa omukhaana
- 7.Omusiani alalima omukunda
- 10.Anyona yachorila omukhana epicha
11. abasiani balatilana
- 12Anyona akhupile likondi
- 13Odera Nende Anyona balakhupana other
- 15.omukhasi yaremila omwaana omusaala
- 16.Omukhana yateta omukati
- 17.Omukati kwatetwa nende omukhana
- 18.Amakhubake kahulilikha obulayi
- 19.Omusaala kuno kunyala okhuremekha
- 20.Anyona nende Masero bakhupane other
- 21.Juma nabisule obwatoto
- 22.Dina alakhupiria omukhana likondi the girl.
- 23.Omusaatsa alolire abaana inzokha

English Gloss

- Odera will buy a dress for Mary
- Rebecca made the visitors eat.
- the girl is cooking potatoes for
- Cause to sing for each other.
- A goat was killed.
- the boy beat the girl.
- The boy will dig the farm
- Anyona drew a picture for the girl
- boys will hold each other
- Anyona has beat a sheep
- Odera and Anyona will fight each
- the woman cut the tree for the child
- The girl cut bread
- Bread was cut by the girl.
- His words were able to be heard well
- Tis tree is capable of being cut.
- Anyona and Masero have beaten each
- Juma will reveal the truth
- Dina willcause the sheep be hit for
- the man has seen a snake for the children

Omukambi alakula ingubo

The pastor will buy a dress.

Observation Checklist: Non-Participant Observation

Content	Observed
	(√)
Verbs with applicative morpheme {il}	
Verbs with causative morpheme {i}	
Verbs with instrumental morpheme {il}	
Verbs with passive morpheme {w}	
Verbs with reciprocal morpheme {an}	
Verbs with reversive morpheme {ul}	
Verbs with reflexive morpheme {i}	
Verbs with applicative morpheme {il} and causative morpheme {i}	
Verbs with applicative morpheme {il} and instrumental morpheme {il}	
Verbs with reciprocal morpheme {an} and passive morpheme {w}	
Verbs with reflexive morpheme {i} and passive morpheme {w}	

DATA FROM LUTSOTSO TEXTS

Lutsotso text – Omukhaasi Omuboli

Lutsotso (Verbs)	English Gloss
Khupa	beat
Tuya	hit
Lila	cry
Tsekha	laugh
Chingania	cause to carry each other
Baya	play
Rema	cut
Khobola	peel
Lia	eat
Yikala	shut
Yikula	open
Reka	set a trap
Rekulula	unset
Bisa	hide
Fwala	dress
Fwalula	undress
Siba	fill
Sibulula	unfill
Nunia	breastfeed
Lima	dig
Limila	dig for
Khalachilana	cut for each other
Yiba	steal

khupilwa

be beaten for

Data from Lutsotso Bible

English gloss

Amakhubake kahulilikha obulayi

his words were able to be hear well

Khongo`nda ,oleklilwa

knock and the door shall be opened for you

Bemba tsinyimbo tsiokhwitsomia

They sang songs of praise

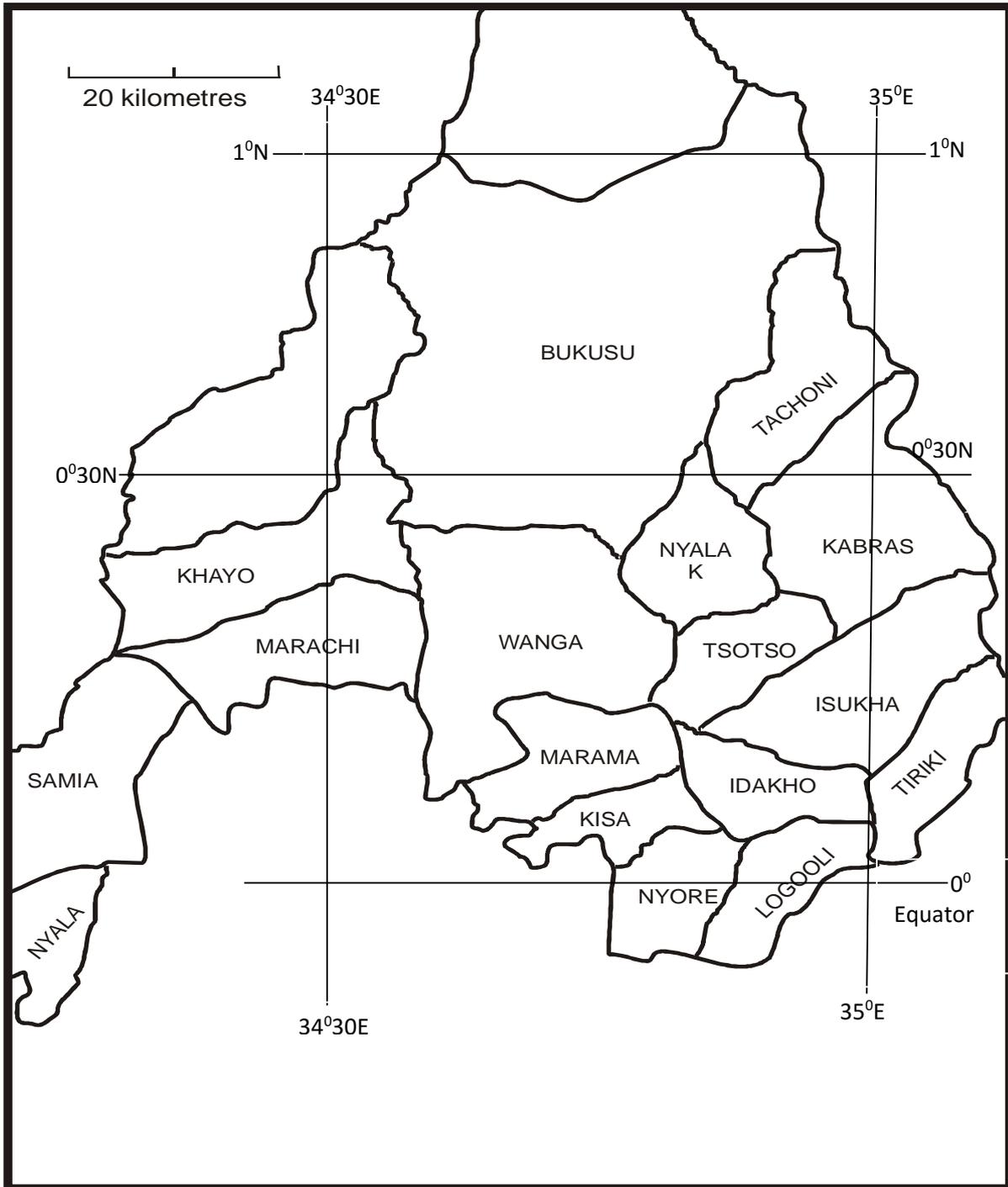
Yalolelwa omukhaana

a girl was seen for him

Yalisia abandu abanji

he made many people to feed

APPENDIX: 4 MAP OF LULUHYIA DIALECTS:



Source: Angogo (1983)