TOPICS IN SESOTHO CONTROL VERBS

By

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To my parents: Daniel Teboho and Limakatso Johanna Motinyane
Robalang ka kgotso Motaung le Mohlakoana.

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LIST OF ABBREVIATIONS

#	Semantically anomalous
*	Ungrammatical
1	First person
2	Second person
3	Third person
AC	Adjectival concord (agreement)
APPL	Applicative (verbal extension)
ARB	Arbitrary
CAUS	Causative (verbal extension)
COMP	Complementizer
CONJ	Conjunction
COP	Copulative
CS	Control shift
DEM	Demonstrative
EC	Exhaustive control
EXP	Expletive
FOC	Focus
FUT	Future tense
FV	Final vowel
INF	Infinitive
LOC	Locative
MDP	Minimal Distance Principle
NEG	Negation

NOC	Non-obligatory control
OC	Obligatory control
OM	Object agreement marker
PASS	Passive
PC	Partial control
PC	Possessive concord (agreement)
PFV	Perfective (aspect)
PL	Plural
PRO	Null subject of infinitival clauses
PROG	Progressive (aspect)
PST	Past tense
RC	Relative concord (agreement)
RECP	Reciprocal (verbal extension)
REL	Relative
SBJV	Subjunctive mood
SG	Singular
SM	Subject agreement marker
TNS	Tense

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TOPICS IN SESOTHO CONTROL VERBS

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This study examines the phenomenon of forward complement control in Sesotho using Principles and Parameters Theory of syntax as a theoretical framework. It explores the interaction between syntax, morphology, and semantics through an examination of the role played by argument-structure changing verbal morphology (verbal extensions). This study suggests that this argument-structure changing verbal morphology is central to understanding the different syntactic behaviors observed across and within verb classes and to the study of control in Bantu languages.

Forward complement control is a relation of obligatory co-indexation between the subject or object of the matrix clause and the subject of the subordinate clause. The subject of the subordinate clause is the null PRO which is understood as having the same reference as the pronounceable subject or object of the matrix clause. Sentence (1) illustrates control in Sesotho.

(1) [Mme$_i$ o - kgothaletsa bana$_j$ [PRO$_{*i/j}$ ho - bala dibuka]]
1.mother 1.SM - encourage 2.children INF - read 10.books
'Mother encourages the children to read books'

Control verbs select noun phrases, subjunctive clauses as well as the infinitive in Sesotho. Only the infinitive participates in control relations. However, an examination of the other complements of control verbs supports the classification of verbs in Sesotho proposed in this

dissertation. The infinitive is introduced by *ho* which is also the prefix of class 15 nouns. This study compares the status of *ho* as an infinitival morpheme and *ho* as a noun class prefix in Sesotho. I suggest that the morphology of the control verbs together with the referential relations between the controller in the matrix clause and the subject of the infinitive help determine the differences between nominal infinitive (class 15 nouns) and clausal infinitives.

This study also proposes that argument- structure changing verbal morphology is important in the classification of control verbs in Sesotho. This morphology is also responsible for the syntactic properties of control and directly accounts for the types of control observed in Sesotho. Contrasting this analysis with a typology of control patterns from other languages, the lack of partial control or split control is furthermore directly linked to argument-structure changing morphology.

CHAPTER 1
INTRODUCTION

1.1 Introduction

This study explores the phenomenon of forward complement control in Sesotho, a Bantu language spoken in South Africa. It investigates the interaction between morphology and syntax by analyzing the semantics of verbal extensions and the role they play in determining verb-class membership. This morphology-syntax interface evidenced in verbal morphology supports the idea that control in Sesotho cannot be understood simply as a syntactic process; the semantics of verbs also plays an important explanatory role.

Complement control is a relation of obligatory coindexation between the subject or object of the matrix clause and the subject of the subordinate complement clause. In forward complement control (hereafter complement control), only the subject or the object of the matrix clause is overt. The subject of the subordinate clause is null (PRO in sentences (1)-(3)) but is understood as having the same reference as the subject or the object of the matrix clause. This is indicated by coindexation. The following examples illustrate.

(1) [$_{matrix}$ Bana$_i$ ba - batla [$_{subordinate}$ PRO $_i$ ho- sesa lewatle]]
2.children 2SM - want INF - swim ocean
' The children want to swim in the ocean'

(2) [$_{matrix}$ Mme $_i$ o - kgothaletsa bana $_j$ [$_{subordinate}$ PRO $_{*i/j}$ ho- bala dibuka]]
1.mother 1.SM- encourage 2.children INF- read 10.books
'Mother encourages the children to read books'

(3) [$_{matrix}$ Ntate $_i$ o - tshepisa bana $_j$ [$_{subordinate}$ PRO $_{i/*j}$ ho -sebetsa lapeng]]
1.father 1.SM - promise 2.children INF -work home.LOC
'Father promises the children to work at home'

Sentences similar to the ones in (1) to (3) have been an area of interest for at least four decades (since Rosenbaum 1967). Most of the previous work on control has been couched within the syntactic theory of Government and Binding (GB), and later the Principles and Parameters Theory (P&P) (Chomsky 1981, 2000 and Chomsky and Lasnik 1995). The control module of the Principles and Parameters framework assumes that the subject of controlled clauses is the null element PRO. Various principles within the theory of control determine the interpretation and full distribution of PRO.

In this study, I use the Principles and Parameters Theory (henceforth P&P) of control as a technical and a familiar way to talk about control, although I will not be concerned with the theory of control per se. The reason for adopting Principles and Parameters is that it is largely familiar and has had considerable success in accounting for cross-linguistics patterns of control.

The primary aim of this study is to provide a description and analysis of control verbs in Sesotho, using P&P as a framework. The secondary aim of this study is to classify control verbs and their properties in Sesotho, with a special focus on addressing the questions outlined below.

Question 1: What is the status of *ho* in Sesotho?
Question 2: Are there different kinds of controlled complements and, if so, what are they?
Question 3: What role does argument-structure changing verbal morphology play in control phenomena?

The remainder of the chapter is organized as follows. Section 1.2 outlines the area of investigation. The analytic approach of this study is outlined in section 1.3. Additionally, section 1.3 provides an overview of the modules of P&P that are used as a framework for analysis in this study. Section 1.4 presents an outline of the dissertation.

1.2 The Area of Investigation

Sesotho, also known as Southern Sotho, is a South Eastern Bantu language spoken by around four and a half million people in South Africa. It is one of the 11 official languages of South Africa. As an official language, it is used in education, media, and government and has a literature which spans over a century. Sesotho is also a national and official language of Lesotho.

Like many other Bantu languages, Sesotho has rich nominal and verbal morphology. One of the morphological features of Bantu languages is the elaborate noun class system. Sesotho has 17 noun classes which occur in pairs of singular and plural. Class membership is determined partly phonologically and partly semantically. Semantic criteria hold for about four of the noun classes, whereas two of the seventeen classes represent locative classes. Noun class 15 has nouns derived from verbs. The prefix of this class, *ho* has the same phonological form as infinitive morpheme in Sesotho as the following examples illustrate:

(4) Bana ba - sesa lewatle
2.children 2.SM - swim ocean
'The children swim in the ocean'

(5) Ho- sesa ho - kgathatsa haholo.
15-swim 15.SM - tire very
'Swimming/to swim makes you/one very tired'

(6) Ke - rata ho - sesa
1SG.- like INF- swim
'I like to swim/swimming'

Sentence (4) exemplifies the use of the verb *sesa* 'swim' with a noun class two subject. The same verb is used in sentence (5) as a noun class 15 derived noun, hence the subject agreement (SM) associated with this class precedes the verb *kgathatsa* 'tire.' In sentence (6) the same verb is used with infinitive morpheme as a complement of the verb *rata* 'like.' In this instance the complement of the verb *rata* 'like' may be realized as a phrase 'to swim' or as a noun 'swimming.' Such data raise the following questions: How does the prefix of noun class 15

differ from the infinitive marker? If there is a difference how is this difference represented syntactically? Both these questions have been of interest to those who have interest in Bantu languages. I explore these questions under four major areas of investigation.

The first major area of investigation is associated with the nature of the infinitive in Sesotho and Bantu languages in general. Examples (4)-(6) illustrate that on the surface Sesotho appears to lack a distinction between the nominal infinitive (5) and the clausal infinitive (6). One way of getting around this problem is by looking at the distribution of the nominal infinitives (class 15 derived nouns) and the clausal infinitive. We need to determine whether the clausal infinitive occupies all the positions occupied by a nominal NP or whether there is some overlap. If it does then how do we determine the presence of control? This study, through exploring the selectional properties of control verbs, shows that while the nominal infinitive occupies all the possible positions associated with clausal infinitive, the clausal infinitive is restricted. The questions related to the nature of the infinitive in Sesotho are discussed in Chapter 2. Chapter 4 explores the questions related to the selectional properties of control verbs.

The second major area of investigation is related to the previous one. While the focus of the preceding area is more morphological in nature, here we are looking at the syntactic nature of the clausal and nominal infinitives. In summarizing this particular area of investigation, let us look at our earlier examples (renumbered for easy reference) associated with the clausal infinitive.

The first question in this area concerns the type of constituent associated with the subordinate clause in each of the sentences. Are these subordinate clauses represented in (7)-(9) NPs, VPs or IPs?

(7) [$_{\text{matrix}}$ Bana$_i$ ba - batla [$_{\text{subordinate}}$ PRO$_i$ ho - sesa lewatle]]
2.children 2SM - want to - swim ocean
'The children want to swim in the ocean'

(8) [$_{matrix}$ Mme $_{i}$ o - kgothaletsa bana $_{j}$ [$_{subordinate}$ PRO $_{*i/j}$ ho - bala dibuka]]
1.mother 1.SM- encourage 2.children to - read 10.books
'Mother encourages the children to read books'

(9) [$_{matrix}$ Ntate $_{i}$ o - tshepisa bana $_{j}$ [$_{subordinate}$ PRO $_{i/*j}$ ho- sebetsa lapeng]]
1.father 1.SM- promise 2.children to -work home.LOC
'Father promises the children to work at home'

The other question relates to the nature of the subject position of the embedded clause represented by PRO; what evidence do we have to suggest that this position is occupied? If it is occupied, what role does this item in this position play? These questions are explored in Chapter 3 of this study.

The third major area of investigation relates to the referential dependencies between the arguments of the main clause and the subject of the embedded clause. Let us consider more examples:

(10) *[$_{matrix}$ Mme $_{i}$ o - hopola bana $_{j}$ [$_{subordinate}$ PRO $_{*i/*j}$ ho - sebetsa]]
1.mother 1.SM- remember 2.bana to - work
'*Mother remembers the children to work'

(11) [$_{matrix}$ Mme $_{i}$ o - hopola [$_{subordinate}$ PRO $_{i}$ ho - sebetsa]]
1.mother 1.SM - remember to - work
'Mother remembers to work'

(12) [$_{matrix}$ Mme $_{i}$ o - hopotsa bana [$_{subordinate}$ PRO $_{i}$ ho - sebetsa]]
1.mother 1.SM - remind 2.children to - work
'Mother reminds children to work'

(13) [$_{matrix}$ *Mme $_{i}$ o - hopotsa [$_{subordinate}$ PRO $_{i}$ ho - sebetsa]]
1.mother 1.SM - remind to - work
'Mother reminds (someone) to work'

(14) [$_{matrix}$ Ntate $_{i}$ o - qophella [$_{subordinate}$ PRO $_{i}$ ho - sebetsa]]
1.father 1.SM - insist to - work
'Father insists on working'

(15) [$_{matrix}$ Ntate $_{i}$ o - qophella bana $_{j}$ [$_{subordinate}$ PRO $_{*i/j}$ ho -sebetsa]]
1.father 1.SM - insist 2.children to- work
'Father insists that children work' Lit: 'Father forces children to work'

The first question that needs to be answered relates to the distinction between sentences (10) and (11) in contrast with sentences (12) and (13). In control use, *hopola* takes one nominal argument, the object. *Hopotsa* in contrast takes two nominal arguments in its control use, a subject and a direct object. The grammaticality of sentence (11) bears evidence to this requirement. Sentences (12) and (13) show the reverse of the contrast represented by (10) and (11). The verb *hopotsa* 'remind' unlike *hopola* 'remember' requires two arguments. This contrast is to be expected because these two verbs have different argument requirements, and as such belong to different semantic classes.

The converse of this is found when looking at verbs that belong to the same semantic class but have different selectional properties. Such verbs have been observed in many languages (see Levin 1993). An example of this is observed in sentences (14) and (15). The verb *hopotsa* 'remind' shares the same class membership as *qophella* but behaves differently. In order to make this conclusion about Sesotho a thorough investigation of the properties of these verbs is required. In Sesotho, as observed in other languages, semantic class membership alone is not adequate in determining the referential dependencies as exemplified by sentences (10)–(15). Levin 2009 proposes root ontological type as a better way of classifying verbs in addition to argument structure. In Chapter 4, I discuss the role of verbal morphology in determining argument structure of verbs.

The final area of investigation relates to the typology of complement control relations attested in Sesotho. Partial control has been cited as one of the major challenges to a movement approach to control (Culicover and Jackendoff 2006). Partial control is a relation in which the interpretation of PRO properly includes the referent of the controller instead of being identical to the controller. Sentences (16) and (17) are examples of partial control. Since verbs like 'meet'

require a plural subject or "actant" (Stiebels 2007), PRO must be interpreted as plural, despite the fact that the controller *Lisa* is singular. The meaning of (16) is that Lisa wants that she and some other people meet.

(16) $Lisa_i$ wants [PRO_{i+j} to meet in the evening]

(17) *$Ngwana_i$ o - batla [PRO_{i+j} ho - kopana]
1.child 1.SM- want to - meet
Intended: 'The child wants to meet with someone'

A series of tests using verbs such as 'meet' and 'gather' reveal that Sesotho control verbs do not allow partial control. The question that follows from this observation relates to how this lack of partial control contributes to cross-linguistic descriptions of control. I explore this question in Chapter 6.

The data used in this study come from written texts, transcriptions of spoken data, previous linguistic descriptions and grammaticality judgments from me and other native speakers. The written materials consulted in my study include a Sesotho classic novel, *Chaka* by Thomas Mofolo, a contemporary novel, *Kiriatshwana* by Mkwanazi and *Seyalemoya* edited by Moeketsi which consists of six radio dramas. Transcripts of two personal narratives also form part of materials consulted. All data with morpheme *ho* were extracted from the sources. The investigation of the data was guided by two questionnaires on control verbs, Stiebels et al. 2003 and Stiebels 2007.

1.3 Theoretical Background

This section discusses the theoretical background assumed throughout the dissertation. I lay out the relevant aspects of the Principles and Parameters Theory that are important for understanding what follows. The second part of this section lays out how the morphology, the syntax and the lexicon interact.

1.3.1 The Principles and Parameters Theory

The Principles and Parameters theory of syntax is based on the notion of Universal Grammar (UG). Chomsky (1981b:7) states that "universal grammar may be thought of as some system of principles, common to the species and available to each individual prior to experience." Within P&P, all languages obey these universal principles. The differences between languages are accounted for by differences in parameters rather than principles.

In this view of language the grammar has a lexicon (containing lexical entries with subcategorization information) and computational system (guided by X-bar Theory). A derivation goes through four levels of representation: Deep Structure, Surface Structure, Phonological Form (PF) and Logical Form (LF). There are various principles that apply at different levels of representation. Let us look at a derivation of a simple Sesotho sentence to illustrate the various aspects of the theory.

(18) Banana ba - bapala mampatile.
2.girls 2.SM - play hide.and.seek
'The girls play hide and seek'

In order to derive sentence (18), the computational system first selects the verb and its two arguments and various functional elements. These are combined into the D-structure in (19), which adopts a version of the VP-internal subject hypothesis (Koopman and Sportiche 1991 and others) in which the external argument is base-generated in the specifier of VP.

(19) $[_{IP}\ [_{I'}\ I\ [_{VP}$ Banana bapala mmampatile]]]
The girls play hide.and.seek

The subject then moves to the specifier of IP, yielding the S-structure in (20). I ignore PF and LF in the rest of the dissertation because it is not relevant to the issue of control.

(20) $[_{IP}\ [_{I'}$ Banana$_i$ I $[_{VP}$ t$_i$ bapala mmampatile]]]

The structure is evaluated with respect to various principles to ensure well-formedness. Two important principles are the Projection Principle and the Theta Criterion. The Projection Principle is a requirement which ensures that the thematic structure associated with lexical items is saturated in the syntax (Haegeman 1991:63) and that the number of projected arguments is the same at all levels of representation. Simply stated, the Projection Principle ensures that lexical information is syntactically represented and prevents insertion of structure beyond D-structure. This principle is stated formally as follows:

(21) Projection Principle
Representations at each syntactic level (i.e. LF and D- Structure and S-Structure) are projected from the lexicon, in that they observe the subcategorization properties of lexical items.

Chomsky further proposed that all clauses must have subjects, regardless of their lexical requirements. This requirement on clauses together with the Projection Principle came to be known as the Extended Projection Principle (EPP).

The Theta Criterion is responsible for the assignment and tracking of semantic roles such as agent, theme, goal and so forth. These theta-roles are part of the lexical information contained in verb's lexical entry. This assignment and distribution of theta roles derives directly from the theta criterion. The theta-criterion is stated formally as follows:

(22) Theta-Criterion
Each argument bears one and only one theta-role, and each theta-role is assigned to one and only one argument (Chomsky 1981:36).

The Theta-Criterion together with the Projection Principle must be satisfied for the structures to be well-formed. The sub-categorization of some of the verbs we have used in our examples thus far are given in (23).

(23) Subcategorization[1]

(a) *Hopola:* V, [_____NP/IP] 'remember'
(b) *Batla:* V, [_____NP/IP] 'want'
(c) *Hopotsa:* V, [_____NP ,NP/IP] 'remind'

(d) *Hopola*: Verb

1 NP	2 NP/IP
i	j

(e) *Batla*: Verb

1 NP	2 NP/IP
i	j

(f) *Hopotsa*: Verb

1 NP	2 NP	3 NP/IP
i	j	k

The subcategorization frames in (23a-c) represent the internal arguments selected by each of the verbs. The theta-grids (d-f) shows the different theta roles represented by letters i, j and k assigned by the verbs.

There are transformations that take place between the Deep Structure and the Surface Structure. Within GB, transformations such as passive movement are subsumed under Move-∀. Movement is optional but is constrained by various restrictions.

One of the movements that applied to our derivation in (19) is the movement of the subject from spec, VP to spec, IP. This occurs because of Case theory, which requires that all NPs be assigned Case by Surface Structure. This is stated formally in the Case Filter:

(24) Every phonetically realized NP must be assigned (abstract) Case
(Chomsky 1995: 111)

[1] The external argument is excluded in this instance

Case is assigned to NPs by certain heads under the structural relationship of Government stated in (25). In Sesotho for example, Spec I is a position where the subject NP is governed by and receives nominative Case from I. The object is governed by and receives accusative Case from V in a verb-complement position[2]. The Case Filter forces the movement of the subject to spec,IP in (19), otherwise, the subject would not be assigned Case and the Case Filter would be violated, and the derivation would not succeed.

(25) Government and m-command

(a) A governs B iff A m-commands B and no Barrier intervenes between A and B. Maximal Projections are barriers to government. Governors are heads.

(b) A m-commands B iff

i. *A* does not dominate *B*,
ii. *B* does not dominate *A*, and
iii. The maximal projection of *A* dominates *B*.

(Chomsky 1986b:8)

The various modules of GB interact to ensure well-formedness. Let us now consider another module that relies on Government as defined in (25). The Binding Theory (BT) determines the distribution of anaphors, pronouns, and R-expressions in relation to their potential antecedents (Haegeman 1991:215). The principles regulating the interpretation and distribution of these NPs as stated in (26-28) are referred to as the Binding Principles. The binding relations are expressed through co-indexation of two constituents and the binding principle works as a filter to determine licit and illicit co-indexations. For our purposes, the governing category can be understood as the minimal clause.

(26) The Binding theory (Chomsky 1981:188)

A. An anaphor is bound in its governing category

[2] I am ignoring the subject agreement marker SM here for reasons of simplicity.

B. A pronominal is free in its governing category

C. An R-expression is free

(27) is bound by ∃ if and only if:

(a) and ∃ are co-indexed, and

(b) c-commands ∀

(28) is free only if it is not bound

(29) C-command (Chomsky 1986b:8)

A c-commands B iff A does not dominate B and every branching node that dominates A also dominates B.

To illustrate how binding works, consider the following data from Davies & Dubinsky (2004: 186) which illustrates the complementary distribution of anaphors and pronouns.

(30) The distribution of anaphors and pronouns

(a) The children$_i$ soiled themselves$_i$.

(b) *The children$_i$ soiled them$_i$.

(c) *The children$_i$ claimed that the teacher scolded themselves$_{i.}$

(d) The children$_i$ claimed that the teacher scolded them$_{i.}$

Sentence (30a) satisfies principle A of the binding theory in that *the children* c-commands *themselves* and the reflexive is bound within the minimal clause. Sentence (30b) violates principle B of the Binding theory in that the pronominal must be free in the minimal clause but it is not. In (30b) *them* is bound by the children under the indicated co-indexation. Sentence (30c) violates principle A in that the antecedent, *the children* is in the matrix clause, whereas *themselves* is in the subordinate clause. Thus, *themselves* is bound but not in its governing category. Sentence (30d) is grammatical because it satisfies Principle B. The pronoun is free in its minimal clause.

The Binding theory, Government theory, Case Theory, the Extended Projection Principle, and the Theta Criterion are important for this study because of their interaction with Control Theory. Control Theory determines the interpretation and distribution of PRO, the null subject of

infinitives in complement control structures. The two principles of interest are the Minimal Distance Principle and the PRO Theorem, stated below. The former determines the interpretation of PRO, which NPs it can be co-indexed with. It states that PRO must be coindexed with the closest NP that c-commands PRO.

(31) Minimal Distance Principle (MDP) (Rosenbaum 1970)
PRO is bound by the closest c-commanding antecedent

To illustrate how the MDP works, let us look at our earlier examples renumbered for ease of reference.

(32) [$_{matrix}$ Bana$_i$ ba - batla [$_{subordinate}$ PRO$_i$ ho- sesa lewatle]]
2.children 2SM - want INF- swim ocean
'The children want to swim in the ocean'

(33) [$_{matrix}$ Mme$_i$ o - kgothaletsa bana$_j$ [$_{subordinate}$ PRO$_{*i/j}$ ho- bala dibuka]]
1.mother 1.SM - encourage 2.children INF- read 10.books
'Mother encourages the children to read books'

Sentences (32) and (33) may be represented as follows:

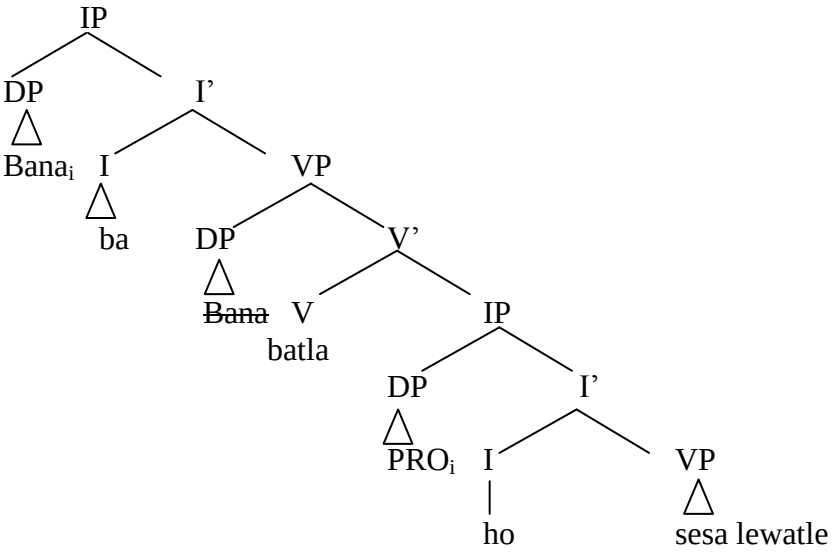

Figure 1-1. MDP and subject control

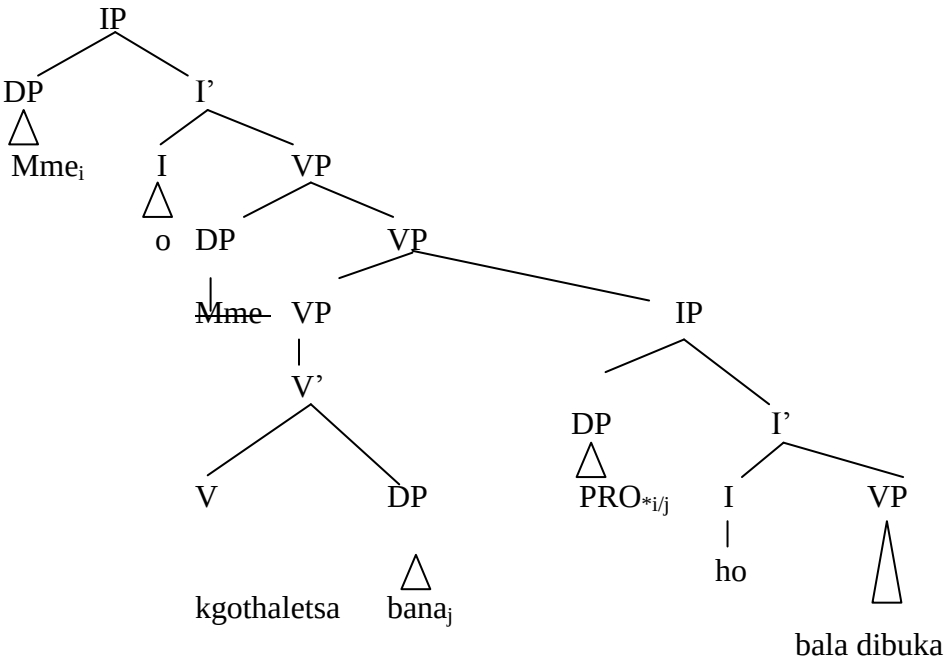

Figure 1-2. MDP and object control

In 1-1 there is only one antecedent DP which c-commands PRO, *Bana*. Figure 1-2 presents a different configuration in that there are two c-commanding DPs. However, since the closest c-commanding antecedent is object of the matrix clause, PRO is then co-indexed with *bana*[3]. Finally, the distribution of PRO is regulated by PRO Theorem stated in (34):

(34) PRO Theorem
PRO must be ungoverned

The PRO theorem restricts PRO to occurring in ungoverned and Caseless positions. For our purposes, this includes the subject of infinitival complements. The PRO theorem follows from the Binding Theory in the following way. Chomsky (1982) observed that binary features,

[3] It is important to note here that the MPD has always been challenged in generative grammar for its inability to cater for Subject control verbs (see Chomsky 1981, Comrie 1984, Koster 1984, Larson 1990 Sag and Pollard 1991 amongst others).

[±anaphor] and [±pronominal] could be used to characterize the elements regulated by Binding Theory, yielding four categories. These combinations are given below (Haegeman 1991:223)

(35) NP types

(a)	[+anaphor, -pronominal]	anaphor
(b)	[-anaphor, +pronominal]	pronominal
(c)	[-anaphor, -pronominal]	R-expression
(d)	[+anaphor, +pronominal]	PRO

The combinations in (35a) –(35c) correspond to anaphors, pronouns and referring expressions. PRO on the other hand has the features [+anaphor, +pronominal] represented in (35d). Considering the Binding Principles above, we can see that being [+anaphor] PRO would have to be bound (Principle A) and being [+pronominal] it would have to be free (Principle B) at the same time since anaphors must be bound and pronominals free. In order to resolve the contradiction caused by the satisfaction of these two principles, PRO must not have a governing category. In such a case, it will vacuously satisfy both Principles A and B. This can occur if PRO is ungoverned, yielding the PRO Theorem. Government and Binding principles, therefore determine the distribution of PRO. Given that Case is assigned under government, it also follows from the PRO Theorem that PRO will also not be assigned Case.

1.3.2 The Interaction between Semantics, Morphology and Syntax

The theroretical outline presented in the previous section makes the assumption that control is a purely syntactic process. The role assigned to the meaning is reduced to subcategorization frames which encodes the information about the arguments associated with that particular verb or lexical item. This may be represented structurally as follows (36)[4].

(36) Lexicon → argument structure→ syntactic structure →control type

[4] → means determines

Argument structure "encodes lexical information about the number of arguments, their syntactic type, and their hierachichal organization necessary for the mapping to the syntactic structure" (Bresnan 1995:1). The discussions that look at the relationship between the lexicon and argument structure continue to investigate whether argument structure is not redundant since it repeats information that is encoded in the lexicon. Bresnan 1995 points out that work in lexical semantics show that "much of the information about number, obligatory status, and hierachichal organization of arguments in argument structure is in fact predictable from semantics" (Bresnan (1995:2), Levin 1993).

(37) Bresnan 1995 interface model

Lexical semantics	
↓	Lexicon
a-structure	
↓	Syntactic projection
Initial syntactic structure	(D-structure)
↓	Syntactic Transformations
Final syntactic structure	(S-Structure)

Bresnan 1995 uses data from English and Chichewa to show that the verbal relation changes associated with 'transformations' are redundant since these are lexical morphological processes. Bresnan therefore proposes that the initial syntactic phase should be abandoned. In this study I take Bresnan's proposal as a starting point because I look at the contribution of these verbal relation transformations to argument structure. I focus on the causative, the applicative and reciprocal in particular. I propose that these 'lexical morphological processes' indeed

determine argument structure, in addition, in the case of control, this interface has various layers which cannot just be restricted to lexical morphological processes. I represent the interfaces as in (38).

(38) Lexicon.lexical class+verbal extensions → argument structure→ syntactic structure →control type

In Chapter 4 I discuss the role played by verbal morphology in determing argument structure but also show how argument structure captures the generilizations about the behavior of verbs. These generalizations would be missed if only lexical information was used to determine the syntactic behavior of control verbs.

1.4 Organization of the Study

Chapter 1 has presented the basic empirical patterns to be discussed in the dissertation as well as the theoretical background on which the discussion is based. The remainder of the dissertation is organized as follows.

Chapter 2 presents a descriptive overview of grammatical properties of Sesotho morpho-syntax such as noun classification and verbal agreement. Chapter 1 also outlines the various functions associated with the morpheme *ho* in Sesotho. It explores the syntactic differences between the nominal infinitive and the verbal infinitive in Sesotho.

Chapter 3 provides a description of verbal agreement in Sesotho as well as an examination of verbal extensions. Chapter 4 presents patterns associated with control verb classes in Sesotho. Chapter 4 also highlights how certain verbal extensions (causative and applicative) assist with the further classification of these verbs. Chapter 4 closes with some differences between English and Sesotho verb classes.

Chapter 5 presents patterns of control in Sesotho. It opens with a typology of complement control observed cross-linguistically. The major contribution of Chapter 5 is the presentation of

data representing the different types of complement control structures attested in Sesotho. None of the studies that I am aware of have discussed a typology of control in Bantu. The second major contribution of this study presented in Chapter 5 is the discovery of lack of partial control in Sesotho. Chapter 6 summarizes the findings of the study. Chapter 6 also points out areas that require further investigation.

CHAPTER 2
THE SIGNIFICANCE OF HO IN SESOTHO

2.1 Introduction

Control verbs in Sesotho select infinitival clauses as their complements. As we have observed in Chapter 1 the distinction between the infinitive and class 15 nouns is not a clear-cut one. This issue is further complicated by the lack of phonological differences between the morpheme *ho* as a noun class prefix and the morpheme *ho* as an infinitival morpheme. In order to identify whether a word is a noun or a verb we need to determine the morpho-syntactic properties of nouns in Sesotho. The primary aim of this chapter is to explore the morpho-syntactic properties associated with *ho* as a noun class prefix and *ho* as an infinitival morpheme. As a way of understanding the dual nature of this morpheme, an evaluation of the structure of the noun and the morphological processes involved in noun formation becomes necessary. Focus will be mainly on deverbal nouns. The remainder of Chapter 2 is dedicated to a comparison of the verbal and nominal functions of *ho* in Sesotho.

2.2 Nominal Morphology

Sesotho, like many other Bantu languages, has an elaborate noun class system. A typical noun in Sesotho is composed of a prefix and a stem. A Sesotho prefix may be represented in a template form as CV for the majority of classes and as Ø in the case of classes 9 and 1(a). The prefix marks class membership as well as number. Whereas the meaning of the noun depends primarily on the stem, the noun class prefix also carries some semantic content. These examples show the different prefixes that can be used with the same stem to form different nouns.

(1) Examples of noun prefixes used with *-sotho*
  (a) mo- sotho
    cl.1- stem
    'A Sotho speaking person'

(b) ba- sotho
cl.2- stem
'Sotho speaking people'

(c) Le- sotho
cl.5- stem
'A country of the Sotho speaking people'

(d) *ma- sotho
cl.6 – stem
'Plural of Lesotho'

(e) Se- sotho
cl.7- sotho
'Sesotho language'

(f) *Di- sotho
cl.8- sotho
'Sesotho languages'

(g) bo- sotho
cl.14 – stem
'Being a Sotho'

Examples (1a) and (1b) indicate a singular and plural pair, the difference being expressed through the prefix. Examples (1c) and (1d) further indicate that some nouns do not follow the expected singular and plural pairs due to semantic restrictions. Example (1e) and (1f) further show that although the stem may appear with other noun classes prefixes it is very restricted in plural forms. Example (1g) represents a noun class in which the majority of nouns are abstract nouns and for this reason they lack plural counterparts. As these data show, the noun class prefixes cannot be freely prefixed to any noun stem. We will not go into the details of the distribution of prefixes but will rather try and draw attention to the historical impact of these irregularities of noun classification and how these may shed some light on the behavior of certain noun classes. Although there are these irregularities with regards to singular and plural nouns, the noun class system as a whole is fairly systematic. Let us now look at the noun classes in Sesotho.

2.2.1 Noun Classes

There are curently sixteen noun classes in Sesotho made up of singular and plural nouns. The irregularities between singular and plural pairs pointed out in the previous section resulted in a proposal to split singular and plural forms. These irregularities were initially observed during Meinhoff's reconstruction of Proto-Bantu numbering system (Doke & Mofokeng 1957). In the earlier system, Sesotho nouns were divided into nine classes. The singular and plural combined in the same class to make 5 classes. Classes 14, 15 and the two locative classes were added as singular classes.

In the current system, classes 1 and 1a, 2 and 2a are the only classes that follow a clear semantic classification. These classes contain nouns that refer to humans or personified animals. None of the other classes show this semantic coherence although there are scholars who claim that clear semantic categories exist (see Guma 1971 for example). There are also Bantu scholars (Doke & Mofokeng 1957, Guma 1971 amongst others) who claim that noun classification is all based on semantic classes and prefixes. Current approaches in Niger-Congo studies suggest that noun classification takes into account a multiple factors; semantics being one amongst others (see Mc Laughlin 1997). As I have already indicated in Sesotho, only a small number of classes show this clear semantic membership. Table 2-1 represents the current classification of nouns in Sesotho.

The classification in Table 2-1 is based on Meinhoff's Proto-Bantu numbering system. The noun class prefixes are very stable and uniform amongst Bantu languages of Botswana, Lesotho, Mozambique, South Africa and Swaziland (Gowlett 2005). Sesotho lacks classes 11, 12 and 13 although these classes are found in other Bantu languages. This gap in the classification occurred due to the merger of the nouns in class 11 with nouns in class 5 and those of 12 and 13 with

nouns in class 7 (Gowlett 2005:620) [1]. This observation is specifically supported by the irregularities associated with the plural form of nouns in class 6. Let us look at how plural formation works within the noun class system.

Table 2-1. Sesotho noun classes

Noun Class	Prefix	Noun	Gloss
1	mo-	motho,morena	person, chief
1a	Ø-	mme	mother
2	ba-	batho	people
2a	bo-	bomme	mothers
3	mo-	motse	homestead
4	me-	metse	homesteads
5	le-	leru	cloud
6	ma-	maru, marena, mahobe[2]	clouds, chiefs
7	se-	sefate	tree
8	di-	difate	trees
9	Ø-	kgomo, nku	cow, sheep
10	di-	dikgomo, dinku	cows, sheep
14	bo-	bohobe	bread
15	ho-	ho ja[3]	to eat/eating
16	ho-	hodimo	up
17	mo-	morao	behind

The pattern of singularity and plurality is fairly stable amongst the noun classes in Sesotho. The plural of class 1 *mo-* nouns is formed by prefixing the class 2 noun class prefix *ba-*. There are however a few exceptions. There are some irregularities found with the plural of some nouns found in classes 1. The plural form of *mo-rena* 'chief', for example, in class 1 is not the expected **ba-rena*. Instead the plural of this noun is derived by prefixing class 6 noun prefix *ma-*. This

[1] An example of nouns being merged include the use of noun class 5 prefix with the less productive locative nouns: *le-ho-dimo-* 'sky/ heaven'; *le-fa-tshe* 'earth'

[2] There also nouns that have two plural forms: *le-siba* (sg) 'feather' *ma-siba* (pl) 'attached feathers (i.e. on a bird) or *di-tshiba* (pl) 'loose feathers'

[3] The nouns in class 15 are written as two free morphemes in Sesotho orthography.

has resulted in a split between nouns that fall into class 2 *ba-* in plural and those that fall into class 6 *ma-* for their plural form. It is also important to note that some of the nouns in class 1 that take *ma-* as a plural prefix also have a singular form found in class 5. Let us look at some examples.

Table 2-2. Noun class 1 plural formation

Noun class 1[4]	Noun class 5[5]	Noun class 6	Gloss
Mo-rena	----------	Ma-rena	King/chief
Mo-fumahadi	----------	Ma-fumahadi	Queen/wife
Mo-qhotsa	Le-qhotsa	Ma-qhotsa	Xhosa speaking
Mo-swatsi	Le-swatsi	Ma-swatsi	Swati speakers
----------	Le-tebele	Ma-tebele	Ndebele speaker

Table 2-2 indicates that nouns that take *ma-* as a plural prefix are nouns associated with speakers of other languages such as the Nguni languages of South Africa. The nouns representing people who are regarded as 'socially closer' to the Sesotho speakers such as *Mo-tswana/Ba-tswana* 'Tswana speaking person/s' and *Mo-pedi/Ba-pedi* 'Pedi speaking person/s' use the plural prefix *ba-* associated with the Sesotho speaking people. The important thing to note about these examples is that they may be used in a way which conveys speakers' attitudes towards the people expressed through these nouns. These examples reinforce the suggestion that a multitude of factors are considered in noun classification (see Mc Laughlin 1997 for this approach).

A similar but slightly different pattern occurs with *bo-hobe* 'bread' in class 14. The plural of *bo-hobe* 'bread' is also formed by prefixing class 6 noun class prefix *ma-*. Nouns in class 14 differ from those in class 1 in that the split is between nouns that lack the plural form and those

[4] Nouns associated with people

[5] This prefix tends to have a derogatory function when used with nouns that refer to people.

whose plural form falls into noun class 6. The majority of nouns in this class are abstract nouns, resulting in most of these nouns lacking plural forms.

In addition to the complete loss of classes 11, 12 and 13, Sesotho has lost most of the nouns that belong to locative classes. Classes 16 and 17 have a very small number of nouns. These locative nouns are often referred to as adverbs of place (Doke & Mofokeng 1957:83). Besides the fact that these noun classes have different prefixes, they all trigger the same agreement morpheme on predicates. It is interesting to note here that this agreement morpheme for the locative classes is *ho.* The number of nouns remaining in these classes as well as the similar agreement morpheme associated with the locative classes has generated debates amongst Bantuists regarding their status within the noun class system. Mchombo 1993 & 2004 for example, questions the nominal status of the items in these classes in Chichewa.

One more class that has also attracted a lot of attention is noun class 15, the infinitival class, which contains verbs in their infinitival form or verbal nouns. The prefix of this noun class is *ho.* In Sesotho, the nouns found in this class are derived from verb stems. Whereas Nguni languages such as Xhosa have proper nouns and nouns derived from verbs in class 15, at first glance Sesotho does not show this two-way distinction. When 'nouns' in class 15 are subjected to various tests, they reveal some form of ambiguity (see Creissels & Godard 2005 for Setswana). I discuss this distinction later in this chapter. First let us examine nominal morphology, specifically the formation of nouns from verbs.

2.2.2 General Nominal Derivation

The noun prefixes in Sesotho are central to nominal derivation and predicate agreement. The noun prefix may be affixed to various lexical categories to derive new nouns. In the process of noun formation the noun class prefixes generate new words while marking number and gender (in this case noun class) at the same time. The process of nominal derivation is crucial in

understanding how the class 15 noun class is different from the other noun classes in Sesotho. Below are examples that show the productivity of noun formation. I limit my examples to word formation that involves the noun class prefix.

(2) Nouns derived from adjectives

(a) mo- holo
cl.1- big/old
'elder'

(b) bo- holo
cl.14- big/big
'size'

(c) se- holo
cl.7 – old/big
'ways of the elderly'

(3) Nouns derived from adverbs

(a) bo- hole
cl.14 – far
'distance'

(b) le- ho-dimo
cl.5-cl. 16. up
'heaven/sky'

(c) di- ka- hare
cl.10- PREP- inside
'contents'

(4) Nouns derived from nouns

(a) bo- tho
cl.14- person
'being human'

(b) se- sadi
cl.7 – woman
'woman-like'

(c) se- phoofolo
cl.7- animal
'animal-like'

(d) *se-mo-sadi
cl.7.-cl.1- woman

The examples provided in (2a-c) and (3a-c) show that noun formation involving the adjectival and adverbial stems is less restricted. Examples (4a-d) however show that noun derivation involving other nouns is more restricted. Overall the examples in (2)-(4) clearly indicate that the formation of nouns through noun class prefixes is very productive in Sesotho. These examples further reveal that noun derivation involving lexical categories other than verbs does not cause any changes in the stems involved. Although this process is similar to the derivation of nouns from verbs, there are some differences. Let us now turn to the derivation of nouns from verbs in comparison.

2.2.3 Nouns Derived from Verbs

Sesotho has three major types of nouns derived from verbs. These three types are distinguished based on their prefixes and suffixes. The noun class prefix determines the number and class to which the derived noun belongs. The three basic suffixes associated with nouns derived from verbs are *-i;-o* and *–a.* Personal nouns generally have the prefix *mo-* and suffix*-i* whereas the impersonal ones predominantly have the suffix*-o* and a variety of prefixes. The suffix *–a* is primarily associated with nouns derived through the prefixation of the class 15 noun class prefix *ho.* This suffix, unlike the others occurs with both personal and impersonal derived nouns. The examples below illustrate these facts.

The examples in (5a-e) show that one verb stem *rat-* 'like/love' creates different nouns based on the different noun class prefixes. Although the deverbal nouns have different prefixes, the relation in meaning between these nouns is preserved by the stem. The different noun suffixes indicate that there has to be an agreement between the noun prefix and the suffix. Examples (5d) and (5e) show noun formation involving verbal inflection. In this instance the suffix is consistently *–a* regardless of the noun class prefix.

The examples in (5e) and (6) are central to this study. Although this type of noun formation is observed elsewhere, unlike other nouns, the final vowel of the verb remains unchanged. The various suffixes that we see with other deverbal nouns are not possible with class 15 nouns as indicated by the examples in (5e) and (6a). This pattern reveals that class 15 nouns are different from the other nouns with respect to noun formation although they employ the same strategy of prefixing the noun class prefix to verbs.

(5) Nouns derived from the verb *rata* 'like/love'

(a) mo- rat- i /*o
cl.1- love- Pers Suffix
'lover'

(b) le- rat- o/*i
cl.5- love- Imp Suffix
'love'

(c) that- o/*i
cl.9. love- Imp Suffix
'love'

(d) mo- rat- uw- a
cl.1 – love- PASS- FV
' the beloved one'

(e) ho- rat- a/*i/*o
cl.15- love- FV
'to love/loving'

(6) Nouns derived from deverbal nouns

(a) ho- nk- a seabo
cl.15 take- FV part
'to participate/ participating'

(b) mo- nk- a- seabo
cl.1 - take- FV part
'participant'

(c) mo- nk- *i seabo
cl.1 - take- Pers Suffix part
Intended: 'participant'

These similarities and differences are crucial in understanding the dual function of class 15 nouns in Sesotho. Let us now look at the properties of morpheme *ho* in Sesotho and how it relates to the infinitive.

2.3 Properties of the Infinitive in Sesotho

Earlier works in the studies of the infinitive tended to focus mainly on the nominal properties of the infinitive while neglecting the syntactic distribution. The infinitive in Bantu is often referred to as a "mixed category" because of its verbal and nominal nature (Creissels & Godard 2005 for Tswana, Mugane 2005 on Logoli and Visser 1989 on Xhosa). In Sesotho the infinitive functions as a noun, similar to the English gerund, and as a verb in its infinitival form. In languages such as English, the infinitival form of the verb and the gerund are morphologically distinct. In Sesotho this morphological distinction is absent. This distinction is further eroded by the fact that the infinitival form and the noun class 15 prefix share the same phonological form. In addition, the infinitive in Sesotho accommodates some form of future tense, aspect and mood (TAM). These properties are shared by many other Bantu languages.

Recent studies of the infinitive in Bantu such as Creissels and Godard 2005, Visser 1989 and Du Plessis 1982 show evidence supporting the idea that the infinitive inflects for TAM. Although these scholars' approaches are different, they all make similar observations about the dual nature of noun class 15. As I have already indicated, there is no morphological or phonological distinction between the infinitive and noun class 15 nouns. The main question that follows from this is how one determines whether these are proper nouns, like all other noun classes, derived nouns or the infinitive (verbs). In the sections that follow, I explore the nominal and the verbal properties of noun class 15.

2.3.1 Distributional Properties of Nouns

Customary discussions of noun classes in Bantu tend to pay little attention to the differences between class 15 nouns and the rest of the noun classes. This view tended to diminish the importance of the many occurrences of class 15 nouns in syntactic positions which other nouns do not occupy. Certain tests are used cross-linguistically to test for word-class membership. These include the ability of that particular word to act as either a subject or an object in a sentence, the ability to trigger subject or object agreement, the ability to be modified by descriptive modifiers as well as being able to pluralize. Nouns in class 15 pass most of these tests. Let us examine these various tests by starting with class 15 nouns as subjects and objects in a sentence.

(7) Nouns as subjects and objects in Sesotho

(a) Makwala a - timela kapele
6.coward 6.SM - die quickly
'Cowards die quickly'

(b) Ho nanara ho - a - tshosa
15. sneak.up 15.SM – FOC- scary
'Sneaking-up (on a person) is scary'

(c) Bana ba - rata ho- ja
2.children 2.SM - like 15.eat
'Children like eating/to eat'

(d) Bana ba - rata dijo
2.children 2.SM - like 10.food
'Children like food'

Subjects trigger subject agreement (SM) in Sesotho. Sentence (7a) shows that the subject noun *makwala* 'cowards' triggers agreement on the verb *a-*. We observe the same pattern with class 15 nouns indicated by sentence (7b) where the noun *ho nanara* triggers the SM *ho*. Sentence (7c) shows that class 15 nouns also act as objects in the same way that the object noun in (7d) does.

Like other nouns in Sesotho, class 15 nouns can be modified by descriptive modifiers such as adjectives, demonstratives and possessive pronouns. The examples in (8) illustrate. Nominal modifiers such as adjectives and demonstratives agree with the nouns they modify in Sesotho. Sentences (8a&b) indicate how the adjective agrees with the nouns it modifies. Sentences (8c&d) are examples of nouns used with personal possessive concords. The same kind of agreement observed in (8a&b) is also applicable in (8c&d). Examples (8e&f) furthermore show that the agreement relationship between the demonstrative and the noun it qualifies is also required. Class 15 nouns behave like other nouns in this respect.

(8) Descriptive Predicates

(a) Makwala a - ma- be
6.cowards 6.SM - 6.AC- bad
'Cowards are bad'

(b) Ho bapala ho - ho- be
15.play 15.SM - 15.AC- bad
'Playing is bad'

(c) Bokwala ba - hae bo - mmo- laisitse
14.coward 14.PC - 1.his 14.SM - 1.OM- kill
'His cowardice cost him his life'

(d) Ho bapala ha - hae ho - fedile
15.play 15.PC - 1.his 15.SM - end
'His playing(game) has ended'

(e) Makwala ana a - ma - be
6.coward 6.DEM 6.SM - 6.AC- bad
'These cowards are bad'

(f) Ho bapala hona ho - ho- be
15.play 15.DEM 15.SM - 15.AC- bad
'This playing is bad'

Object nouns also offer an interesting trait in Sesotho. Object nouns trigger object agreement when the emphasis is placed on the object or when the object is preposed or omitted. Whereas preposing is possible with class 15 nouns, it appears that object agreement is not

possible if the object is a class 15 noun. The examples in (9) reveal the differences between class 15 nouns as objects and object nouns in other classes. In (9a), the object *dijo* 'food' triggers object agreement as well as a focus morpheme on the verb when preposed. As sentence (9b) demonstrates, this is not the case with class 15 nouns in object position. Instead we see in (9c) that only the focus marker is used for emphasis unlike in (9a) where both OM and FOC are present. Sentence (9d) illustrates that the focus marker is required when preposing the object.

(9) OM in preposing

(a) Dijo bana ba - a - di - rata
10.food 2.children 2.SM - FOC - 10.OM - like
'As for food, children like it'

(b) *Ho ja bana ba - ho - rata
15. eat 2.chilrden 2.SM - 15.OM - like
Intended: 'As for eating, children like it'

(c) Ho ja bana ba - a - rata
15.eat 2.children 2.SM - FOC- like
'As for eating, children like it'

(d) *Ho ja bana ba- rata
15.eat 2.children 2.SM - like
Intended: 'As for eating, children like it'

Another way of emphasizing the object noun in Sesotho is by prefixing the OM to the verb without preposing. In this instance the object is highlighted as the emphasis is on the OM. In the presence of the OM the object noun becomes optional. Example (10b) once more shows that class 15 nouns are not capable of triggering OM in object position.

(10) OM in emphasis

(a) Bana ba - a - di - rata (dijo)
2.children 2.SM - FOC - 10.OM - like food
'Children like FOOD'

(b) *Bana ba - a - ho - rata (ho ja)
2.children 2.SM - FOC - 15.OM - like - 15.eat
Intended: 'Children like EATING'

So far we notice that class 15 nouns pass all the distributional properties of nouns in subject position. In object position there are some restrictions. Class 15 nouns fail to trigger OM when used in this position. At this point we also need to remember what we noted earlier that class 15 nouns also fail to pluralize. The failure of class 15 nouns to pluralize and trigger OM could be attributed to what Creissels & Godard 2005 term semantic hierarchy. Creissels & Godard propose that in the hierarchy of semantic objects, class 15 nouns denote an abstract object, which should be viewed as an eventuality. An eventuality is a notion associated with verbs. This is not surprising because as I pointed out earlier, studies in Bantu languages show that class 15 nouns show nominal as well as verbal properties. Let us now turn to the verbal properties of these nouns.

2.3.2 Distributional Properties of Verbs

Bantu languages are well-known for their rich verbal morphology. Verbal characteristics relevant for the purposes of this study include subject and object agreement, tense, aspect, mood, negation as well as the ability to take verbal extensions and verbal modifiers. I deal with verbal extensions in detail in Chapter 3.The first property that we will look at is the verb's ability to support subject and object agreement. From now onwards we'll refer to these clauses as infinitival clauses since we are looking at verbal properties associated with the infinitive. The examples in (11) illustrate some of the properties.

The first difference between the verb *halefisa* when used with *ho* is that it does not support subject agreement (SM) as demonstrated by (11a-c). The OM is however supported. In the examples in (11a&b) the infinitival verb is extended by the causative extension. This is a common property of verbs in Bantu.

(11) Subject , object agreement and verbal extensions

(a) Banna ba - mo- halef- is- a
2.men 2.SM - 1.OM - ngry- CAUS- FV
'Men make him/her angry'

(b) Banna ba - rata ho - mo - halef- is- a
2.men 2.SM - like INF - 1.OM - angry- CAUS- FV
'Men like to make him/her angry'

(c) *Banna ba - rata ba - ho - mo - halef- is- a
2.men 2.SM- like 2.SM - INF - 1.OM- anger- CAUS- FV

Example (12b) shows that the infinitival clause can be modified by an adverb of manner *haholo* as well as a locative *mosebetsing* in the same manner that ordinary verbs are modified as indicated by sentence (12a).

(12) Verbal Modifiers

(a) Banna ba - mo - halef- is- a haholo mosebetsing
2.men 2.SM- 1.OM - angry- CAUS- FV very work.at
'Men make him/her very angry at work'

(b) Banna ba - rata ho - mo - halef- is- a haholo mosebetsing
2.men 2.SM - like INF - 1.OM - angry- CAUS- FV very work.at
'Men like to make him/her very angry at work'

Transitive verbs require an object. The fact that the verb used in examples (12a) show OM suggests that this is a possibility. These examples clearly indicate that the infinitival clause accommodates a direct object.

(13) Direct objects

(a) Banna ba - halef- is- a mme
2.men 2.SM - angry- CAUS- FV 1.mother
'Men make mother angry'

(b) Banna ba - rata ho - halef- is- a mme
2.men 2.SM - like INF - angry- CAUS- FV 1.mother
'Men like to make mother angry'

Ordinary verbs inflect for tense, aspect and mood. Tense in Sesotho is divided according to time: past (recent and remote), present and future (recent and remote). The only tense that the

infinitival clause supports in Sesotho is the future tense. The future tense morpheme is treated with caution here since the same morpheme also works as a verb in other contexts[1]. The major difference between the infinitival clause and finite verbs clauses is that the infinitival clause can only be used with the future tense. Let us look at some examples.

(14) Future Tense

(a) Banna ba - tla - halef- is- a mme
2.men 2.SM- FUT - angry- CAUS- FV 1. mother
'Men will make mother angry'

(b) Banna ba - rata ho - tla - halef- is- a mme
2.men 2.SM- like INF- FUT- angry- CAUS- FV 1.mother
'Men like to come and make mother angry'

(c) Ba - tla - tla - sebetsa
2.SM - FUT - come -work
'They will come and/to work'

(d) Ba - tla ho - tla - tla -sebetsa
2.SM - come INF - FUT - come -work
'They come to work'/ 'they come to work (in the future)'

Example (14a) is an example of a finite clause in the future tense form. The future tense morpheme *tla* is prefixed to the verb between the subject agreement morpheme and the verb. Example (14b) on the other hand shows the use of the future tense morpheme with the infinitival clause. However, it is important to note here that the future tense morpheme can also function as a verb of motion as represented in sentences (14c&d). Additionally the same morpheme may also be used to conjugate the two clauses in (14c) *ba tla* and *sebetsa*, and *ba tla* and *ho sebetsa* in (14d). It is evident then from these examples that the future tense morpheme in the infinitival clause may be used as a conjunction as well as marking a future action.

[1] Doke (1957:188) claims that the infinitival clause inflects for aspect in Sesotho. His observation is based on the use of the infinitive in isolation. Visser 1989 also notes that the use of the future tense in Xhosa functions as an auxiliary verb, rather than tense: to come and the infinitival form

A related but slightly different pattern is observed with aspect in Sesotho. Aspect marks the phase or duration of an action. The progressive has been cited as an aspectual morpheme associated with the infinitive in Sesotho, Xhosa and Setswana (Doke 1957, Visser 1989 and Creissels & Godard 2005 respectively). As indicated by the examples in (15) the use of progressive is restricted to certain environments. These examples illustrate.

(15) Aspect- Progressive

(a) Banna ba - sa - halef- is- a mme
2.banna 2.SM - PROG - angry- CAUS- FV 1.mother
'Men still make mother angry'

(b) #Banna ba - rata ho - sa - halef- is- a mme
2.men 2.SM - like INF - PROG- angry- CAUS- FV 1.mother
'Men like to still make mother angry'

(c) Banna ba - sa - rata ho - halef- is- a mme
2.men 2.SM - PROG - like INF - angry- CAUS- FV 1.mother
'Men still like to make mother angry'

(d) Ho - sa - halef- is- a mme ha - ho - a - loka
INF - PROG - angry- CAUS- FV 1.mother NEG - 15.SM - FOC - right
'To still make mother angry is not right'

Sentence (15a) shows the use of the progressive with an ordinary finite verb. The progressive morpheme *sa* is prefixed to the verb between the SM and the verb. Sentence (15b) indicates that the use of the progressive morpheme with the subordinate infinitival clause is less acceptable. This is because the same sentence may be better expressed when the aspect is associated with the main clause as in (15c). However, when the infinitival clause is used as a subject the use of the progressive aspect is then acceptable in Sesotho.

Mood is expressed using various verb forms in Sesotho. A mood may either be finite or non-finite. The non-finite mood forms in Sesotho are the infinitive and imperative. Non-finite moods are traditionally regarded as verb forms that lack tense and agreement. So far we have noticed that the infinitive in Sesotho shows very limited instances of tense and agreement. The

infinitival clause under investigation is expected not to accommodate other mood forms given that it is a mood form itself. Let us observe the following examples.

(16) Mood- Potential

(a) Banna ba - ka - halef- is- a mme
2.banna 2.SM - POT - angry- CAUS- FV 1.mother
'Men may make mother angry'

(b) *Banna ba - rata ho - ka - halef- is- a mme
2.banna 2.SM- like INF - POT - angry- CAUS- FV 1.mother
Intended:'Men like to may make mother angry'

(c) *Ho - ka - halef- is- a mme ha ho - a - loka
INF- POT - angry- CAUS- FV 1.mother NEG 15.SM - FOC- right
Intended: 'To still make mother angry is not right'

The examples in (16) show the expected result. Sentence (16a) illustrates the potential mood form used with a finite verb. The potential morpheme *ka* is prefixed to the verb between the SM and the verb. When used with the infinitival clause, the sentence becomes less acceptable. Example (16c) further shows that using the potential mood with the infinitival clause in subject position does not change the situation.

Finally, negation in the indicative is expressed by morpheme *ha* and the final vowel changes to *-e*. In the indicative negative, the morpheme is inserted between the subject and the SM (17a). In the infinitive the negative morpheme is represented as *se* and the final verb also changes to *–e.* Example (17b) shows that negation is possible with the infinitive as a subordinate clause. Negation is also possible when the infinitival clause is used in subject position (17c). This morpheme is also used as negation for the imperative as illustrated by (17d).

(17) Negation

(a) Banna ha ba - halef- is- e mme
2.men NEG 2.SM - angry- CAUS- NEG 1.mother
'Men don't make mother angry'

(b) Banna ba - rata ho - se - halef - is- e mme
2.men 2.SM - like INF - NEG - angry - CAUS- NEG 1. Mother
'Men like to not make mother angry'

(c) Ho - se - halef- is- e mme ho - lok- ile
INF- NEG- anger- CAUS- NEG 1.mother 15.SM right- PERF
'Not making mother angry is (the) right (thing to do)'

(d) Se – halef- e
NEG- angry- NEG
'Don't be angry'

The discussion so far indicates that the infinitival clause shows the majority of properties associated with verbs as well as nouns in Sesotho. Tables 2-3 and 2-4 summarize these findings. It is evident from this summary in Table 2-3 that the infinitive behaves like ordinary nouns although there are minor differences. Table 2-4 further indicates that the infinitive in Sesotho has some form of inflection although it does not share all the properties of finite structure. This brings us to the question asked in Chapter 1 of the nature and identity of the clauses introduced by *ho*. Is it a verb or a noun?

Table 2-3. Nominal properties of the infinitive

Property	Nouns	Infinitive
Prefix & stem	Yes	Yes
Plural	Yes	No
Subject Position	Yes	Yes
Object Position	Yes	Yes
Preposing	Yes	Yes
Trigger Subject Agreement	Yes	Yes
Trigger Object Agreement	Yes	No
Nominal Modifiers	Yes	Yes

The answer to this question has been a major area of investigation amongst Bantuists. Guma (1971:158) points out that in Sesotho the infinitive is morphologically a noun, but "unlike other nouns, it has both positive and negative forms… syntactically it may be both a noun and a verb". Creissels & Godard (2005:1) indicate that while English has the gerund and infinitival forms, in the Sotho languages the infinitive shows a "mixed morphology, exhibiting both verbal

and nominal properties." Visser 1989 made similar observations about the infinitive in Xhosa. These statements are also supported by Mugane 2003 where he observes that the behavior of the infinitive and the gerund in Logoli is that of an extra-sequential hybrid construction.

Table 2-4. Verbal properties of the infinitive

Property	Finite verb	Infinitive
Subject Agreement	Yes	No
Object Agreement	Yes	Yes
Verbal Extensions	Yes	Yes
Verbal Modifiers	Yes	Yes
Direct Objects	Yes	Yes
Tense	Yes	Yes (Restricted)
Aspect	Yes	Yes (restricted)
Mood	Yes	No
Negation	Yes	Yes

The conclusion that can be drawn from the discussion and the observations from other scholars is that the infinitive is more restricted in object position. Most of the instances where the infinitive fails a morphological or syntactic test are when used as an object. This is not surprising since verbs select their internal arguments. As we will observe in Chapter 4, certain verbs have restrictions on the kind of arguments they select. The infinitive is one such argument. The question that follows from this conclusion relates to the internal structure of the infinitive. I deal with these answering this question let us look at other uses of *ho* in Sesotho.

2.4 Other Uses of Ho

The morpheme *ho* in Sesotho has various other uses. In one of the uses, the morpheme is prefixed to noun stems where it functions as a noun class marker. While this is not evident in the orthography system, some nouns do show this property of *ho*. In this section, I describe the use of *ho* as a conjunction coordinating verbs, as a preposition, as a copulative and as an expletive or impersonal SM.

The conjunction used to join nouns in Sesotho is *le* 'and.' However, when joining verbs, the verb that expresses the second and subsequent action is expressed either in the infinitival form or the subjunctive form as indicated in the examples (18). Sentence (18) shows that in coordinated verbs, the second verb is in the infinitival form. Sentence (19) on the other hand shows that although the infinitive and subjunctive may overlap in their occurrences, the subjunctive form cannot co-occur with the conjunction in the same way that the infinitive does.

(18) Re - tla - [reka] le [ho - bala] dibuka
1PL - FUT - buy CONJ INF - read books
'We will buy and read books'

(19) Re - a - reka (*le) re - bal-e dibuka
1PL - FOC - buy (CONJ) 1PL - read-SUBJ 10. books
'We buy books and (then) read them'

Ho may also be used as a preposition. In the example in (20) *ho* is used as a preposition equivalent to English 'to'. This same use of *ho* is also used to express direction such as 'towards' or 'in the direction of' as in sentence (21). In sentence (22) *ho* is used with *fihla* (arrive) to express 'until'. This use is clearly associated with the locative nouns in view of the fact that they have a tendency to express location, time or manner.

(20) O - re ho nna o - ya masimo-ng
2SG - say to 1SG 2SG. SM - go fields-LOC
'You say to me you are going to the fields'

(21) Leba ho yena
go to 3SG
'Go to him/her'

(22) O - hanella ka dikobon-ng ho - fihla nako ee?
2SG - stay in blanket-LOC to - arrive 9.time 9.DEM
'lit: You stay in the blankets until this time arrives'
'You stay in bed until this time?'

There is yet another very common use of *ho* in Sesotho associated with impersonal subject or copulative. Sentence (23) expresses an instance of the use of *ho* as an impersonal copulative,

'it.' Sentence (24), on the other hand shows the use of *ho* as an unspecified subject of a passive sentence or an expletive also expressed as 'it' in English.

The examples in (23)& (24) show the various uses of *ho* in Sesotho which have not received attention in the literature. A lot of issues remain unsolved regarding the question of whether these are historically related or not. Synchronically, there seems to be some relation between the morpheme used as a preposition and the locative nouns as discussed earlier in this chapter. If we consider the use of *ho* to indicate a movement towards or away from some location, it can be linked directly to the locative classes in Sesotho. Although the locative classes have very few nouns left in Sesotho, their agreement marker is also *ho* and they are formed (prefix +stem) in the same way as other nouns. The nominal infinitive may be a remnant of this process in Sesotho.

(23) Ho lok-ile morena
COP fine-PERF 1.chief
'It is fine chief'

(24) Ho robets-w-e mme yena o a sebets-a
Ho sleep-PASS-FV CONJ 3SG 1.SM FOC works-FV
Lit: ' The is some sleeping while he works'
'People are sleeping and he is working'

Taking into consideration the other instances of *ho,* although they may look remotely related to the infinitive as we know it, we can begin to accept that the two uses of the infinitive under discussion are also related. There is strong evidence to suggest that there is a relation between the infinitival form and the nominal form of the infinitive. Mc Laughlin (personal communication) points out that there is possible evidence for the relationship between noun class markers and infinitival markers found in Pulaar (Fula), a northern Atlantic (Niger-Congo) languages. In Pulaar, a language with more than twenty noun classes (although these are not paired as in the Bantuist tradition), the noun class suffix, -de, also shows up as an infinitival

marker suffixed to a verb stem, as in *arde* 'to come', *waalde* 'to spend the night', etc. Conversely, in Wolof, there is no class morphology on the noun, only on determiners agreeing with the noun, and there is also no infinitival marker. This ties the presence of the infinitive to the presence of noun class morphology. The next step is how to distinguish between the two.

In the discussion earlier in this chapter, we noted that the infinitive tends to be restricted when used in object position. This is to be expected since this position is regulated by the properties of the selecting verb. Since the concern of this study is with control verbs, the next step is to look at the internal syntactic property of the infinitive as a complement of control verbs.

2.5 PRO as the Subject of the Infinitive in Sesotho

Sesotho control verbs usually select a noun, the infinitive or subjunctive as a complement. A typical embedded subjunctive clause contains a subject which may have the same referent as the subject of the main clause but does not have to. This subject may be a lexical one or just a subject agreement morpheme also known as *pro*. The subjunctive as a complement fulfills all the required principles as outlined in Chapter 1. To illustrate let us look at this example:

(25) Subcategorization
   a. *Hopotsa*: V[_____NP (CP)/(IP)]
   b. *Sebetsa*: V [_____(NP/PP)]

(26) Ke - hopotsa mme [$_{CP}$hore a sebets-e lapeng]
1SG- remind 1.mother that 1.SM work –SUBJ at home
'I remind mother to work' / 'I remind mother that she must work at home'

The subcategorization tells us that the verb *hopotsa* 'remind,' in addition to the external argument requires an object NP and an optional CP or IP. In the main clause, the two theta roles are assigned one to the subject *Ke* 'I' and one to the object of the matrix clause *mme* 'mother'. In the embedded clause, the other theta role is assigned the subject *a* which is *pro.* As a pronominal, *pro* must be free in its minimal clause. This condition is met because the possible

binding antecedent for *pro* is *mme*. The CP is a maximal projections which marks the minimal clause therefore *mme* can bind it.

When it comes to the infinitive as a complement of control verbs, there are major differences between the subjunctive and the infinitive. First, the subject of the embedded clause is understood as the same as the subject or object of the main clause. In addition, no overt lexical DP is allowed in the subject position of the embedded infinitival clause. Let us look at these examples.

(27) Ke$_i$ - hopotsa - mme $_j$ [$_{IP}$ PRO$_{*i/j}$ ho - sebetsa lape-ng]
1SG - remind 1.mother INF - work home-LOC
'I remind mother to work at home'

(28) *Ke$_i$ - hopotsa mme $_j$ [$_{IP}$ o$_{*i/*j}$ ho - sebetsa lape-ng]
1SG - remind 1.mother 1.SM INF - work home-LOC
'I remind mother for her to work at home'

Sentence (27) indicates that the subject of the embedded clause can only be co-indexed with the object of the main clause. One would wonder why we need to posit a null NP and then co-reference it with a nearby NP. This is where we go back to the Extended Projection Principle (EPP), the Theta-criterion, Case theory and the PRO theorem. Let us see how these would work. EPP requires all clauses to have subjects. We have already established that the infinitive because of its verbal qualities may also function as a clause. As a clause it requires a subject. The first option is to suggest that *mme* may perform this function in which case we would bracket the sentence as follows:

(29) Ke$_i$ - hopotsa [$_{IP}$ mme $_j$ ho - sebetsa lapeng]
1SG - remind 1.mother INF - work home-LOC
'I remind mother to work at home'

The first problem with sentence (29) is that we have already established that the infinitive in Sesotho does not show subject agreement, suggesting the absence of an overt lexical subject in that position. Secondly, we saw in sentence (28) that a lexical NP is not allowed in this position.

Thirdly, according to the Theta-criterion, *mme* is already receiving a theta-role from the main verb it cannot receive two as this would be a violation of the Theta-criterion. The next problem for this kind of bracketing has to do with Case. The object of the matrix clause *mme* receives accusative Case as indicated by these examples.

(30) Mme o - sebets-a lape-ng.
1.mother 1.SM - work-FV home-LOC
'Mother works at home'

(31) K e - a - mo - hopotsa (mme)
1SG - FOC - 1.OM - remind (mother)
'I remind her (mother)'

Example (30) shows the subject agreement for *mme* as *o*. However, in object position the agreement associated with *mme* is *mo* (31). This suggests that *mme in* object position receives accusative Case. An accusative case in a subject position would be a problem for the Case filter. We noted earlier in the chapter that the clausal infinitive has some form of irrealis future tense. This tense associated with the infinitive is 'defective' in that only some form of future tense is supported. Examples (30) and (31) also indicate that the presence of subject agreement is an indication of a Case assigner. Since the infinitive does not support subject agreement the lack of Case in this position is supported. This would then force the object/subject to move into a Case assigned position. This would leave us with an empty subject position of the embedded clause violating both the EPP and the Theta-criterion.

However, if we go back to the initial proposal, where we posit PRO as the subject of the infinitival clause we then satisfy the EPP, the Theta-criterion and the Case filter. The next step is to see if the subject position of the infinitive satisfies the PRO theorem. According to the PRO theorem, the subject of the infinitive must be a Caseless and an ungoverned position. We have already established that the subject of the infinitive is a Caseless position due to the lack of SM. This subject position of the infinitive also fails to be assigned Case by an external head such as

the verb in the main clause because there is a maximal project IP which becomes a barrier to government, a required condition for Case assignment. PRO becomes the only possible NP for this position.

There are other tests that are used to compare the subject position of finite and non-finite clauses. The common tests include Weak Cross Over (WCO) effect, interpretation under VP ellipsis as well as the presence of an overt NP in the subject position. Sesotho has morphological processes that compensate for moved elements. Using tests that involve movement such as WCO become a challenge. Another challenge has to do with the fact that Wh-movement, which is used in WCO test, is optional in Sesotho. Let us look at some examples to illustrate the point.

(32) Sello o - rek-ile koloi.
1.Sello 1.SM - buy-PERF 9.car
'Sello bought a car'

(33) Sello o - rekile eng?
1.Sello 1.SM - buy-PERF what
'What did Sello buy?'

(34) Ke - eng eo Sello a - e - rek-ile-ng _____?
COP - what 9.REL 1.Sello 1.RM - 9.OM - boughtPERF-REL
'What is it that Sello bought?'

Sentence (32) is a perfective sentence. Example (33) shows that the object is questioned in-situ whereas (34) shows an optional movement of the wh-phrase. Note however that the movement of the wh-phrase across the verb and the subject leaves an OM and requires the relative clause morphology on the verb and SM. The WCO effect obtains when a bound variable is moved across another one (Terzi 1997). However, if one of the variables is PRO this effect is escaped. Examples (35-38) demonstrate.

(35) Mme wa - hae_{var1} o - a - mo_{var2} - rata.
1.mother 1.POSS - his 1.SM - FOC - 1.OM - love
'His mother loves him'

(36) #Ke - mang $_{var2}$ eo - mme wa - hae $_{var1}$ a - mo $_{var2}$ - rata-ng?
COP - who 1.REL - 1.mother 1.POSS - his 1.SM - 1.OM - like-REL
'Who does his mother like?'

(37) PRO $_{var1}$ ho - bina ha - hae $_{var2}$ ho - a - mo$_{var3}$ - kgathatsa.
PRO INF - sing 1.POSS - his 15.SM - FOC - 1.OM - bother
'His singing bothers him?'

(38) Ke - mang $_{var3}$ eo PRO $_{var1}$ ho - bina ha - hae $_{var2}$ ho - mo $_{-var3}$ kgathats-ang?
COP who 1.REL PRO INF - sing 1.POSS -his 15.SM - 1.OM - bother.REL
'Who does his singing bother?'

Example (35) shows two bound variables represented as $_{var1}$ and $_{var2.}$ If we move $_{var2}$ over $_{var1}$ in question formation as in (36) the result should be dubious. However due to the OM that stays put the sentence is strange but acceptable. In (37) one of the variables is PRO. If we move the questioned variable over PRO we do not get the WCO effect observed in (36). The test suggests that the PRO NP is different from other NPs such as *mme wa hae*.

The VP ellipsis test gives us a better picture. Under VP ellipsis we get a *sloppy* interpretation when using the infinitive. In VP ellipsis the verb phrase is omitted, the omitted phrase is usually replaced by word such as *too, as well* in English. The two examples (39&40) show that we obtain a *sloppy* reading when the subject of the embedded clause is PRO and a *strict* reading when it is a lexical NP (40).

(39) Sello o - kopa ho - sebetsa, le bana ba - a - kopa…(ho sebetsa)
1.Sello 1.SM - ask INF - work, and 2.children 2.SM - FOC- ask… (to work)
'Sello asks to work and the children do too… (ask to work)'

(40) Sello o - kopa hore a - sebetse, le bana ba - a - kopa… (a sebetse)
1.Sello 1.SM- ask that 1.SUBJ - work, and 2.children 2.SM - FOC - ask … (1.SM work)
'Sello asks that he works and the children ask too (he works)'

In (39) the omitted part is *ho sebetsa* of the coordinated sentence. The preceding sentence creates an environment that can help retrieve the omitted information. Note that *ho sebetsa* if added to the second sentence takes the subject as *bana* as opposed to *Sello* the original subject.

This is called the *sloppy* reading. Sentence (40) on the other hand shows a different pattern. The omitted part in this case is *a sebetse*. Note however that the SM of the omitted verb still refers to the original subject. This is called *strict* reading. What this tells us is that the subject of the infinitive takes its interpretation from the nearest possible NP, in which case *bana* becomes the closest. This is due to the fact that there isn't an SM occupying this position in the sense that (40) does. This is another indication that the subject NP of the infinitive is indeed different from other noun phrases.

2.6 Nominal and Clausal Infinitive

One of the questions that continue to be debated in Bantu literature concerns whether the distinction between clausal infinitive and nominal infinitive is valid.[2] In the preceding sections I indicated that the nominal infinitive shows both nominal and verbal properties. I have also demonstrated that the nominal infinitive occupies the positions that other NPs occupy. The challenge lies in the instances where there seems to be syntactic ambiguity as presented in (41).

(41) Mme o- rata ho- ja.
1.mother -1.SM –like INF- eat
'mother likes to eat/eating'

Sentence (41) as it stands cannot give us much to say about whether *ho- ja* is a nominal or clausal infinitive. Since the nominal infinitive seems to occur in all positions that other nouns occupy in Sesotho one way would be to treat nominal infinitives like other nouns in terms of syntactic structure. The ambiguity in (41) would be represented as in 2-1(b), a structure similar to other nouns (2-1(a)).

The immediate problem with assuming the structure in 2-1(b) for the nominal infinitive is that it does not capture the observed differences between the nominal infinitive and other nouns

[2] Doke & Mofokeng 1957, Rugege 1971, Du Plessis 1982b, Visser 1989, Mugane 2003, Creissels & Godard 2005

in Sesotho. Nominal infinitives show verbal properties such as negation and object agreement which are not possible with other nouns. The structure in 2-1 is not able to accommodate the required nodes associated with negation and agreement. If we take the nominal infinitive as some form of a 'clause' then we need to distinguish between the nominal and clausal infinitive.

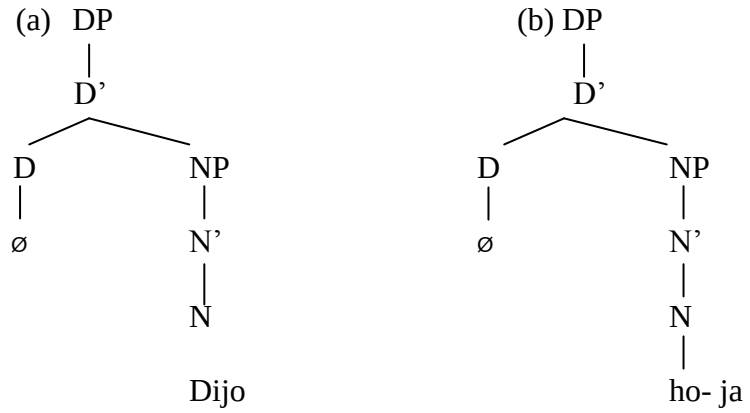

Figure 2-1. The noun in Sesotho

Visser 1989, proposes a three-way distinction in accounting for the infinitive in isiXhosa. According to Visser, there are 'proper' class 15 nouns which would be represented by 2-1(a), the nominal infinitive and the clausal infinitive. In Sesotho however, there are no observed 'proper' class 15 nouns, instead we get the nominal infinitive and the clausal infinitive. These two are represented in 2-2 (a&b).

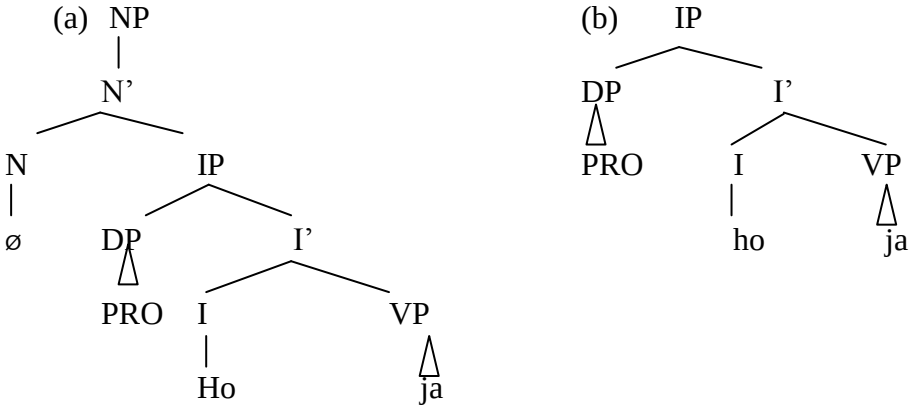

Figure 2-2. The Nominal and clausal infinitive

There are various advantages associated with the adoption of the structures in 2-2. First, 2-2(a) clearly suggest that *ho- ja* is a noun as indicated by NP. The second advantage is that whereas the NP may take modifiers such as demonstratives and possessives, the structure also allows the expansion to include the verbal properties associated with the infinitive. The next question then is why we need two structures when one can do. A closer look at the distribution of the nominal infinitive suggests that not all instances of the nominal infinitive are NP. Let us look at some examples.

(42) Sekolo se –rek-is-a bana dibuka
7.school 7.SM -buy-CAUS-FV 2. Children 10.books
'The schools makes the children buy books'

(43) Sekolo se- rek-is-a bona tsona
7.school 7.SM - buy-CAUS- FV 2.PRON 10.PRON
'The school makes them buy them'

(44) Mmuso o- kgothaletsa ho- bua
3.government 3.SM-encourages INF- speak
'The government encourages speaking'

(45) Mmuso o -kgothaletsa hona
3.government 3.SM-encourages 2.PRON
'The government encourages it'

(46) *Mmuso o -kgothaletsa bana
3.government 3.SM-encourages 2.children
'The government encourages the children'

(47) Mmuso o -kgothaletsa bana ho- bua
3.government 3.SM-encourages 2.children INF -speak
'The government encourages the children to speak'

(48) *Mmuso o- kgothaletsa bona hona
3.government 3.SM-encourages 2.PRON 15.PRON
'*The government encourages the them it'

The data in (42-48) show that although the nominal and clausal infinitive overlap in their distribution there are some instances where one form is excluded. Example (42) shows a non-control verb used with two nouns *bana* and *dibuka.* Example (43) illustrates that nouns may be

represented by pronouns provided the necessary agreement requirements (noun class) are met. The pronoun can therefore be used to test whether a constituent is a NP or not. Sentences (44&45) show that this is indeed possible with the nominal infinitive. Example (46) however, illustrates that although (45) passed the pronoun test, the noun in (44) is not the same kind of NP as the ones in (42). We then conclude that there is a difference between NP (noun classes 1-14) and nominal infinitive. The next step involves the differences between the nominal infinitive and the clausal infinitive. In (47) the same verb, *kgothaletsa* is used with two arguments, an NP and NP/IP. Sentence (48) becomes ungrammatical when we replace the same construction *ho bua.* Note however in this instance that when the pronoun nominal infinitive is used the sentence becomes ungrammatical. This is a clear indication that *ho bua* in (44) and (47) cannot be the same constituent.

The differences between *ho bua* in (44&47) depends on the verb that selects them and other arguments of the verb. In (44), *ho bua* is an NP hence it can be replaced by a pronoun. In (47) however *ho bua* is an IP. These different interpretations are directly linked to the semantic classes to which the selecting verbs belong. I deal with these semantic classes in Chapter 4.

2.7 Summary

In this chapter I have developed the proposal that the infinitive in Sesotho behaves like nouns and verbs at the same time. I have indicated that while the infinitive shows most of the nominal properties it falls short as far as nominalization and plural formation are concerned. A close examination of noun classes and noun formation indicates that the infinitive may function as a noun, however like other noun classes that share the same SM, it does not follow the same pattern as other nouns in noun formation. The infinitive retains the verbal suffix in noun derivation, a property which I directly link to verbal characteristics.

I have also looked briefly at the behavior of the infinitive in relation to other verbs in Sesotho. This examination reveals that while the infinitive shows some form of inflection this is not the same type of inflection as fully fledged finite clauses. I have associated the lack of SM in the infinitive to the lack of necessary morphology such as Case assigner due to some form of defective Tense morphology. Finally I have used tests to show that the subject of the infinitive as complements of control verbs is different from the subject of other complements such as the subjunctive. In Chapter 3 I discuss the structure of verbs in Sesotho with special focus on the role of verbal extensions in determining the controller and control relations.

CHAPTER 3
ASPECTS OF SESOTHO MORPHO-SYNTAX RELEVANT TO CONTROL

3.1 Introduction

The goal of this chapter is to provide a description of some pertinent aspects of Sesotho morpho-syntax operational in control structures. The main focus is on the general structure of the verb with special attention paid to verbal extensions. In order to understand the differences between the infinitive and subjunctive as complements of control verbs it becomes necessary to look at the basic sentence structure in Sesotho, in particular the role of subject agreement and object agreement. I start the chapter by providing an outline of basic Sesotho clause structure indicating the slots associated with inflectional and derivational morphemes. The remainder of the chapter is dedicated to the description of Sesotho derivational morphemes (verbal extensions) paying particular attention to the ones that interact with control.

3.2 The Verb in Sesotho

Sesotho verbs take various syllabic forms. There are monosyllabic, di-syllabic, vowel commencing and derived verb forms. Most verbs in Sesotho end with a vowel *a* which is normally referred to as a final vowel (FV) (see Mchombo 2004 amongst others). Verbal conjugation in Sesotho involves the use of prefixes, and suffixes. Prefixes are usually associated with the subject and object agreement, tense, aspect and mood. Suffixes usually represent derivational affixes such as verbal extensions. Some forms of tense and aspect are also represented as suffixes. While there are numerous morphological processes related to the verb, such as reduplication, I only show the position of inflectional and derivational affixes. Diagram (3-1) represents the morphological structure of the verb in Sesotho based on sentences (1-3).

(1) Mosadi o - tla - mo - bul- el- a kajeno
1.Woman 1.SM - FUT - 1.OM - open- APPL-FV today
'The woman will open for him today'

(2) Mosadi ha - a - sa - tla - mo - bul- el- a kajeno
1.woman NEG - 1.SM - PROG - FUT - 1.OM - open- APPL- FV today
'The woman will no longer open for him today'

(3) Mosadi ha - a - sa - mo - bul- etse
1.woman NEG - 1.SM - PROG - 1.OM - open –APPL.PERF
'The woman is no longer opening for him'

Sentence (1) shows a future tense sentence with SM positioned between the subject and the future tense morpheme. The OM is closest to the verb root. Sentence (2) on the other hand shows that the SM for noun class 1 changes changes from *o* to *a* when the sentence is in the negative form. We also note here that the progressive morpheme comes before the tense morpheme. Sentence (3) shows that the perfective is marked post-verbally as opposed to the progressive aspect.

NEG - SM - T/A - OM - Verb root- Verbal Extension(s)-T/A/FV

Figure 3-1. Verb structure in Sesotho

Putting these various positions together we come up with a template exemplified in Figure 3-1 which is a slight adjustment of Creissels 2005 representation.

3.3 Verbal Extensions

Verbal extensions play a central role in Bantu verbal morphology. This role extends to syntax due to the interaction between these extensions and the arguments of the verb. Verbal extensions occupy the position between the verb root and the final vowel (FV) in Sesotho. Sesotho uses verbal extensions to derive new words and extend or alter the meaning and argument structure of verbs. The verbal extensions in Sesotho are the causative /-is-/, the applicative /-el-/, the reciprocal /-an-/ the passive /-w-/ and the neuter /-eh-/. These extensions may be duplicated to express an intensified action. They may also combine to express different actions. Two of these verbal extensions reduce valency (reciprocal and neuter) and two increase

the number of arguments (the causative and applicative). When used together in one verb the order in which these suffixes occur, follow the order observed in other Bantu languages: Neutar-Causative-Applicative-Reciprocal- Passive (NCARP). Although the order is fixed, it is sometimes altered to attain idiomatic expressions. Let us now look at the causative, applicative and reciprocal individually as these are central to this study.

3.3.1 The Causative

The causative in Sesotho is realized as a suffix morpheme /-is/. The allomorphs are /-is/, /-its-/ and /-ets-/. The causative in Sesotho translates to cause *x* to do *y.* It behaves slightly different from other Bantu languages (especially Xhosa) in that the order of the internal arguments is fixed. In other languages such as Xhosa and Zulu, inserting object agreement makes it possible to switch the order of these arguments. This does not happen in Sesotho. When the causative suffix is added, the argument selected by the causee becomes the closest to the verb. The examples in (4-8) indicate these facts.

(4) Ntate o - pheha dijo
1. father 1.SM - cook 10.food
'Father cooks food'

(5) Ntate o - pheh- is- a bana dijo
1.father 1.SM - cook- CAUS- FV 2. children 10. food
'Father makes the children cook food'

(6) #Ntate o - pheh- is- a dijo bana
1.father 1.SM - cook- CAUS- FV 10.food 2.children
'Father makes the food to cook children'

(7) Ntate o - ba - pheh- is- a dijo
1.father 1.SM - 2.OM - cook- CAUS-FV 10.food
'Father makes them cook food'

(8) Bana ba - pheh-is- w- a dijo ke ntate
2.children 2.SM - cook- CAUS -PASS -FV 10.food COP 1.father
'The children are made to cook food by father'

Sentence (4) is an example of a basic transitive verb with two arguments. In sentence (5) the addition of the causative extension introduces an additional argument. Example (6) indicates that the order of the post-verbal arguments is fixed. The order of the agreement markers is also fixed. The OM, when present is always closest to the verb. Example (7) demonstrates that only the argument selected by the causative triggers object agreement. It is also this argument that is fronted in passive formation as indicated in (8).

In control structures when the causative is used with the matrix verb, it changes the syntactic and semantic properties of the verb thereby allowing a subject control verb to function as an object control verb. As can be observed from the examples, in English the causative is represented by a verb, 'make' which selects for an infinitival complement. In Sesotho, the causative makes changes to the form of the verb. In so doing, a verb which is normally a subject control verb may optionally function as an object control verb although this changes the meaning of the verb. When used with the verb in the embedded clause, the causative has no direct effect on control relations.

3.3.2 The Applicative

The applicative, also called applied extension, is represented by a suffix morpheme /-el/ with allomorphs [-el], [-il] and [-l]. The distribution of these allomorphs is phonologically conditioned. The applicative suffix in Sesotho is associated with the introduction of benefactive and locative roles. The benefactive role is more productive since Sesotho marks locative with other morphemes. Another semantic role associated with the applicative in Bantu is the instrumental role. The instrumental role in Sesotho is assigned by the instrumental morpheme *ka*. Sentences (9-15) are some examples of the applicative in Sesotho.

(9) Banana ba - pheha bohobe
2.girls 2.SM - cook 14.bread
'Girls cook bread'

(10) Banana ba - pheh- el- a mme bohobe ifo
2.girls 2.SM - cook-APPL-FV 1.mother 14.bread 5.fireplace
'Girls cook bread for mother at the fireplace'

(11) #Banana ba - pheh- el- a bohobe mme
2.girls 2.SM - cook- APPL-FV 14.bread 1.mother
'Girls cook bread mother'

(12) Banana ba - bo - pheh- el- a mme (bohobe)
2.girls 2.SM - 14.OM - cook- APPL-FV 1. mother 14.bread
'Girls cook it (bread) for mother'

(13) Banana ba - mo - pheh- el- a bohobe (mme)
2.girls 2.SM - 1.OM - cook- APPL-FV 14.bread 1.mother
'Girls cook bread for her (mother)'

(14) Mme o - pheh- el- w- a bohobe ke banana
1.mother 1.SM - cook- APPL-PASS-FV 14.bread COP 2.girls
'The bread is cooked by the girls for mother'

(15) # Bohobe bo - pheh- el- w- a mme ke banana
14.bread 14.SM - cook- APPL-PASS-FV 1.mother COP 2.girls
'Bread is cooked for mother by the girls'

The order of the internal arguments is generally fixed as indicated by (10&11). However, an introduction of the OM as in (12&13) may change the order depending on the emphasis. If the emphasis is on the benefactive/recipient then the direct object triggers an OM and becomes optional (12). When the emphasis is on the direct object, then the benefactive triggers OM and becomes optional (13). Note that the optional object is the one represented with an OM and becomes peripheral. Again like the causative, only the object selected by the applicative undergoes movement in passive formation (14) but not the object selected by the verb in its bare form (15).

The applicative extension, unlike the causative, plays a less prominent role in control structures. The applicative extension is associated with object control since most object control

verbs are inherently applicative. Manipulative[3] predicates that are inherently object control in Sesotho, are semantically applicative. For most of these verbs, we cannot break the verb into a verb root and an applicative suffix.

3.3.3 The Reciprocal

The reciprocal morpheme in Sesotho is /-an/. This affix adds a mutual relationship to the arguments of the verb (do x to each other). The reciprocal affix requires two conjoined subject noun phrases or a semantically plural subject. Unlike the causative and applicative, the reciprocal reduces the number of arguments that a verb takes. The reciprocal deletes or eliminates the internal argument. This affix is also sensitive to the semantics of the verb. It requires a verb that is capable of expressing mutual relationship. Below are some examples of the reciprocal in Sesotho.

(16) Mme o - bon-a ngwana
1.mother 1.SM - see-FV 1.child
'Mother sees a child'

(17) Mme le ngwana ba - a - bon- an- a
1.mother CONJ 1.child 2.SM - FOC - see- REC- FV
'Mother and child see each other'

(18) Ngwana o - bon- an- a le mme
1.child 1.SM - see- REC- FV CONJ 1. mother
'The child arranges to see mother'

(19) *Ngwana o - bon- an- a mme
1.child 1.SM -
see- REC- FV 1. mother
'*Child see each other mother'

Sentence (16) is an example of an ordinary bare verb with two arguments. Example (17) shows that the reciprocal requires singular conjoined subjects with a plural SM. If the subject is

[3] See Chapter 4 for verb classes.

singular then there must be a post-verbal subject conjoined with the other subject (18) otherwise the sentence becomes ungrammatical (19).

These properties of the reciprocal are crucial for an analysis of control verbs. In Sesotho, the reciprocal plays a role in determining referential dependencies. When a verb represents a collective action, this is expressed with a verb that is inherently reciprocal in Sesotho. Collective verbs are usually used in expressions that show partial control. As we have noted a reciprocal verb requires a plural or collective argument in Sesotho. Because of this thematic requirement, it becomes impossible to obtain partial control with collective verbs in Sesotho. This is a critical role since it determines the differences between Sesotho and other languages that show partial control.

3.4 Summary

In this chapter I described the internal structure of verbs in Sesotho in relation to inflectional and derivational affixes. Inflectional affixes such as tense, aspect and agreement are prefixed to the verb although some aspectual and tense morphemes occupy the position before and after the verb. Derivational affixes such as verbal extensions occur as suffixes and are positioned between the verb root and the final vowel. I then represented this information about the verb in a linear format indicating the various positions associated with SM and OM. Finally I took a general look at verbal extensions and how their argument selection impacts on the overall sentence structure. In Chapter 4 I explore Sesotho control verb classes and their interaction with verbal extensions.

CHAPTER 4
SESOTHO CONTROL VERB CLASSES

4.1 Introduction

One of the questions raised in Chapter 1 seeks to answer the observed differences in argument selection by verbs which share the same semantic class. I noted that verbs such as *hopotsa* 'remind' and *qophella* 'insist' share some semantic similarities. The expectation in this regard is that these verbs share the same syntactic behavior. I pointed out that this expectation is not met as exemplified by these sentences.

(1) [$_{matrix}$ Mme$_i$ o - hopotsa bana [$_{subordinate}$ PRO$_i$ ho - sebetsa]]
1.mother 1.SM - remind 2.children to - work
'Mother reminds children to work'

(2) [$_{matrix}$ *Mme$_i$ o - hopotsa [$_{subordinate}$ PRO$_i$ ho - sebetsa]]
1.mother 1.SM - remind to - work
'Mother reminds (someone) to work'

(3) [$_{matrix}$ Ntate$_i$ o - qophella [$_{subordinate}$ PRO$_i$ ho - sebetsa]]
1.father 1.SM - insist to - work
'Father insists on working'

(4) [$_{matrix}$ Ntate$_i$ o - qophella bana$_j$ [$_{subordinate}$ PRO$_{*i/j}$ ho -sebetsa]]
1.father 1.SM - insist 2.children to- work
'Father insists that children work' Lit: 'Father forces children to work'

Sentences (1) and (4) show the expected similarities in syntactic behavior between the two verbs. Sentences (2) and (3) show some differences in syntactic behavior. In what way do we capture the similarities and differences? If argument structure can be derivable from the meaning of verbs, what aspects of the verb's 'meaning' need to be captured in order to determine the syntactic properties? This question is central to the ongoing debates on lexical entries and to what extent they determine syntactic properties, an area which affects various areas of linguistic research. In this chapter I deal with the interaction between semantics, morphology in the

derivation of control verbs, and argument structure and the role each plays in the classification of control verbs in Sesotho.

4.2 Verb Classification Methodology

The question of the extent meaning plays in determining syntactic structure is debated in many areas of linguistic theory. Within the area of Lexical Functional Grammar there is a move towards the argument that the syntactic behavior of a word may be "fully" semantically determined (See Levin and Rappaport Hovav 1991). Levin 1993 proposes that verb meaning is key to its syntactic behavior in the same way that verbs that fall into the same classe according to their shared behavior also show shared meaning components. In this framework, argument structure may be derivable from the meaning of verbs.

Within the Minimalist framework there are also various approaches to the relation between meaning and argument structure. One such approach claims that properties of control verbs similar to the ones in (1-4) can be obtained through syntactic means (Hornstein 1999, 2003, Boeckx & Hornstein 2006, amongst others). These are the scholars who treat control as an instance of movement thereby doing away with PRO in obligatory control. Others claim that there needs to be some reference to the semantic properties of the verb in question and that semantic classes help to account for the different syntactic behaviors associated with control (Cullicover & Jackendoff 2001, 2003, 2005, 2006). There are yet other scholars, while supporting a different syntactic approach, who claim that purely semantic or purely syntactic approaches to obligatory control are inadequate (Landau 2003, 2006). In this approach morphological agreement and semantic tense is claimed to account for a cross-linguistic typology of control. While my classification borders on a combination of a syntactic (control class) and a semantic (semantic verb classes) approach, I also use verbal extensions (morphology) as an extended means of classification.

In order to explore the phenomena of control in Sesotho, an understanding of the semantic and syntactic properties associated with verbs is necessary before drawing any conclusions. If verb classes are viewed as a means of organizing the lexicon, capturing shared verb behavior as well as a way of identifying grammatically relevant elements of meaning (Fillmore 1970) then using a combination of approaches becomes necessary.

As a starting point, I assume that verbs that share some syntactic behavior such as subject control, share some elements of meaning. I have also used the already established semantic verb classes (Stiebels 2006) in grouping verbs in Sesotho. Secondly, I assume that a further look at the meaning of the verbs within broader syntactic classes and their interaction with verbal morphology results in further sub-classifications. I did this by extracting verbs and other predicates whose selectional properties included the infinitival morpheme *ho.* The various verbs associated with *ho* as a complement were tested to establish their ability to induce control and referential dependencies. Having realized that some of the verb classes are either morphologically causative or applicative, I used these morphemes as a further classifying factor. The syntactic properties (subject /object control, control shift) were then mapped onto the semantic verb classes resulting in a typology of referential relations associated with each control verb class complement in Sesotho. I end the chapter with a section that discusses verbs that have been identified as potential control verbs in other languages but are not control verbs in Sesotho. For the purpose of exemplification in this chapter, I take the traditional view of PRO as the subject of the infinitival clause. I discuss the theoretical significance of the control verbs classes in Chapter 6.

4.2.1 Desiderative Verbs

Desiderative verbs are verbs that express desire, aspiration or what is needed or wanted. In Sesotho, desiderative verbs are subject control verbs. Table 4-1 represents a semantic class of

verbs that also happen to share semantic and syntactic properties as well as a small overlap of morphological properties. The common syntactic property shared by these verbs is that they are all subject control verbs. The morphological property, the ability for verbs to interact with derivational suffixes (in this case the causative and applicative), depends on the meaning of each verb.[4] The examples in (5&6) indicate the use of these verbs.

(5) Bana $_j$ ba - ikem-is- ets- a PRO_j ho - tsamaya
2.children 2.SM - intend-CAUS-APP-FV INF - go
'The children intend to go'

(6) *Bana$_i$ ba - ikem-is- ets- a mme$_j$ PRO_j ho- tsamaya
2.children 2.SM - intend-CAUS-APPL-FV 1.mother INF - go
'The children intend for mother to go'

In sentence (5) the subject *bana* 'children' is co-indexed with the null subject of the embedded infinitival clause PRO. In sentence (6) however, since verbs from this class only allow subject control, the object of the matrix clause *mme* 'mother' is ruled out as the controller of the embedded clause, in fact these verbs do not even allow an object in the main clause in control relations.

Table 4-1 also shows that desiderative verbs can interact with the causative and applicative extensions. The applicative extension introduces a benefactive role (an object) whereas the causative extension introduces a patient role (object). The applicative form of the desiderative verbs is realized as manipulative verbs in Sesotho. Sesotho control verbs select different kinds of complements. The choice is between a noun phrase (including a nominal infinitive), a subjunctive clause (introduced by *hore*) and a clausal infinitive. In Chapter 2 we established that the nominal infinitive shares syntactic positions with ordinary nouns in Sesotho. However, there are some restrictions when it comes to the clausal infinitives. One of the reasons for this

[4] As I indicated in Chapter 3 this morphological process has to be treated with caution because there have been instances in the literature (Machobane 1997) where the derived form of the verb has been mistakenly analyzed as allowing control shift

restriction is that control verbs select the infinitive as a complement and each class of control verbs has its own restrictions with regards to complements. This is only evident when we take each class of verbs and compare its argument selection preferences between nouns, subjunctive clauses and the clausal infinitive.

Table 4-1. Desiderative verbs

Verb	Gloss	Subject Control	Object Control	Control Shift	Causative	Applicative
qeta	decide	Y	N	N	Y	Y
ikemisetsa	intend	Y	N	N	Y	Y
hlorela	long	Y	N	N	Y	Y
kgetha	choose/prefer	Y	N	N	Y	Y
batla	want	Y	N	N	Y	Y
rata	like	Y	N	N	Y	Y
rera	plan	Y	N	N	Y	Y
lebella	expect	Y	N	N	Y	Y
hana	refuse	Y	N	N	Y	Y
dumela	agree	Y	N	N	Y	Y
hloka	need	Y	N	N	Y	Y
tshaba	afraid	Y	N	N	Y	Y
hlophisetsa	Plan/prepare	Y	N	N	Y	Y
lalalabela	aspire/yearn	Y	N	N	Y	Y

Desiderative verbs when used in other contexts where there is no control relation select an ordinary nominal noun phrase (NP) as a complement in Sesotho. This selectional property is shared by the majority of subject control verbs although there are some differences. Let us look at some examples to illustrate this behavior.

The examples in (7) show that the control verbs *rata* 'like' in (7a&b) and *hana* 'refuse' in (7c&d) select ordinary NPs as well as clausal infinitival (IP) complements. However, verbs such as *ikemisetsa* 'intend' only allow clausal infinitival complements (7e-g). Sentence (7e) shows that *ikemisetsa* 'intend' works well with the clausal infinitive but this is not the case with a noun (7f). Example (7g) on the other hand shows that the noun is only allowed as the object of the infinitival clause.

The first thing is to assume that *ikemisetsa* must belong to a different class of verbs. However, the verbs *rata* 'like' and *ikemisetsa* 'intend' belong to the same semantic class so the complement selection preferences cannot be attributed to class membership only. It turns out that *ikemisetsa* 'intend' and *hlophisetsa* 'plan/prepare' are derived using the causative and applicative extensions *–is* and *-el* simultaneously. These two extensions when used together require only one internal argument; either NP or IP but never together. If only one of the two arguments is used, it has to be the infinitival argument (7f&g). All the other desiderative verbs select both the infinitive and a proper noun as a complement.

(7) Noun phrases as complements[5]

(a) Bana ba rata [dijo] NP
2.children 2.SM like food
'The children like food'

(b) Bana ba rata [ho ja] IP
2.children 2.SM like to eat
'The children like to eat'

(c) Bana ba hana [dijo tsa kgale] NP
2.children 2.SM refuse 10.food 10.POSS old
'The children refuse old food'

(d) Bana ba hana [ho ja dijo tsa kgale] IP
2.children 2.SM refuse to eat 10.food 10.POSS old
'The children refuse to eat old food'

(e) Bana ba ikemisetsa [ho bina] IP
2.children 2.SM intend to sing
'The children intend to sing'

(f) *Bana ba ikemisetsa [pina] NP
2.children 2.SM intend song
'* The children intend song'

(g) Bana ba ikemisetsa [ho bina pina] IP
2.children 2.SM intend to sing song
'The children intend to sing a song'

[5] I have decided to use the infinitival clause without PRO in this section of the chapter in order to highlight the role played by other complements of control verbs.

(h) Bana ba hlophisetsa [ho bina pina] IP
2.children 2.SM plan to sing song
'The children plan to sing a song'

(i) *Bana ba hlophisetsa [pina] NP
2.children 2.SM plan song
'The children plan a song'

Sentences (7h&i) show that *hlophisetsa* 'plan/intend' also selects a clausal infinitive as a complement and not an NP. It appears then that desiderative verbs in Sesotho fall into two categories based on their argument structure. Desiderative verbs that are bare (no causative or applied extensions) select NP or IP but never both. Desiderative verbs that are derived using the a combination of the causative and applicative only select an clausal infinitive as a complement. These are exemplified in (8).

(8) Subcategorization frames for desiderative verbs
(a) rata, V [__ NP, IP] 'like'
(b) hana V, [___NP,IP] 'refuse'
(c) ikemisetsa V,[___ IP] 'intend'
(d) hlophisetsa V, [___IP] 'plan'

The other complement choice that fits in with the subcategorization exemplified in (8) is the subjunctive. As I have already mentioned, subjunctive complements are very common with control verbs in Sesotho. The subjunctive as an embedded clause is introduced by a complementizer *hore*[6]. This complementizer translates to English "that" or "whether" in interrogatives. In some environments, the complementizer is optional in Sesotho.The subjunctive occurs with various tense and aspect morphemes. The examples in (9) illustrate the use of the subjunctive with tense and aspect morphemes.

[6] There is yet another use of the subjunctive which is not related to control verbs which is worth pointing out. The morpheme *hore*, as pointed out by du Plessis (1989), is used to introduce embedded questions. This form is selected by interrogative predicates in Sesotho. This fact becomes relevant in that it accounts for the lack of interrogative control verbs in Sesotho (discussed in Chapter 4) suggesting a natural class. Also, like in Xhosa, *hore* is formed with the infinitival prefix *ho* 'to' and the verb *re* 'say'. This may be taken as further evidence that *hore* is somehow related to the infinitive as proposed by du Plessis (1989).

(9) The subjunctive

(a) Letsatsi le - a - tjhaba [le dikel-e]
5.sun - 5SM - FOC - rise and set-SUBJ
'The sun rises and sets'

(b) …ke - sa - tsebe [hore ke - tla - re-ng]
1SG. - NEG - know that 1SG - FUT - say-NEG
'…not knowing what I will say'

(c) Ke - tseba hore ba – ne- ba- tsama- ile maobane
1SG – know that 2.SM – PAST- 2.SM left- PERF yesterday
'I know that they had left yesterday'

The example in (9a) shows the use of the subjunctive where it indicates a second action. When performing this function, the subjunctive is not introduced by complementizer *hore.* Instead it has the same function as the infinitive in this regard. Sentence (9b) shows the type of subjunctive that we are concerned with in this section. In sentence (9b) the subjunctive is used in the future form whereas in example (9c) it is used with past perfective. This is the major difference between the subjunctive and the infinitive although they appear to perform the same function.

Desiderative verbs select freely between the infinitive and the subjunctive. The subjunctive is the preferred choice when the subject of the embedded clause is different from the subject or object of the main clause. When the subject of the embedded clause is the same as the subject or object of the main clause then the infinitive becomes a better option. The examples in (10) illustrate.

(10) The subjunctive and desiderative verbs

(a) Mme o - kgetha hore [ba- tsamay-e]
1.mother 1.SM - prefer that 2.SM - leave-SUBJ
'Mother prefers that they leave'

(b) Mme_k o - kgetha [PRO_k ho -tsamaya]
1.mother 1.SM - prefer to leave
'Mother prefers to leave'

(c) Mme o - kgetha hore a - tsamay- e
1.mother 1.SM- prefer that 1.SM - leave- SUBJ
'Mother prefers that he/she/someone leaves'

Sentence (10a) shows an example of the subjunctive used where the subject of the subjunctive is different from that of the matrix clause. Sentences (10b&c) differ in that in (10b) the subject of the embedded clause is only understood as having the same reference as that of the main clause (control). Sentence (10c) on the other hand shows that in non-control the subject of the subjunctive can be understood as having the same reference as that of the matrix clause but not necessarily. The infinitive does not have the same morphology (such as SM) required to make this distinction between the subject/object of the main clause and the subject of the embedded clause. The subjunctive becomes the better option when this distinction is required.

4.2.2 Manipulative Verbs

Manipulative verbs express control or manipulation by the subject. Manipulative verbs in Sesotho are the extended or the derived form of the bare desiderative verbs. The ability of a desiderative verb to undergo derivation and act as a manipulative verb also depends on the semantics of each verb. Manipulative verbs can be divided into three subclasses: those that are morphologically causative, those that are morphologically applicative and those that are bare forms inherently applicative. I have decided to merge the morphologically causative and applicative control verbs here based on the shared syntactic property of object control.

I will label these two classes subclasses 1 and 2. Subclass 1 comprises of verbs that are object control verbs with no possibility of control shift. Subclass 2 is made up of a small number (from the ones I found) of verbs that are inherently applicative in form. They cannot be further broken down in the same way as the verbs of the first sub-class. Finally subclass 2 of

manipulative verbs, unlike subclass 1 allows subject and object control thereby participating in control shift. The following examples show these patterns:

Table 4-2. Manipulative verbs

Verb	Gloss	Subject Control	Object Control	Control Shift	Causative	Applicative
hopotsa	remind	N	Y	N	Y	N
tlohedisa	stop	N	Y	N	Y	N
Lebatsa	forget	N	Y	N	Y	N
lemosa	advice	N	Y	N	Y	N
hanela	forbid	N	Y	N	N	Y
thibela	prevent	N	Y	N	N	Y
bolella	tell	N	Y	N	N	Y
dumella	allow/let	N	Y	N	N	Y
hanela	refuse	N	Y	N	N	Y
laela	order	N	Y	N	N	Y
qobella	force/compel	Y	Y	Y	N	N
hatella	press	Y	Y	Y	N	N
qophella	insist	Y	Y	Y	N	N
tshepisa	promise	Y	Y	Y	N	N
kopa	ask	Y	Y	Y	Y	Y

(10) Manipulative verbs

(a) Morena$_i$ o - dumella basadi$_j$ PRO$_{*i/j}$ ho- sebetsa [NP IP]
1.king 1.SM - allow 2.women INF work
'The king allows women to work'

(b) *Morena$_i$ o - dumella PRO$_i$ ho –sebetsa [IP]
1.king 1.SM - allow INF work
'The king allows to working'

(c) Morena$_i$ o - qophella PRO$_i$ ho- sebetsa [IP]
1.king 1.SM - insist INF -work
'The king insists on working'

(d) Morena$_i$ o- qophella banna$_j$ PRO$_{*i/j}$ ho –sebetsa [NP IP]
1.king 1.SM insist men INF - work
'The king insists on men working'

Sentence (10a) illustrates that verbs in subclass 1 can only function as object control verbs. This is expressed through the co-indexation of the matrix object and the null subject of the embedded clause. The same sentence also reveals that the verb does not support subject control

as observed in (10b). This is demonstrated with the co-indexation of the matrix subject and the null subject of the embedded clause which results in ungrammaticality. Sentence (10b) further exemplifies that subclass 1 of the manipulative verbs obligatorily requires an object in the main clause. Sentences (10c*d) on the other hand show that subclass 2 manipulative verbs allow both subject and object control. However, in the presence of an object, the control is shifted from the subject to the object.

The two classes represented in Table 4-2 coincide with the different argument structures associated with manipulative verbs. Once more we see the morphology of the verb providing that necessary distinction which determines argument structure. Manipulative verbs that are either causative or applicative require two arguments, an NP and an IP. Manipulative verbs that are inherently applicative require and NP and IP, however, the NP is optional in this instance. The subcategorization for this class may be represented as in 11.

(11) Subcategorization frames for manipulative verbs

(a) *Hopotsa,* V, [____NP IP]

(b) *dumella,* V, [____NP IP]

(c) *Qophella,* V, [____ (NP)IP]

Manipulative verbs also select the subjunctive as a complement. Although there is this choice between the subjunctive and the infinitive as with desiderative verbs, manipulative verbs prefer the subjunctive in all aspects. For example, when manipulative verbs are used with an object and the subjunctive, the sentence sounds better if the object of the matrix clause refers to the subject of the embedded clause (the subjunctive). However, when only the subject is used with the manipulative verbs then the subject of the embedded subjunctive can refer to some other subject without making the sentence sound odd. The examples in (12) illustrate.

(12) Manipulative verbs with the subjunctive

(a) Morena o - hopotsa banna hore ba - kopan-e
1.chief 1.SM - remind 2.men that 2.SM- meet-SUBJ
'The chief reminds the men that they should meet'

(b) Morena o - hopotsa mme hore bana ba - sebets-e
1.Morena 1.SM - remind 1.mother that 2.children 2.SM- work-SUBJ
'The chief reminds mother that the children should work'

(c) Morena o - hopotsa hore ba - sebets-e
1.chief 1.SM - remind that 2.SM - work-SUBJ
'The chief reminds (some people/them) that they should work'

Sentence (12a) shows the subjunctive used where its subject has the same reference as the object of the matrix clause. Sentence (12b) is acceptable but sounds as if some information is missing between the object of the matrix clause and the subject of the subjunctive. Sentence (12c) is acceptable because the object of the matrix verb is implicit. It may or may not be the same as the subject of the embedded clause.

Although I make reference to the subject of the subjunctive as having the same reference as the subject or object of the matrix clause this should not be taken as control. The subjunctive as a complement of control verbs allows a lexical noun and fully supports SM as well as tense and aspect morphology, most of which are unavailable in control relations. The most important difference between the subjunctive and the infinitive when used with control verbs is that there is no co-indexing required since any kind of relation is expressed overtly through SM or a lexical noun.

Finally, it is important to note that the traditional utterance/ communication verbs are also classified as subclass 2 of manipulative verbs. The reason for merging these classes is due to the shared semantic grouping as well as similar syntactic behaviors. It is also vital to note that subclass 2 of the manipulative verbs shows the need for semantic categories since syntactic

behavior only would fail to capture the similarities shown available through semantic class belonging.

4.2.3 Achievement Verbs

Achievement verbs are those verbs that express the bringing about of an achievement, success, triumph or lack thereof. Achievement verbs in Sesotho are subject control verbs with no option of shifting to object control. Although these verbs allow the derivation with the causative and the applicative, in this case they are used in their bare, non-derived forms. The derived forms of these verbs are realized as belonging to the manipulative verb class. Recall that desiderative verbs are also subject control verbs, and that these also participate in subject control only. The sentences in (13) exemplify achievement verbs.

(13) Achievement verbs

(a) $Bana_k$ ba- lebala PRO_k ho - tsoha hoseng
2.children 2.SM- forget INF wake-up morning
'The children forget to wake up in the morning'

(b) *$Bana_k$ ba - lebala mme_j $PRO_{k/*j}$ ho- tsoha hoseng
2.children 2.SM - forget mother INF- wake -up morning
'*The children forget mother to wake up in the morning'

Note that while the causative form of the achievement verbs occur as manipulative verbs (*hopola- hopotsa* 'remind'*; lebala- lebatsa* 'cause to forget*; tlohela- tlohedisa* 'stop' etc) the applicative forms of these verbs do not participate in the same manner (*hopotsa-hopolela* 'feel for'*; lebala- leballa* 'forgive'*; tlohela- tlohella* 'leave/ stop/ permit'). Recall that the applicative form of the desiderative form is realized as manipulative verbs whereas the causative form is not? Now we observe that the other set of manipulative verbs is formed by the derived forms, in this case causative form of the achievement verbs. This is another example of how the morphological property determines class and syntactic properties.

Table 4-3. Achievement verbs

Verb	Gloss	Subject Control	Object Control	Control Shift	Causative	Applicative
hopola	remember	Y	N	N	Y	Y
Lebala	forget	Y	N	N	Y	Y
tlohela	refrain	Y	N	N	Y	Y
phema	avoid	Y	N	N	Y	N
Hana	decline	Y	N	N	Y	Y
hlokomoloha	neglect	Y	N	N	N	N

Achievement verbs may also be used in other contexts where there are no control relations. When used this way, these verbs select an NP as a complement. The examples in (14) illustrate the different complement of achievement verbs.

(14) Achievement verbs and their complement

(a) Banana ba- hopola mme NP
2.girls 2SM- remember 1.mother
'The girls remember mother'

(b) Banana ba - hopola ho- tsamaya IP/NP
2.girls 2.SM- remember INF go
'The girls remember to go/going'

(c) Banana ba- hopola hore ba – tsamay- e IP
2.girls 2.SM- remember that 2.SM- go- SUBJ
'The girls remember that they (the girls) must leave'

(d) *Banana ba - hopola mme ho- tsamaya NP IP/NP
2.girls 2SM- remember 1.mother INF -go
Intended: 'The girls remember mother leaving'

Sentence (14a) indicates that *hopola* 'remember' also selects an NP as a complement. Sentence (14b) on the other hand shows that *hopola* 'remind' also selects an IP as a complement. Achievement verbs also behave the same way as manipulative verbs with regards to the subjunctive. However, unlike manipulative verbs, they have a strict requirement on the subject of the subjunctive in that it can only refer to the subject of the matrix clause (14c).

Although it is possible to use the subjunctive with the achievement verbs, the infinitive is the preferred choice. The contrast between (14b&c) highlights that achievement verbs require the subject of the subjunctive to have the same reference as that of the matrix verb. This pattern is different from other subject control verbs (such as desiderative) since this "co-reference" is not necessary. This may be the reason for achievement verbs working better with the infinitive since they require strict co-referencing. The subcategorization frames for achievement verbs is exemplified in 15.

(15) Subcategorization frames for achievement verbs

(a) *Hopola*, V, [___NP,IP] 'remember/plan'

(b) *Tlohela* V, [___NP,IP] 'refrain/stop/cease'

(c) *Hana* V, [____NP,IP] 'decline/refuse'

As can be noted in the translation, the complement may be treated as nominal or a clausal complement. This is one syntactic property that ties this class together. Another semantic property observed in this class is that these verbs tend to have meanings that make them overlap with desiderative verbs. In addition, it is important to note that these verbs share a similar argument structure to bare desiderative verbs.

4.2.4 Factive Verbs

Factive verbs express a certain reality or an accepted fact. Factive verbs are subject control verbs in Sesotho. In addition factive verbs appear mainly in their bare forms although a few have the applicative form. Factive verbs tend to be used more in their stative/perfective form as indicated by verbs such as *tshohile* 'shocked' and *hloyile* 'dislike/hate.' Verbs that allow the use with the applicative can also be used in their bare form without effecting a change of meaning or affecting the control relations. Here are some examples:

(16) Factive verbs and their complements

(a) Mme_k o - holy-a PRO_k ho - fihla bosiu
1.mother 1.SM - hate -FV INF- arrive 14.night
'Mother hates to arrive at night'

(b) Mme_k o - hlo- ile PRO_k ho - fihla bosiu
1.mother 1.SM - hate- PERF INF - arrive 14.night
'Mother hates to arrive at night'

(c) Ke $_{k-}$ thaba PRO_k ho - utlw-a ditaba tseo
1SG -glad INF hear-FV 9.news 9.DEM
'I am glad to hear those news'

(d) $Banana_k$ - ba - thab- el- a PRO_k ho - dula lape-ng
2.girls 2 .SM - glad.APPL-FV INF -stay home-LOC
'The girls are glad to stay at home'

Sentences (16a&b) contrast the use of the bare form of the verb (expressed in present tense habitual) with the perfective counterpart indicating no change in meaning or control relations. Sentences (16c&d) then again, indicate that other verbs can be used in the bare form or applicative without any change in meaning or control relations[7]. These verbs however, are distinguished from the other applicative verbs (such as manipulative verbs) in that they are subject control verbs. Here again we see the need to make reference to both the semantic and syntactic properties.

Table 4-4. Factive verbs

Verb	Gloss	Subject Control	Object Control	Control Shift	Causative	Applicative
nyatsa	loath/hate	Y	N	N	Y	N
hloya	dislike/hate	Y	N	N	Y	N
rata	like/love	Y	N	N	Y	N
swabela	sorry	Y	N	N	N	Y
thabela	glad	Y	N	N	N	Y

[7] Most of these verbs have nominal counterparts which also select infinitival complement such as *'ke maswabi ho utlwa ditaba tseo'* ' I am sorry to hear those news'

Table 4-4 show that while the use of the causative applicative is possible with factive verbs this is only limited to a few of these verbs. One other characteristic of factive verbs is that when used with the applicative, and two arguments are used, this results in the formation of a purposive clause. The sentences in (17) illustrate.

(17) Factive verbs and clauses of purposive

(a) Ntate o- rat- el- a bana ho -sebetsa
1.father 1.SM – like- APPL-FV 2.children INF- work
'Father likes the children for their working'

(b) *Ntate o- rat-el- a bana hore ba- sebetse
1.father 1.SM - like-APPL-FV 2.children that 2.SM - work-SUBJ
'Father likes children for their

Factive verbs pattern with achievement verbs in that they prefer the infinitive as a complement. Factive verbs do not allow the use of a noun and the subjunctive together eliminating the need for a difference between the object of the matrix clause and the subject of the subjunctive. The examples in (18) illustrate.

(18) Factive verbs and the subjunctive

(a) Mme o - hloyile hore a fihl- e bosiu
1.mother 1.SM - hate that 1.SM arrive- SUBJ at.night
'Mother hates that she/someone arrives at night'

(b) *Mme o - hloyile bana hore ba - fihl-e bosiu
1.mother 1.SM - hate 2.children that 2.SM - arrive-SUBJ at.night
Lit: 'Mother hates the children for their late arrival'

(c) Mme o - hloyile hore bana ba - fihl-e bosiu
1.mother 1.SM - hate that 2.childre 2.SM arrive-SUBJ at.night
'Mother hates that they arrive at night'

Example (18a) shows that with factive verbs the subject of the subjunctive can refer to the subject of the matrix clause or any other subject not expressed in the matrix clause. Sentence (18b) on the other hand is ungrammatical because factive verbs do not allow an NP and IP

occurring simultaneously as complements. The subcategorization frames associated with factive verbs are represented in (19).

(19) Subcategorization frames for factive verbs

(a) *Nyatsa,* V, [___NP,IP] 'loathe/hate

(b) *Thabela,* V, [___ NP,IP] 'glad'

(c) *Swaba,* V, [____NP,IP] 'sorry'

The syntactic similarities that also overlap with some semantic similarities between some desiderative verbs, and achievement verbs are evident in these subcategorization frames for factive verbs.

4.2.5 Experiencer-object Verbs

Experiencer-object verbs are verbs that express an experience or emotion encountered by the object of the verb. Like the name suggests, these are object control verbs. However, in the absence of an object, the control is shifted to an arbitrary control relation. I explore this characteristic of experiencer-object verbs in Chapter 5. Unlike the other object control verbs (manipulative) this set of verbs makes use of a combination of the causative and the applicative form in their derivation. These two qualities distinguish this class of object control verbs from the manipulative class whose morphology consists of either the causative or the applicative. Let us look at some examples.

(20) Mmuso$_i$ o - kgothaletsa bana$_k$ PRO*$_{i/k}$ ho- bua Sesotho NP IP
3.government 3.SM - encourage 2.children INF- speak 7.Sesotho
'The government encourages children to speak Sesotho'

(21) Mmuso$_i$ o - khothaletsa PRO$_{*i/ARB}$ ho -bua Sesotho IP
3. government 3.SM- encourages INF- speak Sesotho
'The government encourages speaking Sesotho'

(22) *Mmuso o- kgothaletsa bana NP
3.government 3.SM - encourage 2.children
Intended: 'The government encourages children'

Example (20) demonstrates object control. When both the subject and object of the matrix clause are present the subject of the embedded clause (PRO) is co-referenced with the object of the matrix clause. In the absence of the object in the matrix clause, the co-referent of PRO is either arbitrary or an implied object as exemplified by sentence (21). The arbitrary reading associated with an object is claimed to be a rare occurrence (Stiebels 2007:73). It is also important to note that in the absence of object, the subject of the matrix clause is not understood as the controller of the subject of the embedded clause. This is how the arbitrary reading is associated with the object of the matrix clause. This is another distinguishing characteristic of experiencer object verbs.

Table 4-5. Experiencer-object verbs

Verb	Gloss	Subject Control	Object Control	Control Shift	Causative	Applicative
kgothaletsa	cheer/applaud	N	Y	N	Y	Y
kgotsofaletsa	satisfy	N	Y	N	Y	Y
hlonamisetsa	sadden	N	Y	N	Y	Y
thabisetsa	amuse	N	Y	N	Y	Y

Experiencer-object verbs behave in the same way as manipulative verbs with regards to the complement selection. This is expected because manipulative verbs are also object control verbs. Experiencer-object verbs occur more with the subjunctive regardless of whether they are used together with the objects or not. The examples in (23) illustrate.

(23) Experiencer-object verbs with the subjunctive

(a) Mmuso o - kgothaletsa bana hore ba - bu-e Sesotho
3.government 3.SM - encourage 2.children that 2.SM - speak-SUBJ Sesotho
'The government encourages the children that they should speak Sesotho'

(b) Mmuso o - khothaletsa hore ba bu-e Sesotho
3.government 3.SM - encourage that 2.SM speak-SUBJ Sesotho
'The government encourages (them) that they should speak Sesotho'

(c) Mmuso o kgothaletsa hore ho- buu-w-e Sesotho
3.government 3.SM encourage that 15- speak-PASS-SUBJ Sesotho
'The government encourages the speaking of Sesotho'

Sentence (23a) shows the subjunctive used where its subject has the same reference as the matrix subject although this is not a necessary condition since the SM *ba* can refer to some other noun not expressed in the matrix clause. In (23b) the subject of the subjunctive may be related to the omitted object but not the expressed subject. Example (23c) expresses an impersonal subject or an expletive which is used with the passive. This is different from (23b) in that the subject of the matrix clause may be included as a referent.

The subcategorization frames for experiencer-object verbs pattern with those of sub-class 2 of manipulative verbs. The differences between experiencer-object verbs and manipulative verbs lie in the interpretation of PRO. Experiencer-object verbs have the following subcategorization frames:

(24) Subcategorization frames for experiencer-object-verbs

(a) *Kgothaletsa,*V, [____(NP) IP] 'cheer/encourage'

(b) *Hlonamisetsa,* V,[____(NP)IP] 'sadden/distress'

(c) *Thabisetsa,* V, [____(NP)IP] 'amuse'

Experiencer-object verbs selects an NP and an IP, however, when only one is selected it has to be the IP. In Chapter 5 I explore the differences between these verb classes further.

4.3 Non-control Verbs

The verb classes presented in the preceding sections are classes that have been classified as control verbs in many languages. There are however, other verb classes that act as control verbs in other languages but are not control verbs in Sesotho. The verb classes outlined in this section

are those that have been proposed for other languages but do not function as control verbs in Sesotho. These are interrogative, perception, propositional and modal verbs.

Interrogative verbs that induce control are generally associated with wh-movement. Sesotho does not show wh-movement. In instances of bi-clausal interrogative sentences, the embedded clause is introduced by a complementizer which selects the subjunctive form of the verb. As we have seen in Chapter 3, most of the control verbs also select the subjunctive form as a complement in non-control relations.

Perception predicates such as 'smell', 'hear', 'feel' also do not participate in control in Sesotho. These verbs act like other ordinary verbs. Proposition or attitude verbs also do not occur with infinitival complement in Sesotho. Again, like the interrogative verbs, these verbs select the subjunctive form. There is one verb however, *nahana* 'think' which allows a control reading. This is the only verb from this class that allows control which makes its membership questionable or it suggests a move from the use of the infinitive to the subjunctive form.

Modal verbs are restricted to raising in Sesotho. Although these verbs select an infinitival clause, they also allow the insertion of an expletive in the matrix clause. However, when an expletive is inserted in the matrix clause, the embedded clause is a finite clause. The example below is used to illustrate this behavior.

(25) Ke - tshwanela [ho- sebetsa.]
1SG - must to - work
'I must work'

(26) Ho tshwanela [hore ke - sebets-e]
It necessary that 1SG. - work-SUBJ
'It is necessary that I work'

Although other control verbs also select the subjunctive form as a complement, the ability to insert an expletive in this manner is limited to this class of verbs. Another thing to mention is that other verbs such as 'can', 'be able' 'may' can also be expressed with an auxiliary verb *'-ka'*

in Sesotho otherwise when used as main verbs such as *'kgona'* 'able' these are classified as achievement verbs.

4.4 Summary

The verb classes presented in this chapter are similar to verbs classes presented in other languages of the world (Noonan 1985; Pollard & Sag 1994; Wurmbrand 2001). However, there are three issues that came out of this chapter. The first concerns the role of morphology in determining argument structure which in turn determines control verb classes. As we have already noted the applicative form of the desiderative verbs is realized as manipulative verbs whereas the causative form of desiderative verbs is realized as achievement verbs. The combination of the causative and the applicative extensions gives us a class of experiencer-object verbs. The second issue, also morphological, relates to the use of the verbal extensions in explaining control relations between the controller and the controllee. The verbs that are either causative or applicative in form tend to function primarily as object control verbs. The final point has to do with the fact that arbitrary control is normally associated with the subject especially when there is an implicit or an implied argument. Sesotho is one language that allows association of arbitrary control with the object.

CHAPTER 5
SESOTHO COMPLEMENT CONTROL PROFILE

5.1 Introduction

The primary goal of this chapter is to present the complement control patterns observed in Sesotho. Complement control refers to a relation of obligatory coindexation between the subject and the object of the matrix clause and the subject of the subordinate complement clause. The secondary goal of this chapter serves to address the question of the role played by argument-structure changing verbal morphology in control phenomena. In Chapter 3 I discussed the verbal morphology associated with control verbs in Sesotho. One of the areas discussed relates to argument-structure changing verbal morphology. In this chapter I explore the role played by argument-structure changing verbal morphology in accounting for the differentiated behavior of verbs that belong to the same class. I also examine how this argument-changing morphology impacts on the types of control attested in Sesotho. In so doing, I also explore how control relations help distinguish between the nominal infinitive and the clausal infinitive

Chapter 5 is organized as follows: In the first part of this chapter I define terminology associated with control providing illustrative examples. I then go on to discuss control types attested in Sesotho, followed by an examination of referential dependencies. For each of the sections I try to determine whether class membership is an adequate determinant of referential properties in Sesotho.

5.2 Properties of Control

In Chapter 1, I defined complement control as a relation of obligatory co-indexation between the subject or object of the matrix clause and the subject of the subordinate complement clause. The referential relations of the controlled element (PRO) are determined by those of the controller. This is called referential dependency. The two major types of obligatory control are

forward control and backward control. In forward control, the controller is in the matrix clause whereas the controllee is in the embedded clause. In backward control, the controller is in the embedded clause whilst the controllee is in the matrix clause (Polinsky & Potsdam 2006, Stiebels 2007). In another form of control, non-obligatory control, there is no obligatory co-indexation between the subject of the subordinate clause and the subject or object of the main clause. This study concentrates on obligatory control (OC) although I also discuss some aspects of referential dependencies associated with non-obligatory control (NOC) where relevant.

Obligatory control relations observed cross-linguistically include subject and object control. Subject control refers to a control relation in which the overt subject of the matrix clause is identified with the covert subject of the embedded infinitival clause through co-indexation. In object control, the overt object of the matrix clause is identified with the covert subject of the embedded infinitival clause also through co-indexation. Implicit control on the other hand refers to a control relation in which the controlling argument is not syntactically realized. Co-indexation is not required in this instance. These are exemplified in (1) in this order: implicit, object and subject control

(1) The controller[8]
    (a) Mary signaled PRO to follow her
    (b) Mary asked $John_j$ PRO_j to leave
    (c) $Mary_i$ promised John PRO_i to leave

Sentence (1a) is an example of implicit control. In this sentence the reference of PRO is implied. In sentence (1b) PRO's controller is the object of the matrix clause, resulting in object control. Sentence (1c) is an example of subject control. In all the sentences in (1) the referential

[8] I have decided to use English examples in this section in order to provide an example of typology of control. I use Sesotho examples later in the chapter.

configuration is such that PRO is understood as either the subject or object of the matrix clause. This is called exhaustive control.

The other control relations are partial control and split control. In partial control, the subject of the matrix clause is included as one of the referents of PRO. In split control, the subject of the infinitival clause refers to two distinct arguments. Stiebels 2007 provides the representation in Table 4-1 to explain the referential properties of PRO. In the configuration in 5-1, *k* refers to PRO, *i* refers to a subject argument of the matrix clause, whereas *j* refers to an object argument of the matrix clause. These properties in 5-1 are spread between obligatory control (OC) and non-obligatory control (NOC) (Williams 1987). Split control is a phenomenon which is restricted to NOC[9]. The differences between OC and NOC are based on the phenomena in Table 5-2 (adapted from Hornstein 2007: 114):

Table 5-1. Referential properties of PRO

Type of control	Subject Control	Object Control
Exhaustive	k=i	k=j
Partial	k⊇i	k⊇j
Split	k= i+j	

Table 5-2. Properties of PRO in OC and NOC

	Obligatory Control (OC)	Non-Obligatory Control (NOC)
(a)	*It was expected PRO to shave himself.	(a) It was believed that PRO shaving was important.
(b)	*John thinks that it was expected PRO to shave himself.	(b) $John_i$ thinks that it is believed that PRO_i shaving himself is important.
(c)	*John's campaign expects PRO to shave himself.	(c) Clinton's$_i$ campaign believes that PRO_i keeping his sex life under control is necessary for electoral success.
(d)	John expects PRO to win and Bill does too.(=Bill win)	(d) John thinks that PRO getting his resume is crucial and Bill does too.
(e)	*$John_i$ told $Mary_j$ PRO_{i+j} to wash themselves/eachother	(e) $John_i$ told $Mary_j$ [that [PRO_{i+j} washing themselves/each other] would be fun]].

[9] This position is still debated, see Madigan 2008 on split control in Korean.

Sentence (a) shows that PRO requires an antecedent in OC. This is not the case in NOC ((a) of NOC). Sentence (b) shows that PRO requires a local antecedent in OC. Conversely PRO can have a non-local antecedent in NOC. The ungrammaticality of sentence (c) of OC shows that the antecedent must c-command PRO. This is not a necessary condition as exemplified by (c) of NOC. Under VP ellipsis exemplified by sentence (d), PRO permits a sloppy reading in OC and only strict reading in NOC. Sentence (e) shows that NOC allows split antecedents whereas OC does not. Bearing these properties of OC in mind, let us first examine how control verbs interact with NPs and subjunctive clauses as complements.

5.3 Control Types

This section describes the control types observed in Sesotho, a relation that involves a co-referntial relation between two arguments, one being the controller the other being the controlled element. The controller is defined as the argument of the control verb whose referent is (improperly) included in the referents of an argument of the embedded verb (Stiebels et al. (2003). The controller may be the subject or object of the control verb. As indicated by the word *improperly* in the definition, the controller may also be an implicit argument of the matrix verb. I explore these referential relations drawing from Sesotho data.

5.3.1 Subject Control

Subject control obtains when the subject of matrix clause is co-referenced with the null subject of the embedded clause indicating a control relation. The majority of control verbs in Sesotho show subject control. Although manipulative verbs also participate as subject control verbs, I discuss them separately from the other verbs because they show a different pattern of control relations from the rest. The examples in (2) illustrate the various verb classes that participate in subject control.

(2) Subject control

(a) *Desiderative*: Ke$_i$ - rata PRO$_i$ ho - ya utlwa hore Rampou…
1SG- like INF - go hear what Rampou..
'I want to go and hear what Rampou…'

(b) *Achievement*: Ke$_i$ - sitwa PRO$_i$ ho- ba - hlalosetsa
1SG- unable INF- 2.OM - explain
'I am unable to explain to them'

(c) *Factive*: Ke$_i$ - swabela PRO$_i$ ho- utlwa ditaba tse bohloko
1SG - sorry INF - hear 10.news 10.RM sad
'I am sorry to hear the sad news'

For all the sentences in (2), the subject of the matrix clause is co-referenced with the subject of the embedded infinitival clause. The subject of the embedded clause in each case can only refer to the subject of the matrix clause. These are examples of exhaustive subject control. Let us look at object control verbs.

5.3.2 Object Control

Object control obtains when the null subject of the infinitive in the embedded clause is co-referenced with the object of the matrix clause. Object control verbs are manipulative and experiencer- object verbs in Sesotho. There are very few observed object control verbs in Sesotho. This limitation may be linked to the morphological make-up of these verbs. These verbs are derived by suffixing the causative extension together with the applicative. Each verbal extension is semantically restricted to occur with certain verbs, when these two affixes are put together on one verb the pool for the combined affix is smaller. The examples in (3) illustrate.

(3) Object Control

(a) Bashanyana$_i$ ba - qobella dikgomo$_j$ PRO$_{*i/j}$ ho -kena
2.boys 2.SM - force 10.cows INF- enter
'Boys force the cows to enter'

(b) Titjhere$_i$ o - kgothaletsa bana$_k$ PRO$_{*i/k}$ ho- bapala
1.teacher 1.SM - encourage 2.childern INF- play
'The teacher encourages the children to play'

Sentence (3a) is an example of a manipulative verb whereas (3b) is that of an experiencer-object verb. In each sentence the null subject of the embedded clause is understood as having the same reference as the object of the matrix clause. When the object of the matrix clause is omitted we get two important distinctions between the two classes. These differences are better discussed under a configuration where the control is shifted from one argument to the other which may or may not be related to one of the arguments of the matrix clause. These verbs shed some important light on the distinction between the nominal infinitive and the clausal infinitive in Sesotho. Although it appears as if the two are interchangeable in other contexts, when used with control verbs this is not the case. A close look at the patterns of control associated with object control verbs in Sesotho shows that the distinction between nominal and clausal infinitive is justified. Let us look at control shift with manipulative and experiencer-object verbs.

5.3.3 Control Shift

Control shift refers to a phenomenon whereby "constructions with two matrix arguments, normally agent and goal…in normal circumstances the controller of PRO is fixed either as agent or goal, in special circumstances the controller shifts to the other argument" (Landau 2000:183). In Sesotho, there are two kinds of control shift associated with two object control verb classes. The first one involves a shift of control from the object argument of the matrix clause to the subject argument of the matrix clause. The second kind involves a shift of control from the object argument of the matrix clause to an arbitrary control. Let us look at two kinds of control shift individually.

Arbitrary control obtains when a subset of manipulative verbs (subclass 1) is used without an object in the matrix clause. This set of verbs is made up of verbs that are morphologically causative or applicative. The examples in (4) illustrate a shift from object control to arbitrary control.

(4) Manipulative verbs and arbitrary control

(a) Titjhere$_j$ o- thib- el- a bana$_k$ PRO$_{*j/k/*ARB}$ ho- sebetsa
1.teacher 1.SM- prohibit-APPL-FV 2.children INF -work
'The teacher prohibits the children from working'

(b) Titjhere$_j$ o - thib- el- a PRO$_{*j/ARB}$ ho - sebetsa
1.teacher 1.SM - prohibit-APPL-FV INF - work
'The teacher prohibits working'

(c) Titjhere$_j$ o - lemo- s- a bana$_k$ PRO$_{*j/k/*ARB}$ ho - sebetsa
1.teacher 1.SM - advise-CAUS-FV 2.children INF - work
'The teacher advises children to work'

(d) *Titjhere$_j$ o - lemo- s- a PRO$_{*j/*ARB}$ ho - sebetsa
1.teacher 1.SM - advise –CAUS-FV INF- work
Intended: 'The teacher advises (someone/ anyone) working'

In sentence (4a) the verb *thibela* 'prohibit' which has an applicative morphology is used with two arguments in the matrix clause. The object argument of the matrix clause is the controller of PRO. In sentence (4b) we note that for the same verb, when the object argument of the matrix clause is omitted, the referent of PRO becomes arbitrary (marked as $_{ARB}$). Sentence (4c) is an example of a causative manipulative verb, *lemosa* 'advise' used with two arguments in the matrix clause. Here we note that when the object of matrix clause is omitted (4d) the referent of PRO is not arbitrary as expected instead the sentence is ungrammatical. These data are a challenge to my verb classes in that the two verbs *thibela* 'prohibit' and *lemosa* 'advise' belong to the same class. What could be responsible for the differences in referential dependencies? Before we answer this question let us look at how experiencer-object verbs and the remainder of manipulative verbs fit into the picture. The pattern observed with the applicative manipulative verbs in Sesotho is also possible with experiencer-object verbs in Sesotho. Let us look at some examples.

(5) Experiencer-object verbs and arbitrary interpretation

(a) Titjhere$_j$ o - kgothal-ets-a bana$_k$ PRO$_{*j/k/*ARB}$ ho- bapala
1.teacher 1SM- encourage- CAUS .APPL - -FV 2.children INF- play
'The teacher encourages the children to play'

(b) Titjhere$_i$ o - kgothal- ets- a PRO$_{*i/ARB}$ ho - bapala
1.teacher 1.SM - encourage - CAUS .APPL INF - play
'The teacher encourages playing'

Sentence (5a) is an example of ordinary object control. Sentence (5b) on the other hand shows that when the object is omitted the experiencer-object verb forces an arbitrary interpretation. Let us bear these referential relations in mind as we look at another type of control shift.

The second kind of control shift obtains when there is a shift in control from the object of the matrix clause to the subject of the matrix clause when an object argument of the matrix clause is omitted in control relations. Subclass 2 of manipulative verbs participates in this kind of control shift. The examples in (6) illustrate

(6) Subclass 2 manipulative verbs and control shift

(a) Sekolo$_j$ se -qobella batswadi$_k$ PRO$_{*j/k/*ARB}$ ho- reka dibuka
7.school 7.SM- forces 2.parents INF-buy 10.books
'The school forces/compels parents to buy books'

(b) Sekolo$_j$ se-qobella PRO$_{j/ /*ARB}$ ho- reka dibuka
7.school 7.SM-force INF- buy 10.books
Intended: 'The school forces/comples (itself) to buy books'

Example (6a) demonstrates the use of a manipulative verb *qobella* 'force/compel' where the object of the matrix clause is the controller of PRO. When the object of the matrix clause is omitted, as in (6b), the control shifts to the subject of the matrix clause. This kind of shift is only possible with subclass 2 of manipulative verbs.

The kind of interpretation that we observe with subclass 1 applicative and experiencer object verbs in examples (4&5) is treated as an instance of non-obligatory control (NOC). In this instance the reference of PRO is freed from the arguments of the main clause in that it can refer

to some other argument. These data in (4 and 5) answer the question raised in Chapter 2 of how to distinguish between the nominal infinitive and the clausal infinitive. The answer to this question lies not only in the internal structure of the infinitival complement or its position in a sentence, but also on the semantics of the control verb, specifically the morphological makeup of that verb. As we can observe from the English glosses, whenever the infinitive does not have its subject co-referenced with the subject or object of the matrix clause it takes a nominal form (gerundive). This use is similar to the use of the nominal infinitive as a subject or a class 15 noun.

What element of the control verb is responsible for the distinction between object to subject control shift and object to arbitrary control shift? In (6a) the object control verb, *qobella* is co-indexed with PRO because it is the closest c-commanding NP. However, when this object is omitted the control shifts from the object to the subject since it is the closest c-commanding NP. This is not the configuration we get in the case of arbitrary control. The initial thought would be that *qobella* is a manipulative verb whereas *kgothaletsa* is an experiencer-object verb. As observed with (4b) *thibela* 'prohibit' is also a manipulative verb but does not allow control shift in the same manner that *qobella* does. In (4d) we do not even get any kind of control shift with *lemosa* 'advise.' The question that we need to ask then is why only a subset of manipulative verbs allows control shift. The answer to this question may lie with the morphology of these verbs.

Verbal extensions are used to extend the meaning of verbs but also to derive new verbs. The extensions that are associated with increasing the number of arguments are the applicative and the causative. In many instances, the introduction of a causative affix changes the verb class completely. For example, I pointed out in Chapter 4 that achievement verbs such as *hopola*

'remember' are subject control verbs in Sesotho. However, when the causative affix is added as in *hopotsa* 'remind', the verb becomes a manipulative verb, which in turn is an object control verb. The only manipulative verbs that allow control shift from object to subject in Sesotho are the ones that cannot take either the causative or the applicative extension since these are inherently applicative. These verbs, although they may appear as f they contain an applicative affix, this affix cannot be separated from the 'root' of the verb. Let us look at some examples.

(7) The applicative extension

(a) Ntate o – pheh-a dijo kantle
1.father 1.SM – cook- -FV 10.food outside
'Father cooks the food outside'

(b) Ntate o- pheh- el- a bana dijo kantle
1.father 1.SM-cook- APPL-FV 2.children 10.food outside
'Father cooks the food outside'

(c) Ntate o- pheh- el- a kantle
1.father 1.SM- cook- APPL-FV outside
'Father cooks outside'

(d) *Ntate o - pheh-el-a
1.father 1.SM- cook-APPL-FV
Intended 'Father cooks'

(e) Ntate o –pheh-is-a bana dijo kantle
1.father 1.SM-cook –CAUS-FV 2.children 10.food outside
'Father makes the children cook food outside'

(f) *Ntate o- pheh- is-a kantle
1.father 1.SM-cook –CAUS-FV outside
Inteded 'Father causes some cooking outside'

(g) Ntate o - pheh-is- ets-a kantle
1.father 1.SM-cook – CAUS- APPL-FV outside
Inteded 'Father causes some cooking outside'

Example (7a) demonstrates the use of the transitive verb *pheha* 'cook' without the applicative extension. In (7b) we note that when the applicative extension is added another

argument is introduced, a benefactor. Sentence (7c) shows that an applicative verb may be used without these two arguments. It is important to note that when this verb is used in this manner, the applicative takes a different meaning in that it requires a locative role. This is further emphasized by the fact that when the locative argument *kantle* ' outside' is omitted the sentence becomes ungrammatical (7d). We observe a similar pattern with the causative extension. In example (7e) the verb *pheha* 'cook' is now used with the causative extension. In this instance the argument introduced by the causative affix, *bana* 'children' receives a different semantic role form the one associated with the applicative. Sentence (7f) shows the distinction between the argument structure of the applicative and causative verb. This is the distinction that accounts for why applicative verbs can be used without the object of the matrix clause in control relations but causative verbs cannot.

If we take another example using the applicative extension we note that experiencer-object verbs in Sesotho fail to shift to subject control because they contain a combination of the causative and the applicative. Experiencer –object verbs fail to shift control because the verbal morphology on the matrix verb requires an object. However, when this object is omitted we get an instance of arbitrary control.

Sentence (7g) demonstrates two things. The first one is that when the two extensions, the causative and applicative are used together, it is possible to omit the object of the matrix clause. The second one is that, although the object of the matrix clause is omitted, it is somehow implied. These data support the claim that I made earlier about the interactions between the morphology of verbs and their syntactic behavior. We observed earlier in the absence of the object in the matrix clause, the co-referent of PRO with experiencer- object verbs is either

arbitrary or an implied object. Sentence (7g) demonstrates this connection between the verbal extensions and syntactic behavior.

This use of the applicative subclass 1 and experiencer-object verbs to induce arbitrary control relations is responsible for the distinction between the use of *ho* as an infinitival morpheme (PRO $_{j/k}$ *ho)* and *ho* as a nominal morpheme which is equivalent to class 15 noun class prefix (PRO_{ARB} *ho*). [10]This distribution accounts for why the nominal infinitive is restricted when used as an object of control verbs. When used as a subject, the nominal infinitive lacks a reference or a controller, and therefore gets the PRO_{ARB} reading. This is the similar reading we get with *ho* when it is used as an impersonal subject (expletive). However when it is used in object position as a complement of control verbs, we get PRO_{ARB} and $PRO_{subject/object}$ depending on the verb that selects it as well as its other arguments. In Sesotho, all control verb classes covered in this study allow the clausal ($PRO_{subject/object}$) and the nominal (PRO_{ARB}) infinitive. Subclass 2 of manipulative verbs and the causative verbs are the verbs that do not select the nominal infinitive. The examples in (19) illustrate.

(8) Different interpretation of the subject of the infinitive in Sesotho

(a) Bana$_j$ ba - rata $PRO_{j/ ARB}$ ho- robala
2.children 2.SM- like INF - sleeping
'The children like to sleep/sleeping'

(b) Bana $_j$ ba - rata $PRO_{*j/ ARB}$ ho- robala ha mme motsheare
2.children 2.SM- like INF -sleep 15.POSS 1.mother during.day
'The children like mother's sleeping during the day'

(c) PRO_{ARB}Ho - robala ho a - thusa.
INF - sleep 15.SM FOC - help
'Sleeping helps'

[10] Visser 1989 made a similar observation regarding the nature of the infinitive in isiXhosa. See Chapter 2 for an elaborate treatment of the infinitive in Sesotho.

Sentence (8a) is ambiguous because the complement of the verb *rata* 'like' is either NP/IP. The difference between the two is that if PRO is co-indexed with the subject *bana* 'children' then the complement is an IP (clausal infinitive). If PRO gets an arbitrary interpretation, the complement is an NP. When we introduce modifiers such as possession, as in (8b) we note that PRO can only get an arbitrary interpretation because this is the interpretation associated with nominal infinitives. This arbitrary interpretation is also observed in (8c), when the nominal infinitive is used as a subject.

5.4 Referential Dependencies

Another aspect of control that is regulated by a combination of class membership as well as the morphology of the verbs is the referential relation between the controller and the controllee. In this section I look at how the verbal extensions impact on referential dependencies. Referential dependencies refer to the differences in control verbs regarding their potential referential dependency between the controller (subject/object of control verb) and the controllee (null subject of the infinitive, PRO) (Stiebels et al. 2003). The two major referential dependencies are obligatory control (OC) and non-obligatory control (NOC). In this study, I focus on exhaustive control (EC) and partial control.

Exhaustive control obtains when the subject or object of the matrix clause is understood as the same as the null subject of the embedded infinitival clause. Partial control is a control relation in which the interpretation of PRO properly includes the referent of the controller instead of being identical to the controller. The examples we have used so far are examples of exhaustive control which have a locality requirement between the controller and controllee. This locality requirement is regulated by the MDP (Minimal Distance Principle) which determines the interpretation of PRO. According to the MDP, PRO must be co-indexed with the closest NP that

c-commands it. Let us look at some examples of referential dependencies and how they interact with argument-changing verbal morphology.

5.4.1 Exhaustive Control

Exhaustive control is a referential dependency in which the referents of the controller and PRO overlap completely. This can be represented as "DP_i….PRO_i." In Sesotho, all verb classes allow exhaustive control as long as the lexical requirement of the embedded verb is met. Sentences (10) and (11) illustrate EC with the subject and the object.

(9) Badisana$_j$ ba - kgetha PRO$_j$ ho- tsamaya
2.shepherds 2.SM - prefer INF- go
'The shepherds prefer to go'

(10) Badisana$_j$ ba - qobella bashanyana$_k$ PRO$_{*j/k}$ ho- tsamaya
2.shepherds. 2.SM - force 2.boys INF -go
'The shepherds force the boys to go'

Going back to our MDP notation, we note that the nearest c-commanding NP in (10) is *badisana* 'shepherds' and all the referents of PRO are included in *badisana* 'shepherds.' PRO cannot possibly refer to some other implicit NP. In (11) on the other hand, the nearest c-commanding NP is *bashanyana* 'boys.' Again this is the only NP that PRO is co-referenced with. These two examples are instances of exhaustive control.

5.4.2 Partial Control

Partial control presents a completely different picture. In partial control relations, the interpretation of PRO properly includes the referent of the controller instead of being identical to the controller. We represent partial control as NP_j ….PRO_j+ in line with the MDP. Collective verbs such as 'gather' *kopana* are normally used as tests for partial and split control. In Sesotho, *kopana* 'meet' is inherently reciprocal. As indicated in Chapter 3, the reciprocal requires a plural subject or conjoined singular subjects. As the examples in (22-24) show that Sesotho does not allow partial control.

(11) Partial control and Sesotho verb classes

(a) Morena$_i$ o - batla PRO$_{i/*i+m/ARB}$ ho- kopana
1.king 1.SM - force INF- meet
Intended: 'The king wants to meet'

(b) Morena$_i$ o- lebala PRO$_{i/ *i+m /ARB}$ ho -kopana
1.king 1.SM - foget INF – meet
'The king forgets to meet'

(c) Morena$_i$ o -nyatsa PRO$_{i/ *i+m ARB/}$ ho kopana
1.king 1.SM - hates INF – meet
'The king hates to meet (some people)'

(d) *Morena$_i$ o –lemosa PRO$_{*i/ *i+m /*ARB}$ ho kopana
1.king 1.SM- advise INF meet
Intended: 'The king advises some people to meet'

(e) Morena$_i$ o-lemosa banna$_j$ PRO$_{*i/j/*ARB/*i/j+m}$ ho kopana
1.king 1.SM –advise 2.men INF- meet
'The king advices the men to meet'

(f) Morena$_i$ o - hopotsa -banna$_j$ PRO$_{*i/j /*j/j+m/*ARB}$ ho- kopana
1.king 1.SM - force 2.men INF- meet
'The king reminds men to meet'

(g) Morena$_i$ o - khothaletsa banna$_j$ PRO$_{*i/j/*ARB/*i/j+m}$ ho -kopana
1.king 1.SM- encourage 2.men INF –meet
'The king encourages meeting (people to meet)'

The data in (11) demonstrate two things. First, the reading associated with PRO$_{i+m}$ is not possible with all verb classes in Sesotho, where i represents one of the arguments of the matrix clause and +m some other unspecified argument. All these sentences would be ungrammatical under that reading. The second thing is that the morphology of the verbs (associated with semantic verb classes) determines the interpretation of PRO. Note that for each of the sentences (11a-c), the sentence is only grammatical under PRO$_{ARB}$ because in this instance, *kopana* 'meet' is part of a nominal infinitive therefore the argument restrictions that are associated with the reciprocal do not apply. However, this is only possible because these verbs also select the nominal infinitive as a complement. Sentence (11d) confirms this claim because we noted

earlier that the causative manipulative verbs only select an IP as a complement. Sentences (11e-g) also support the sensitivity of the interpretation of PRO to the verbal argument structure. These sentences do not allow the arbitrary interpretation because in this instance the complement is an IP. This in turn rules out the partial control interpretation because the embedded verb *kopana* 'meet' needs to have its argument structure requirements fulfilled. Since this requirement is not met we do not get a partial interpretation.

5.4.3 Split Control

Split control is a referential dependency whereby two arguments of the control verb jointly control PRO (Landau 2000). In Sesotho, generally object control verbs look like they allow split control as long a pronoun that refers to the matrix subject is included in the embedded clause. In other languages such as English the word 'together' is used as a way of testing for split control. In Sesotho, we can use *mmoho* 'together.' Again, *mmoho* 'together' requires a plural subject. Let us look at some examples.

(12) Split control

(a) *Bana$_i$ ba - dumella mme$_j$ PRO$_{*i+j/j}$ ho – kop-an-a mmoho
2.children 2.SM - allow 1.mother INF – meet-REC-FV together
'The children allowed mother to meet together'

(b) *Morena$_i$ o- tshepisa monna$_j$ PRO$_{*i/*i+j}$ ho -sebetsa mmoho
1.king 1.SM- promise 1.man INF-work together
Intended:'The king promises the man to work together'

(c) Mme$_i$ o - kopa bana$_j$ PRO$_{*i/*i+j/j}$ ho- hlatsw-an-a mmoho
1.mother 1.SM- ask 2.children INF- wash-APPL-FV together
'Mother asks children to wash together'

(d) *Mme$_i$ o- tshepisa ngwana$_j$ PRO$_{*i/*i+j/j}$ ho- hlatsw-an-a mmoho
1.mother 1.SM- promise 1.child INF -wash-REC-FV together
'*Mother promises the child to wash together'

(e) Mme o -bolella ngwana hore ho -hlapa mmoho ho- monate
1.mme 1.SM-promise 1.child that INF-wash together fun 15-fun
'Mother told the child that PRO $_{*i/i+j/*j}$ washing together is fun'

There are a number of reasons why we do not get the interpretation where PRO is controlled by both arguments of the matrix clause. First, the notion of whether partial control is an instance of obligatory control continue to be debated, however, if we treat it as a case of NOC in Sesotho PRO would have an arbitrary interpretation. We have already noted that the arbitrary interpretation associated with PRO in Sesotho obtains when the object of the matrix clause is omitted. Partial control requires both arguments of the matrix clause. This itself would be a problem for Sesotho.

Secondly, we noted that the interpretation of PRO is determined by the MDP. For each of the sentences in (12), the MDP rules out the subject of the matrix clause as the controller since there object is the closest c-commanding NP. This is indeed the case as indicated by the notation *i, where 'i' refers to the subject of the matrix clause. The third point relates to the requirement of the embedded clause. We have already established that the embedded clause is IP, as such, the argument selection requirements of the verb have to be met. Reciprocal verbs require a singular plural so PRO must have a plural referent. As demonstrated by sentences (12a&b) this requirement is not met because the MDP excluded the possibility of joint controllers. Sentences (11c&d) further reveal that the embedded verb requires the plural controller. In (11c) the object of the matrix clause is plural whereas in (11d) it is singular.

Finally we noted earlier that in Sesotho, the subjunctive is also selected by control verbs. Sentence (11e) shows that in order to get the reading where the subject of the embedded clause is controlled jointly by the arguments of the matrix clause, the subjunctive is required. In this case there is no instance of control.

As can be observed from the data, Sesotho does not allow the arguments of the control verb to control PRO jointly. In Sesotho, only one argument of the control verb may control PRO. Again we conclude that the argument structure requirements of the embedded verb have an influence on referential dependencies.

5.5 Summary

In this chapter I investigated the role played by argument-structure changing verbal morphology in accounting for the differences in referential dependencies observed across and within verb classes. I then show how this verbal morphology impacts on a typology of control attested in Sesotho. I also explored how control relations help distinguish between the nominal infinitive and the clausal infinitive.

I subsequently examined control types in Sesotho. I discovered that object control verbs that allow control shift from object to subject are inherently applicative. Those that allow the shift from object control to arbitrary control are morphologically applicative or have a combination of causative and applicative morphology. These are the verbs that help to distinguish between the nominal infinitive and the clausal infinitive. Finally, I established that, the MDP and the argument –structure of the embedded clause is responsible for the lack of partial control and split control in Sesotho.

CHAPTER 6
DISCUSSION AND CONCLUSION

6.1 Summary

In this study I embarked on a classification of control verbs in Sesotho. I identified 5 semantic classes: Achievement, factive, desiderative which are subject control verbs and experiencer-object and manipulative which are object control verbs. In order to capture all the syntactic and morphological properties associated with these classes I established a typology of control in Sesotho. As a way of understanding control, I concentrated on three major questions:

Question 1: What is the status of *ho* in Sesotho?

Question 2: Are there different kinds of controlled complements and, if so, what are they?

Question 3: What role does argument-structure changing verbal morphology play in control phenomena?

The answers to these questions were answered in the various preceding chapters. In Chapter 2 I explored the morpho-syntactic properties of nouns and verbs in Sesotho. I examined the nominal infinitive (class 15 nouns) in relation to other noun classes. I showed that the nominal infinitive demonstrates all properties associated with other nouns although it fails to pluralize or trigger OM as an object. I compared this pattern to other noun classes (such as the locative) that share the same prefix and agreement morphology. I also noted that the nominal infinitive prefix *ho* is capable of deriving nouns from verbs, like other noun class prefixes. However, unlike other noun derivations, the suffix of the derived noun is always *–a,* which I directly linked to the verbal morphology observed with nominal infinitives.

I also reviewed the treatment of the infinitive in the literature and showed that the various scholars agree that the infinitive is both a noun and a verb at the same time. I took this a step further by showing that nominal infinitives are more restricted as objects because they are

selected by control verbs and these verbs impose their requirements on the types of complements they select. This is explored in Chapter 4 which I summarize below.

I also used the Theta criterion, the Case filter, EPP and the PRO theorem to determine the subject of the infinitive in Sesotho. These principles were used to highlight the differences between the subjunctive and the infinitive while showing that control is only possible with the infinitive in Sesotho.

In Chapter 3 I examined aspects of Sesotho morpho-syntax operational in control phenomena. I paid attention to agreement (SM and OM) and argument-structure changing verbal morphology (verbal extensions). I looked at the SM and OM in Sesotho sentence structure to set the stage for the argument that although Sesotho shows OM in the infinitive, the SM and OM are different in that the SM is obligatory whereas the OM is optional. I attributed this 'impoverished' agreement of the infinitive to the lack of Tense which is associated with finite clauses.

I then moved on to look at verbal extensions. I focused mainly on the causative, the applicative and the reciprocal. I then extended the argument-structure associated with these verbal extensions to the control patterns associated with control verb classes. I proposed that when the causative is used with control verbs it changes that particular verb from a subject control verb class to an object control verb class. I also suggested that although the applicative is also associated with changing a subject control verb to an object control class, it performs a slightly different function from the applicative. For example, I show that the applicative is responsible for distinguishing between verbs that induce control shift, associated with the interpretation of PRO.

The reciprocal gives a slightly different picture in that it is not used with the control verbs. However, it is useful in determining referential dependencies. I used the reciprocal as a diagnosis

for partial and split control in Sesotho. Putting all these proposals together, this chapter addressed the questions of the role played by argument-structure changing verbal morphology in control phenomena as well as the question of the status of *ho* in Sesotho.

In Chapter 4 I approached the classification of control verbs by looking at whether a correlation exists between certain verb classes and syntactic properties. I did this by mapping the syntactic properties onto verbal morphology. The main finding is that the variation in referential dependencies observed within verb classes can be directly accounted for through verbal morphology. I discovered that the majority of verbs that are "bare" are associated with subject control and these are also associated with a lack of shift from subject to object. Object control verbs on the other hand are either causative, applicative or both. As we observed in Chapter 3, these are responsible for introducing a benefactive and patient role. It is therefore not surprising that these verbs are object control verbs. Another important distinction within object control verb classes is that the subdivisions are based on whether or not these verbs participate in control shift. This is a property also associated with verbal morphology.

I closed Chapter 4 with an evaluation of verbs that are control verbs in other languages but not in Sesotho. I proposed that the lack of control with interrogative verbs, such as "wonder' is associated with the lack of wh-movement in Sesotho, a movement which is associated with these verbs in languages that allow wh-movement. I also proposed that a close examination of these verbs reveals that they select the subjunctive rather than the infinitive in Sesotho. This further supports my observation that certain control verbs prefer the subjunctive over the infinitive.

In Chapter 5 I set out to establish a typology of control in Sesotho. I used this analysis of the types of control attested in Sesotho to further explore the differences between the nominal infinitive and the clausal infinitive. As noted in Chapter 2, the nominal and clausal infinitive

share the same properties with minor differences. This comparison in Chapter 2 highlighted the similarities between the two but did not really explain why the two should be treated differently. Through an exploration of the referential dependencies as well as the morphological composition of control verbs, I illustrated that the distinction between the nominal and clausal infinitive rests with referential dependencies associated with PRO as the subject of the infinitive. For example, I showed that object-control verbs that are applicative or have a combination of causative and applicative give the interpretation of PRO_{ARB} which is an equivalent of the nominal infinitive. Because PRO_{ARB} has no c-commanding referent, it can occur in subject position, but PRO that requires an antecedent is restricted to object position.

Another major contribution associated with control verb classes and the role played by verbal extensions is that these two directly determine types of control. Subject control is common with bare verbs, object control is associated with the causative and applicative, and the reciprocal is responsible for determining referential relations but also responsible for determining potential control relations. Sesotho lacks partial control and split control because the morphology associated with these types of control is not compatible with Sesotho verbal morphology. Chapter 5 has directly addressed questions (1) and (3) above.

6.2 Implications for Control Relations

Recent studies on control may be divided into three areas: Control may be viewed primarily as a syntactic phenomenon (Chomsky and Lasnik 1993, Hornstein 1999, Boeckx and Hornstein 2003 amongst others). Others view semantics as a central component in understanding control (Sag and Pollard 1991, Levin 1993 & 2007, Cullicover and Jackendoff 2001 & 2005 amongst others). There is yet another line of thought which supports the idea that a purely semantic or purely syntactic approach to obligatory control is not adequate, but rather a combination of morphological agreement and semantic tense is better suited to account for cross-

linguistic typology (Landau 2003, 2006). Analyses of control in Bantu languages are in their infancy so it is difficult at this point to indicate which direction my findings point. What I would like to do at this point is show how the MDP, agreement specifically (OM) and verbal extensions work together to determine the reference of PRO.

The MDP proposes that in obligatory control constructions the controller must c-command PRO and that the controller must be the closest c-commanding NP. One set of the verbs that is usually cited as a cause for concern for the MDP is the *promise* type set in which the subject of the main clause controls across the object. The example in (1) illustrates:

(1) Samuel$_j$ promised Mary$_k$ [PRO$_{j/*k}$ to cook dinner]

Sentence (1) clearly indicates a violation of the MDP since the closest c-commanding NP is *Mary*. Sesotho presents a slightly different problem. When *tshepisa* 'promise' is used without the object, PRO is understood as having the same reference as the subject of the matrix clause. However, when the object is introduced the results are mixed. PRO can either refer to *mme* or *bana* in (2&3). This is indeed a problem for the MDP. However, we have already noted that Sesotho uses the verbal morphology to account for concepts that can be dealt with syntax in other languages.

(2) Mme$_j$ o - tshepisa PRO$_j$ ho- sebetsa
1.mother 1.SM - promise INF - work
'Mother promises to work'

(3) Mme$_j$ o - tshepisa bana$_k$ PRO$_{?j/?k}$ ho- sebetsa
1.mother 1.SM - promise 2.children INF- work
'Mother promises children to work'

(4) Mme$_j$ o - tshepisa bana$_k$ PRO*$_{j/k}$ ho - mo - sebel-ets-a
1.mother 1.SM - promise 2.children INF - 1.OM- work-APPL-FV

'Mother promises the children to work for her'

(5) #Mme$_j$ o - tshepisa bana$_k$ PRO$_{j/*k}$ ho - ba- sebel-ets-a
1.mother 1.SM - promise 2.children INF - 2.OM -work-APPL-FV
'#Mother promised the children to work for them'

(6) Mme$_j$ o - tshepisa PRO$_j$ ho - ba - sebeletsa bana.
1.mother 1.SM - promise INF - 2.SM - work-APPL-FV 2.children
'Mother promises to work for the children'

The introduction of the applicative suffix on the verb of the embedded clause as well as the object agreement (OM) determines which NP controls PRO. In (4), the OM refers to the recipient *mme.* This subject cannot be the recipient and agent of the same verb at the same. However, we would expect (5) to be acceptable because the recipient is *bana* hence the OM agrees with this NP, the agent is *mme.* The sentence is odd under the reading that PRO is co-referenced with *mme.* The reason for (5) being odd is that this verb allows subject control, then the clause containing PRO needs to get closer to the controlling NP, hence (6) is a perfect sentence in Sesotho.

Two things come out of these data in (2-6). One is that the MDP seems adequate to account for control relations in Sesotho complement control. The other is that an approach which does not take into account the morphology associated with the main verb as well as the embedded one would pose a challenge for the MDP.

6.3 Concluding Remarks

Most studies on control constructions have been based on the more widely studied languages. The approaches to control mentioned in the previous section are based on many years of research. As I hope to have shown throughout this study, Sesotho does not quite work well with the various tests for empty categories for example. In Sesotho when you move the object NP, the moved NP is replaced with the OM which keeps the connection, more like leaving a trace. Sesotho control provides a window into languages that make use of verbal morphology to

do “syntax.” We noted that Sesotho uses morphology together with syntax principles such as the MDP to account for why a reference relation that requires a split between two antecedents (split control) is not possible. We also noted that where the MDP would have been challenged the morphology becomes of assistance.

I hope that this study will open up avenues for scholars of control regardless of their approaches to control constructions. There are two issues that I feel need to be studied. One concerns whether the control patterns observed in Sesotho are possible with other Bantu languages, or whether they are varied. If they are varied, are there ways of determining the variation by looking at the morphology?

On a more cross-linguistic level it would be interesting to see how the morphology associated with verbal extensions would be written into features that would help determine the referential dependencies of PRO. Finally, it would also be interesting to find out if all control verbs in Sesotho take a clause with a subject or whether there are differences as proposed by Wurmbrand 2001.

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BIOGRAPHICAL SKETCH

Mantoa Rose Smouse was born in Bloemfontein, South Africa. She is the second youngest of six children. She grew up in Zastron, a small town on the borders of Lesotho, the Free State and the Eastern Cape Province. She attended elementary school on a farm school near Zastron, Diepfontein. She then moved on to do her middle school in the Eastern Cape, then called Transkei. She completed her High School in 1989 at Lere La Thuto in Zastron. Mantoa earned her Bachelor's Degree, Higher Education Diploma and Honor's Degree from the University of Cape Town in 1994, 1995 and 1998 respectively and a Master's Degree from the University of Florida in 2004.

Upon graduating in 1995, Mantoa started teaching at Rusternburg Girls' High School in Cape Town. Whilst teaching at Rustenburg she enrolled to do her graduate studies at the University of Cape Town. In 2000 she was awarded a Prestigious A.W. Mellon Scholarship which afforded her an opportunity to pursue graduate studies at a university in the United States.

Mantoa is currently teaching at University of Cape Town in South Africa. She has been married to Simon Smouse for 18 years. They are blessed with three children: Naledi, age 17, Tlhodiso, age 13 and Mapule age 4.