

**THE SYNTAX OF CONTROL CONSTRUCTIONS IN KIKUYU: A LEXICAL
FUNCTIONAL GRAMMAR APPROACH**

BY

NJUGUNA BERNARD GITHITU

C50/75062/2012

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT FOR THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS IN
LINGUISTICS AND LANGUAGES OF THE UNIVERSITY OF NAIROBI.

2014

Declaration

I declare that this is my original work and has not been submitted for the award of a degree to any other university.

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Njuguna Bernard Githitu

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Date

This research has been submitted with our approval as the university supervisors.

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Prof. Lucia N. Omondi

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Date

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Dr. Alfred Buregeya

.....

Date

Acknowledgements

I thank God for His love and grace throughout the period of this course. Special thanks go to my wife: I appreciate your understanding and assistance throughout the course. To my sons, Franz and Gedalya, who had to miss Daddy when he was too busy, thank you. Mum, I thank you for your encouragement and the optimism you instilled in me.

My sincere thanks go to my two supervisors Prof. Lucia N. Omondi and Dr. Alfred Buregeya. Thank you Prof. Omondi for introducing me to GB, discovering my interest in syntax and encouraging me to pursue it. Thank you for your kindness and positive criticism as you guided me in this project. Dr. Buregeya, thank you for your unfailing support and showing me the direction to take candidly. You did not mind editing my work and for that I thank you greatly.

To all the lecturers who taught me on the MA Programme, I am grateful. You imparted more than knowledge to me. Dr. Schroeder, thank you for your useful comments especially on raising in LFG; you listened to me when I most needed your audience. Dr. Maloba, thank you for your comments on the rationale of my study.

My classmates: I thank God for giving me an opportunity to meet and know you. You were encouraging and willing to offer help when one's 'mental place' got stuck. Thank you for your humour; you made life bearable. You have enriched my life and I wish you God's blessings.

I am greatly indebted to Mr. Njau Mbaka and the entire staff of the Kinyogori High School for the support they gave me especially in June 2013. Rev. Ndung'u: without your prayers and encouragement, the course would have been harder. Thank you for standing with me. Dr. Muregi, you remain my model. Not only do I admire you, but I also learn a lot from you. Special thanks go to Mr. John Njoroge and family for their support throughout the programme. Space would not allow me to mention everyone who assisted me in this course, but let them accept my sincere gratitude.

However, I am the only one accountable for any error in the content of this document.

Dedication

To my dear wife Nancy and my sons Franz and Gedalya.

GOD BLESS YOU

Abstract

This study endeavoured to test the claims of Lexical Functional Grammar (LFG)-which developed as an alternative to transformational theory-using control in Kikuyu. Government and Binding (GB) Theory formed the background. The aim was to identify the shortfalls of a GB account of Control and test the well-formedness conditions and principles in LFG. A further aim was to ascertain the extent to which anaphoric and functional control account for control in Kikuyu as well as the way LFG addresses the shortfalls of a GB account of control.

Self-generated sentences and sentences from published and unpublished works in Kikuyu were listed and analyzed using GB theory before an LFG analysis. The study found that GB had several shortcomings in its account of Control which included government and portmanteau in the use of the subject agreement marker in Kikuyu. It was also found that the well-formedness conditions on F-structure (except coherence) and the principles working in C-structure license or constrain control in Kikuyu. Functional control was found to license raising constructions in Kikuyu while anaphoric control explains all the other forms of control in Kikuyu. However, there are forms of obligatory control in Kikuyu which the theory could not account for. The study therefore suggests further research to ascertain the adequacy of LFG in describing Bantu languages.

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Abbreviations

Asp	Aspect
Comp	Complementizer
Cond.	Conditional morpheme
Conj	Conjunction
Conn	Connector
Cop	Copular verb
Foc	Focus morpheme
Fv	Final vowel
Mer	Mereology
Neg	Negative morpheme
Obj	Object
Om	Object marker
Pass	Passive morpheme
Pfv	Post final vowel
Pre	Preposition
Refl.	Reflexive morpheme
Sm	Subject marker
Subj	Subject
Tns	Tense

CHAPTER ONE

INTRODUCTION

1.1. Definition of “control” in syntax

“Control refers to a relation of referential dependence between an unexpressed subject (the controlled element) and an expressed or unexpressed constituent (the controller); ...,” Bresnan (1982:317). It “concerns how to determine the understood subject of infinitival or gerundival VPs that lack an overt local subject,” Culicover and Jackendoff (2005: 415). This subject is “an NP which is syntactically active hence represented, but which has no overt manifestation,” Haegeman (1994:254). In literature, this ‘understood subject’ is referred to as PRO. Consider the following sentence for an example.

1. a. Kamau *wants to eat* food.

The sentence has two predicates *want* and *eat* both of which are two place predicates as proven below.

- 1a. Kamau wants *eggs*.

- b. *They* eat food.

In sentence (1), the matrix verb *want* realizes all its arguments with the NP *Kamau* being the external argument and the infinitival complement *to eat food* its internal argument. The verb *eat* on the other hand bears an overt internal argument, the NP *food* but lacks an overt external argument. The subject of the verb *eat* is interpreted as being the same as the subject of the matrix verb *want*. In (1), the null subject of the verb *eat* is therefore controlled by the NP *Kamau*. Now look at the following sentence.

- 2 a. The building was demolished [PRO to construct a new airport].
- b. Kamau *wants* [PRO *to construct* a new airport].

The subject of *construct* in (2a) is controlled by the implied subject of *demolish* unlike (2b) where the overt NP *Kamau* controls the controlee. Thus, PRO can be controlled by an implicit argument.

1.2. Background to the Study

“Control Theory is the bane of professional theoreticians and students alike. It is, quite simply, the least elegant part of syntactic theory,” notes Carnie (2006:411). Complexities in the theory have motivated a lot of research with different authorities assuming differing positions. Rosenbaum (1967) for example treats control as an “identity erasure” transformation which “would stipulate that the subject of the complement sentence is obligatorily deleted just in case it is identical to the first noun phrase to the left of the complement sentence in the main sentence,” (1967:16). This transformation is guided by the Identity Erasure Principle which states:

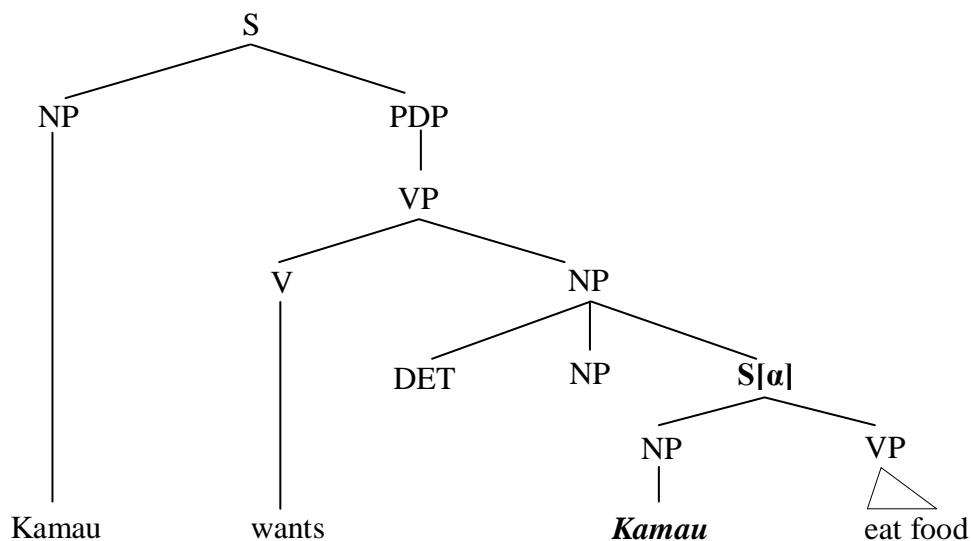
NP_j can be erased by the identity erasure transformation just in case there is some sentence S_α such that:

- i. NP_j is dominated by S_α
- ii. NP_i neither dominates nor is dominated by S_α
- iii. For any NP_k which neither dominates nor is dominated by S_α , the distance between NP_j and NP_k is greater than the distance between NP_j and NP_i ...

Rosenbaum (1967:17).

Example (3) illustrates the identity erasure principle.

3. Kamau wants Kamau to eat food.



In the case above, the erasing NP is the subject of the main clause. The “erasing NP” can also be the object of the matrix verb as in (4) borrowed from Rosenbaum (1967:19).

4. a. I prevail upon John to go.

b. I prevail upon John *John* go.

In example (4) above, (4a) is a product of an erasure of the infinitive subject (the NP in bold in 4b) by the identical object NP of the matrix verb *prevail*.

In the Standard Theory, Control was still treated as identity erasure but named “Equi NP Deletion (END), Boeckx et al. (2010:6), Davis and Dubinsky (2004:24). END deleted a second NP as long as its identity was similar to a higher NP. In sentence (3) above repeated here as (5), the object NP (in italics) shares an identity with the subject of the matrix verb.

5. a. Kamau wants *Kamau* to eat food.

END applies to the second NP resulting in (5b) where the second NP is deleted becoming phonetically null but still understood.

5. b. Kamau wants _ to eat food.

A deletion that affected an NP further removed from the first NP with which they share an identity was called “Super Equi NP Deletion (SEND)” Boeckx et al. (2010:6). This is illustrated in sentence (6).

6. “John said that Mary believes that _ washing himself would make a good impression...” (2010:9).

The NP Mary intervenes between the controller and the controlee hence SEND occurs.

In Government and Binding Theory, Control is taken “as a sub case of syntactic binding...” Culicover and Jackendoff (2005:417). It deals with the Null subject of infinitives and gerunds represented as PRO which results from an interaction of different principles in the theory. Unlike the previous two approaches, GB assumes that the Null pronoun PRO is base generated (not a product of a transformation) by phrase structure rules and lexical insertion rules. Phrase structure rules generate an NP but no lexical item is inserted leading to a non-overt NP. Carnie (2006:403) feels that PRO exists “to account for an apparent hole in our theory...a

technical solution to a technical problem that is raised only by our particular formulation of the constraints.” It is generated to satisfy the demands of other modules of the grammar such as Theta theory, (see section 2.2.1 for a fuller discussion).

The transformational approaches presented above face several challenges. Taking control as END for example fails to explain the existence of an arbitrary PRO (PRO_{arb}) while SEND fails to explain the reason an NP that is far controls yet there is a nearer NP. Assuming that the controlled null NP is a Pronominal Anaphor contradicts Binding Theory. Harford (1987: 60-61) contends that PRO can occur in the subject position of tensed clauses. Moreover, a transformational approach fails to account for focused PROs which are controlled by an overt NP in the sentence as in (7)

7. PRO kūrīma Kamau ⁿde endete.

PRO to farm Kamau does not like.

Kamau does not like farming.

In this case, one can identify the NP *Kamau* as the person who does not like farming. Now compare (7) to the following sentence.

8. a. PRO kūrīma nī kwega.

PRO to farm is good.

b. PRO kūrīma nī kwende.

PRO farming is loved.

In this case, PRO refers to an arbitrary entity outside sentence (8) which confirms that PRO in sentence (7) is controlled by the NP *Kamau* which comes after it.

In the Lexical Functional Grammar (here after LFG) paradigm, Control is taken as a relation of “referential dependence,” Bresnan (1982:317) between a controller and a contolee. It requires “coreference between an argument of the matrix clause and an argument of a subordinate or modifying adjunct clause,” Darylmp (2001:313). It is therefore “structure sharing between a subject and the subject of a complement,” Sells (2006:3). LFG differs from transformational grammar in several ways. To begin with, it refutes the claim that categorical structure is before functional structures. Another assertion is that complete lexical items are inserted into a structure from the lexicon. Inflections therefore are done before insertion and not after which rules out such transformations such as the passive and affix hopping while the

concept of government is not structural. A major difference between an LFG approach and a Transformational approach to control is that, the subject of the subordinate clause is not represented in the phrase structure tree but in the F-Structure (the structure that shows the grammatical relationships in a sentence). An adequate theory of grammar should explain every observable phenomenon in a language. Being a theory of syntax, LFG should explain control constructions in Kikuyu.

1.3. Statement of the Problem

This study endeavoured to analyze the concept of Control in Kikuyu within the framework of a Lexical Functional Grammar since a transformational approach “prompts...a conceptually and empirically problematic technology...” Boeckx (2006:160). For example, Bresnan (1982:320) and Boeckx et al. (2010:15) challenge the concept of government as used in Government and Binding.

LFG developed as an alternative to transformational grammar, Davis and Dubinsky (2004:151) and Lipps (2008:40) hence the interest to find out how differently the theory handles Control. LFG identifies two kinds of control: Anaphoric control and Functional control. This study tested the adequacy of anaphoric and functional control in explaining the syntax of control in Kikuyu. The well-formedness conditions and principles in LFG such as completeness, coherence, uniqueness and lexical integrity are also tested as is F-Command. Besides, it was the interest of this paper to find out how LFG accounts for the distribution of the null NP PRO. Lastly, control in Kikuyu has not been handled in an LFG framework hence a knowledge gap.

1.4. Research Objectives

The following were the research objectives of this study.

- i. To identify the shortfalls of GB Theory in describing control constructions in Kikuyu.
- ii. To test the well-formedness conditions and principles in LFG as they relate to control constructions in Kikuyu.

- iii. To establish how the notion of control works in Kikuyu within the LFG framework thereby testing Anaphoric and Functional control.
- iv. To investigate the adequacy of LFG in describing control in Kikuyu.

1.5. Research Questions

This study endeavoured to answer the following main question:

How does Control work in Kikuyu?

To respond to this question, the following specific questions were addressed.

- i. Which are the shortfalls of a GB account of Control?
- ii. How do the well-formedness conditions and principles in LFG explain and license control constructions in Kikuyu?
- iii. How and to what extent does anaphoric control and functional control work in Kikuyu?
- iv. How does LFG address the shortfalls of a GB account of control in Kikuyu?

1.6. Rationale of the Study

LFG offers an alternative to a Chomskyan approach to language analysis. It developed as an attempt to address the apparent weaknesses in transformational theory such government. Much of the research on control in LFG has relied on data from European Languages especially English. Polinsky and Postdam (2004:365) assert that most studies of control have built heavily on the facts of English and a small number of other well studied languages. Many of these languages are isolating languages. This study therefore sought to test an LFG account of control using Kikuyu an agglutinating, African Language. The language offers a good base to test the adequacy of LFG in describing such languages. Results of this study- it was hoped- would be of interest to theoreticians and in linguistic research.

Transformational theory has undergone several changes since Chomsky (1965). This has been caused by new data from hitherto unstudied languages or the discovery of new phenomenon or even the perceived weakness and complexity of the approach. LFG on the other hand has remained relatively stable since its development in the 1970s perhaps suggesting its adequacy in linguistic analysis. It is important then to test whether the theory can adequately account for syntactic constructions in Kikuyu.

Limited use of LFG compared to Transformational theory in describing Bantu languages further justifies this study since it will add to the available LFG literature. Similarly, control in Kikuyu has not been addressed from an LFG approach and this study filled that knowledge gap. This in turn identified areas of interest which would encourage further research.

1.7. Scope and Limitations

This study was restricted to the study of Control constructions in the Southern Dialect of Kikuyu. The phrase ‘control constructions’ was used to differentiate control from non-control clauses in Kikuyu which use nonfinite verbs. Though some other aspects of the syntax of the language were appealed to, the main discussion was based on Control in Kikuyu from an LFG perspective with GB offering an essential milieu. Other theories such as Minimalism were mentioned when their claims were found relevant in clarifying a research item under discussion. The paper did not present a complete discussion of the theoretical instruments but rather highlighted their tenets of direct importance to this study. Besides, the study did not focus on laying bare the conundrum of Control Theory but rather to offer an avenue for testing the claims of LFG as a grammatical theory. Thus, attention was paid on how the constraints in the theory explain or fail to explain control constructions in Kikuyu. The largest amount of data used was self-generated and hence vulnerable to personal biases. This was lessened by cross checking the data with other native speakers. Time was a great limitation for certain deadlines had to be met. An attempt was therefore made to carefully use the available time for maximum productivity.

1.8. Theoretical Framework

This section is an introduction to the theoretical orientations that this work assumed. The study used LFG with a Government and Binding background.

1.8.1. Government and Binding Theory

This is a theory of syntax that developed as an improvement on the Extended Standard Theory. It was first introduced by Chomsky (1981). The name is drawn from its two main sub-theories: Government which explains the relationship between parts of a Phrase or Clause and Binding which regulates the distribution of NPs. Its main assumption is that all grammars share certain

“principles that were the same... and parameters that allowed grammars to vary in limited ways,” Cook and Newson (2007:3). What is common to all the grammars, make up Universal Grammar. Further, it argues that “UG can be broken into two main components: Levels of representation and a system of constraints,” Black (1998:2). The levels of representation are four namely:

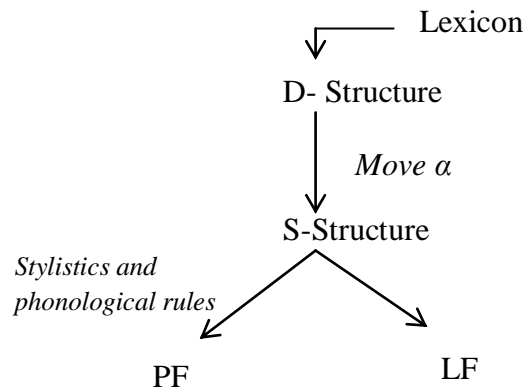
The lexicon which bears the properties of lexical items

A D(eep) underlying structure where the lexical items are combined

A S(urface) structure which is a representation of the order of the sentence and

LF and PF which mediate in the perception and interpretation of the sentence.

This is schematically represented below.



Source: Black, (1998:2)

The theory relies on rule mediated transformations to map one level onto another. For example, a WH- movement forms questions at the surface level from the more abstract declarative at D-structure. Rules combine together to form modules that interact at different levels with others to form a complete and acceptable sentence. These modules form sub theories of GB and together with the principles form a system of constraints. The sub-theories that make up GB are: X' theory, Case theory, Theta theory, Binding theory, Government theory, Bounding theory and Control theory.

X' theory regulates the projection of phrases from the idiosyncrasies of lexical entries. It stipulates the structural relations among constituents in a clause. It draws from phrase structure rules and generalizes phrase structures. For example, all phrases will have a specifier and a complement position.

Theta Theory deals with the assignment of thematic roles to arguments as dictated by the predicate. Some major thematic roles assigned to NPs include agent, the initiator of an action; patient/theme, what is affected by action; Experiencer, the entity that suffers a psychological state among others. This module contains the theta criterion which states:

Each argument is assigned one and only one theta role

Each theta role is assigned to one and only one argument. Haegeman (1994:53).

Theta theory interacts with case theory in licensing the distribution of NPs within a clause.

Case Theory concerns the assignment of abstract case to NPs. This is obligatory for before NPs receive a theta role, they must be assigned case. NPs that bear case are said to be visible for theta marking. It contains the case filter which states:

Every overt NP must be assigned abstract case, Haegeman (1994:167).

Government Theory outlines the structural relations between a head and its modifiers. The modifiers depend on the head for their licensing for example, case is assigned under government. A closer look at government shows that save for INFL, government is a structural relationship between a head and its complements while finite INFL governs its specifier instead. Governors include VP, PP and INFL. Its role in the distribution of the empty pronoun PRO will be presently investigated.

Binding Theory on the other hand regulates the interpretations of NPs and therefore operates at LF. It is guided by three principles which are used to group all NPs into anaphors, pronouns or R-expressions. The principles are:

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

Principle B: a pronoun must be free in its governing category.

Principle C: an R-expression must be free everywhere.

The features \pm Anaphor and \pm Pronominal are used to categorize NPs as feature matrixes. This is discussed further later in this study.

Bounding theory constraints the distance a moved element may cover. That is, it specifies the distance between the extraction and landing site of an element. It defines the barriers that cannot be crossed and offers explanations on barrier violations. Moreover, this module explains the issue of islands. Control Theory-which is the concern of these work- deals with the

interpretation and distribution of the null pronominal element at the subject position of non-finite clauses. This will be discussed in detail in later chapters.

In addition, GB has three components the lexicon which specifies the phonological, semantic and syntactic information of lexical items; PF which phonetically represents the abstract structures of sentences and an LF which offers an interpretation to the PF. Some major principles in GB include the Projection Principle which states that lexical information is syntactically represented. The Extended Projection Principle demands that every sentence must have a subject. The Structure Preserving Principle ensures that all structures developed at D-Structure are maintained at S-Structure while the Avoid Pronoun Principle makes the subject pronoun optional especially in pro-drop languages. The Empty Category Principle states that an empty category must be properly governed.

1.8.2. *The Lexical Functional Grammar*

The Lexical Functional Grammar “is a lexicalist, declarative (non-transformational), constraint based theory of generative grammar,” Asude (2009: ii) which was developed in the 1970s by Joan Bresnan and Ron Kaplan. The main aim is to offer an alternative to Chomskyan perspectives. It contends for example that “...there is more to syntax than you can express with phrase structure trees” Sells (1985:135). The theory rejects a deep structure from which another structure is derived but contends that the different structures exist parallel to each other at the same time with each having its own representation. They are related through a system of mapping. LFG permits differing phrase structures for different languages unlike Chomskyan approaches that posit a uniform phrase structure for all languages. The theory is lexical and the lexicon is highly enriched where each lexical item is packed with the necessary information to participate in a syntactic structure.

As different grammatical structures are present at the same time, and they correspond or project to each other via mapping, its architecture then can be referred to as Parallel Projection Architecture or Correspondence Architecture, *ibid* (2009:1). The architecture comprise of several

structures with the main ones being the C-structure and the F-structure, while other structures include the a-structure and a mapping theory.

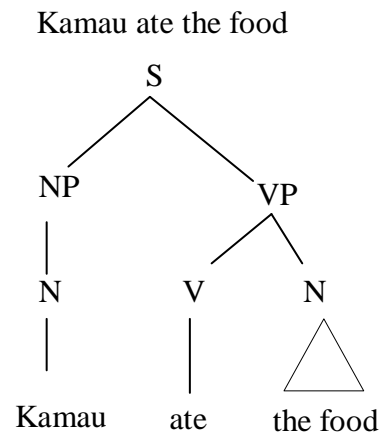
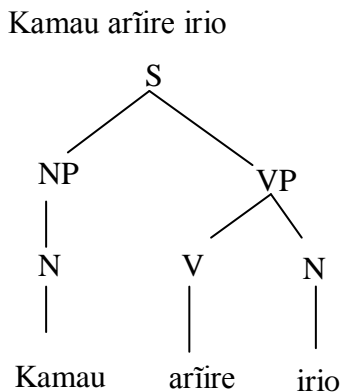
1.8.2.1. C-Structure (constituent structure)

A constituent in this study refers to related groups of words in a sentence that function as a unit. The C-structure represents such constituents by the use of a phrase structure trees following some modification on the X' notation. Syntactic relations such as domination and precedence express constituent relations in a sentence. In addition, the category of the word is indicated in the C-Structure.

The terminal nodes of the C-Structure bear complete words where every word is attached to only one node. This is guided by the *Lexical Integrity Principle* which states that terminal nodes of c-structures are morphologically complete words. Using Dalrymple (2001:52) terminology, the leaves of the constituent structure tree are individual words filling a single constituent structure node. C-Structure is also constrained by the *Economy of Expression Principle* which observes that, “all syntactic phrase structure nodes are optional and are not used unless required to create a well-formed f-structure or to add semantic content”, Dalrymple (2001:33). The principle shows the preference of lexical expression to phrasal expression as the nodes are not obligatory. This principle forbids the appearance of empty categories in the C-Structure. (9) gives an example of a c-structure.

9. Kamau arĩire irio

Gloss: Kamau ate the food.



Notice that the verb in Kikuyu is not reduced to its constituent parts but is represented as a unit due to the lexical integrity principle. In a Chomskyan perspective, (for example Minimalism), the agreement marker *a* would have its own maximal projection *AgrsP*. *a* is the subject agreement marker as it changes to agree with the number of the subject as in (10) below:

10. a. Kamau	<i>a</i>	rĩire	irio.
Kamau	<i>sm</i>	eat+tns	food.

Kamau ate the food.

b. Andũ	<i>ma</i>	rĩire	irio.
People	<i>sm</i>	eat+tns	food.

People ate the food.

1.8.2.2. *F-structure*

This is the universal language structure that shows the abstract grammatical relations within a sentence and relates them to semantic relations shown by the predicate (a-structure). Grammatical functions such as subject, object, tense and case are shown in this structure. It is made up of an Attribute and its Value(s) which is written in the form of a function hence the name Functional. The item to the left is the attribute while its value is given on the right forming an attribute value matrix (AVM). Every attribute has one value according to the uniqueness condition although values can be shared by different attributes. Grouping all the AVMS in a sentence gives the sentence's functional structure.

The arguments subcategorized by a predicate such as SUBJ and OBJ are said to be governed by the predicate and are written in angled brackets. Other governable grammatical functions include COMP, XCOMP and OBL_θ. A word in a sentence contributes a semantic form called PRED which is shown by the use of single quotations marks as (11) below:

11. Eat.

[PRED 'EAT <SUBJ, OBJ>']

This shows that the verb *eat* takes two arguments: a subject and an object. Non thematic arguments are written outside and after the angled brackets. For example, the argument structure of *appeared* in example (11) is as shown following.

11. Kamau appeared to understand

[PRED 'APPEAR <XCOMP>SUBJ']

This implies that the verb “ appear” takes only one thematic argument which is an open complement while its subject is non-thematic. Functional descriptions show the values of features in an F-Structure which may be other F-Structures as shown below:

(f NUMBER) = SINGULAR

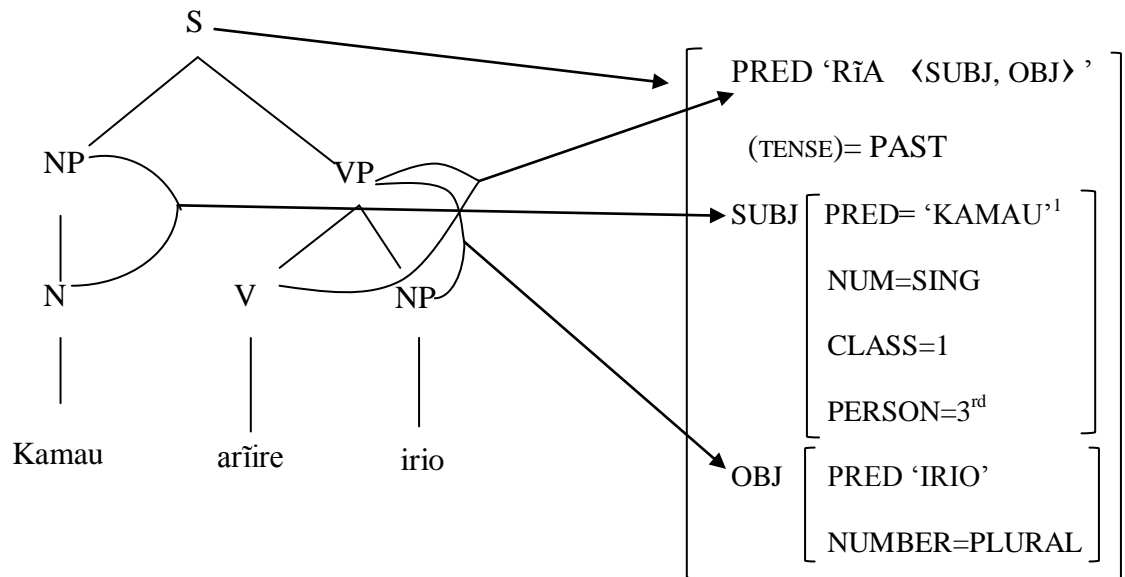
Or

(f SUBJ) = h (where *h* is an F-structure).

F-Structures do not only contain grammatical functions¹ but also other features such number, case specifications and tense.

1.8.2.3. *Relating the C-Structure and F-Structure*

Certain symbols (metavariables) are used to show F-Structures on C-Structures. They are ↑ which means the immediately dominating node and ↓ which means this node. For example, (↑SUBJ)=↓ means “I represent the subject information of my mother,” Carnie (2006:441). For an illustration on the use of metavariables, see example (14) on page 28 and figure (11) on page 85 of this document. Also, the metavariable ↑ before arguments mean that they are local. Note, in the annotation (↑PRED)= ‘EAT’ means the terminal node filled by the description has the value of ‘eat’. Easier than the use of metavariables, LFG uses lines to link C-structures and F-structures. The simple sentence (9) will then have the following C and F- Structures.



1.8.2.4 Principles in LFG

LFG is constrained by several conditions and principles. Those of direct importance to this study include completeness, coherence, extended coherence, uniqueness, biuniqueness, lexical integrity and the economy of expression principle.

Completeness principle states that all the argument functions of a PRED must be realized in the F-Structure of the PRED. Therefore, all the governable functions of the predicate must be realized in its F-Structure. Coherence principle on the other hand, demands that all the arguments in an F-structure must be the ones subcategorized for by the local PRED. No governable grammatical function is allowed in an F-structure if it is not governed by the local PRED. Uniqueness or consistency condition is a constraint which ensures that an attribute has only one value in an F-Structure. It works in harmony with the biuniqueness condition which relates an attribute to a unique value. Extended coherence condition, on the other hand, relates an attribute at the topic position of a sentence to a value in an argument position in the sentence. These conditions constrain the F-Structure while the following two are observed at the C-Structure.

Lexical Integrity Principle observes that the terminal nodes of c-structures are morphologically complete words. Morphemes lower than a word such as tense inflections are not allowed to have a node at the c-structure. The economy of expression principle states that phrase

structure nodes are not obligatory and are only inserted as they are required to construct a well formed sentence.

1.9. Literature Review

Due to the volume of literature on control, this section reviewed those works that are directly related to the study of control in Kikuyu and some works on the treatment of control in the frameworks adopted for this study. Work on Control constructions in kikuyu has not been done. However, some works exist that highlight the existence of the null subject of infinitives in Kikuyu.

In her MA thesis, Gatende (1991:80ff) discusses NP and WH-movement within a GB perspective. Although she did not discuss Control, this study benefited from her discussion on raising predicates in Kikuyu. Some of the verbs she used have been adopted in this study to discuss functional control.

Bergvall (1983) also questioned the typology of empty categories proposed in Chomsky (1981) using data from Kikuyu and Kiswahili. She however did not pursue the empty category PRO beyond noting its distribution. Importantly however, she treats empty categories in Kikuyu as a form of agreement. She did not however discuss the fact that the predicates in kikuyu forbid PRO before an agreement marker.

Ndwiga, (2008) examines empty categories in Gichuka from a GB perspective and makes some observations that benefited this study. To begin with, he feels that Gichuka a Bantu language does not allow ECM. This however is only partly correct for data from kikuyu suggested that this is an idiosyncrasy of individual verbs. Important to this study, he noted that PRO is a part of UG. He also noted that GB failed to account for all syntactic phenomena of Gichuka a language quite similar to Kikuyu and recommended a better approach that takes in to consideration the complex interrelation between syntax , morphology and discourse features, Ndwiga (2008:128). Case and Government theory are quite problematic in language analysis and minimalism replaces case marking with case checking where lexical items leave the lexicon already case marked and just checks for positions where the features would be checked. Subject NP in Kikuyu is normally subsumed into the verb by the rich verbal morphology where the

subject or object is represented by an agreement marker. He also notes that morphological inflections and derivations interfere with sub- categorization of the predicate and that PRO can only occur in subject positions of infinitives. Another interesting observation he made is that PRO is not marked for case since it is not governed. Effort was made in this study to clarify this observation via data. He also contradicts himself by arguing that infinitives do not govern, that all languages have infinitives and that some languages have governed infinitival subject positions.

This last observation contradicts Harford (1987:63) who argues that, in Kitharaka, PRO can appear as a subject of finite verbs. This occurs when control is treated as agreement. Data from Kikuyu strongly opposed this point as was proven in later chapters. She however clearly brings out subject and object control in complementation in Kitharaka. In her earlier work, Perez (1985), she contends that case does not appear in Kikuyu. This was further investigated and though it was not found true, it aided in illustrating the distribution of PRO.

Mwangi (2012) approaches pronominalization in Kikuyu from an LFG approach. His main arguments which are relevant to this study stems from his observation that languages incorporate arguments in their verbal morphology. The overt NPs that accompany such verbal complexes are 'in non-argument positions' Mwangi (2012:58). His contention that SM is in complementary distribution with overt Subject NPs could not be verified. This study attempted to offer a clearer explanation for intuition informed that the SM is obligatory but the subject NP is optional since its content can be recovered from the context. His argument that the OM is an argument was found veracious enough by this study. However, he did not discuss the missing external argument of a nonfinite verb. Indeed, should PRO then be treated as an argument as Chomsky (1981) treats it or an agreement as Harford (1987) treats it? Mugane (1998:238) in Iribe and Kihara (2011:1) notes that endocentricity in X' fails to work for Kikuyu. Data in this study confirmed this position. Sewangi (1993:17ff) discussing empty categories in Kiswahili, mentions PRO and highlights its features but fails to discuss Control theory.

From a theoretical perspective, there is copious work on control. Since Rosenbaum, (1967), consecutive transformational approaches have discussed Control constructions. For Rosenbaum, control is an erasure of an identical NP which is lower down the tree than the one it

shares an identity with. Postal (1974) looks at control in terms of raising. He sees the controller NP for Equi as a cyclical subject which therefore moved from the original position leaving the controlee. This is approached advanced in movement theory of control (MTC). In addition, Postal identifies two types of Equi forward and backward. Backward Equi was not evident in Kikuyu.

Boeckx et al. (2010) contend that the standard theory treated control as the deletion of a repeated clause mate NP or of a repeated distant NP by an NP that is of similar reference. The former is referred to as the Equi NP Deletion while the latter is termed as Super Equi NP Deletion. Chomsky, (1981) treats control as derivational property where a lexical item is not inserted at D-structure although the phrase structure rules had generated a position for it. It is seen as a sub branch of binding theory but subject to both principles A and B. Most importantly, the Null NP called PRO is not case marked, governed but has a theta role. This is quite unpleasant leading to the PRO theorem which states that PRO must be ungoverned. Chomsky, (1993, 1995) argues that PRO actually is a lexical item which bears null case. It leaves the lexicon and checks for null case fitting only in the subject position of infinitives. This proves that PRO has case a fact which was also tested in this study.

Landau (1999:12) classification of control and his idea of the fundamental questions a study on control should answer were used in this study. His transformational approach was however substituted with a constraint based approach.

Hornstein et al. (2006, 2010) treat Control as movement although they do not offer an explanation as to why a moved NP leaves PRO at the subject position of an infinitive rather than a copy as in all the other forms of movement. Since this study was restricted to GB and LFG, this minimalist line of thinking was not pursued further. Boeckx (2006:159) discusses control as a situation where an NP participates in the events expressed by different verbs. In a different work, Boeckx (2006:22-29) discusses a typology of control in Romania while Huang (2007:26) equates PRO to pro and actually contends the presence of PRO in UG.

In the LFG approach, Bresnan (1982:317) views control as a relationship of referential dependence. Polinsky and Postdam, (ND) borrowing from Bresnan (1982) discuss control as a

dependency between two argument positions. Referential dependence to them is as a result of the positions not the elements occupying those positions. They note that the overt NP passes its features to the non-overt NP.

Falk (2001:118-131), on the other hand, sees control as purely syntactic by equating it to a construction in which there is a nonfinite verb form with no overt subject. The reference of the missing subject is syntactically constrained. He only identifies functional and anaphoric forms of control. This study however proposed that anaphoric control can be further subdivided to include for example partial control.

Daryl Imple (2001:314ff) discusses the differences between anaphoric and functional control. Her discussion on obligatory control and especially relationship between Equi and Obligatory control was employed in this study. Sells (2006:1) contends that there is no equality between the controller and the controlee. He proposes a different approach where the controlee is subsumed in to the controller. In short, he views control as a form of contiguity rather than equality.

1.10. Research Methodology

The head step involved the acquisition of data in the form of sentences. Self-generated sentences and sentences from published and unpublished literature on Kikuyu were listed and first analyzed within a GB framework before an LFG analysis was undertaken. A comparison based on definition of control, typology of control, motivation and licensing of PRO, distribution of PRO, features of PRO, government, and accounting for portmanteau among other parameters was undertaken. Library research was also used to bolster information on control and the theoretical instrument used in the study.

Notes

1. The syntactic position of this NP will be reviewed in chapter four.

CHAPTER TWO

CONTROL THEORY

2.1. Introduction: Important Questions About the Controlled Element

This chapter, focus on the structure of control constructions. Both a GB and LFG account are given to justify the non-overt “subject” of infinitival clauses and its distribution. Its distribution leads to a discussion of its features and the typology of control constructions.

According to Pollard (2011:1), control has been “one of the central topics in syntactic theory...” the main aim being to account for the “understood subject” of infinitive and gerund construction. This understood subject is referred to as PRO. For Chomsky (1981b:74), a satisfactory theory of control must respond to the following three questions:

- a. Where may it appear?
- b. Where must it appear?
- c. How is its reference determined?

A response to these questions forms the major part in section (2.2) which gives a GB account of control. Boeckx et al. (2010:11), on the other hand, feel that an adequate theory of control should explain the basic properties of PRO and specify how grammatical principles interact so that these properties emerge. As for Landau (1999:10), a theory of control must respond to:

- a. What elements/positions can be controlled?
- b. What elements/positions can control?
- c. What is the typology of control (how many types are there?)
- d. Can the typology be deduced from the principles of UG?
- e. How is the controlled position (PRO) interpreted?
- f. How is a controller picked up in a given structure?

In GB, it is shown that only the subject position of infinitive and gerund clauses can be controlled whereas LFG proposes the control of subject and object positions. The controllers include the overt matrix subject or object, the implied subject or a controller not represented or implied in the clause called an arbitrary controller. The two generally agreed upon types of

control are the obligatory and non-obligatory control. The interpretation of PRO is still a subject of discussion in studies on control.

2.2 Control in Government and Binding

GB is a modular theory which proposes different levels of representation. The thematic structure of a predicate is represented at the Deep Structure which is later transformed into a surface structure that forms the basis for the Phonetic Form and the Logical Form levels. The Deep Structure is a product of the base which consists of Phrase Structure (PS) rules and Lexical Insertion (LI) rules. Lexical insertion rules insert lexical items from the lexicon into the Phrase Structure. The Lexicon is a language specific mental dictionary harbouring all the lexical entries a speaker has and redundancy rules.

In the formation of the seemingly subject-less clauses, PS rules generate a structure but lexical insertion does not take place for the subjective category, as illustrated in (1).

- 1) a. N \longrightarrow \emptyset
- b. V \longrightarrow EAT
- c. INFL \longrightarrow to

This will generate clauses such as (2)

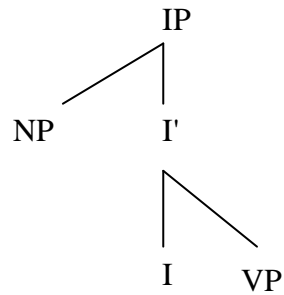
- 2) [_{IP} [_{NP} \emptyset] to [_{VP} eat]].

As seen above, the null NP is not a lexical item but rather a ‘product of interacting grammatical principles,’ Boeckx et al, (2010:10).

2.2.1 Justification for PRO

Control, as earlier defined, deals with the interpretation of the unexpressed *subject* (PRO) of infinitive clauses and the structure it assumes. According to Haegeman (1994:256) its existence is justified via the Extended Projection Principle (EPP) and Local relations. To begin with, the EPP demands that all projections of IP (sentence) must have a subject (NP) which occupies its Spec position. This condition leads to the generalized PS structure (3) for an IP.

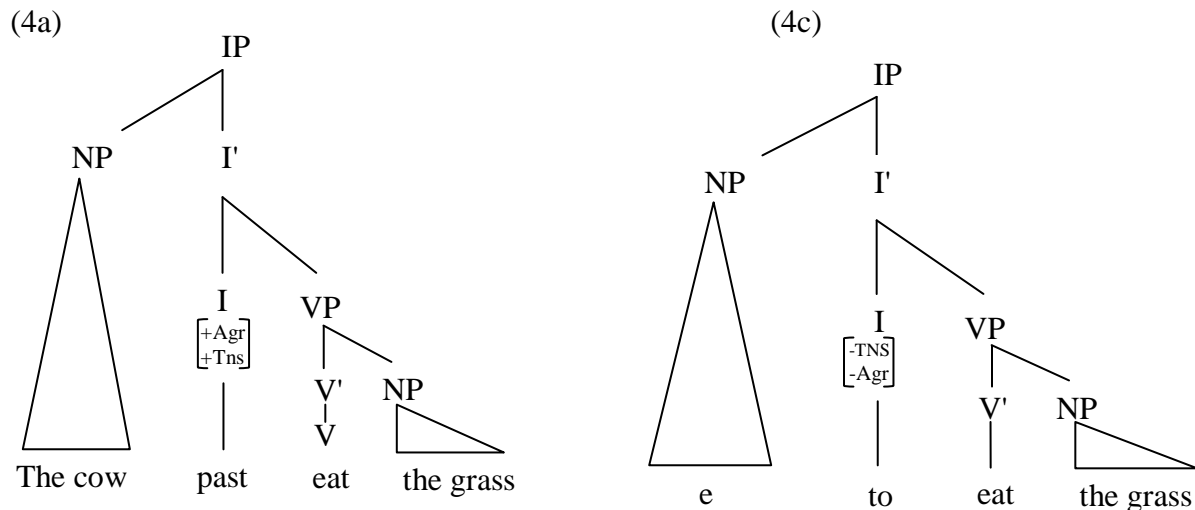
3)



Every grammatical sentence must satisfy the EPP. Now consider (4) below.

- 4) a. The cow ate the grass.
 b. For the cow [to eat the grass] is normal.
 c. [To eat the grass] is normal.

The agent of the verb *eat* in (4a) is the NP *the cow*. The same is true for sentence (4b) but sentence (4c) lacks an overt subject NP. Sentences (4a,b) are finite since their 'I' bears the feature [+TENSE] while the bracketed part of (4c) is an infinitive clause as its 'I' has the feature [-TENSE]. This difference is shown in the following PS trees.



Since sentence (4c) is legitimate, its Spec IP (subject) position must have been filled by an NP. This NP does not overtly appear in the clause because it lacks a phonetic realization. Such

an NP at the subject position of infinitive clauses is what is termed PRO above. Consequently the EPP justifies the existence of PRO in syntax.

Secondly, the relationship between constituents in syntax is generally local where an overt NP has a localized relation with a constituent in the same domain as illustrated by (5).

- 5) a. [_{IP} Kamau ate the food].
b. [_{IP} Kamau said [_{CP} that [_{IP} Njoroge ate the food]]].
c. [_{IP} Kamau_i said [_{CP} that [_{IP} he_i ate the food]]].

In (5a), the NP *Kamau* is the agent of the verb *eat* since they are locally related. In (5b) however, the NP *Kamau*, is not locally related to the verb *eat* which is in a different IP and locally related to another NP *Njoroge*. Thus, in (5b), the external argument of the verb *eat* is the NP *Njoroge*. For the NP *Kamau* to remain the agent of the verb *eat*, a co-indexed anaphoric pronoun must be used as in (5c). Having proven that syntactic relations are local, now consider the syntax of purpose clauses in (6).

- 6) a. Kamau_i went to Mombasa [in order for him_i to see the ocean].
b. Kamau went to Mombasa [in order to see the ocean].

In (6a), the agent of the verb *see* in the enclosed clause is the NP *Kamau*. (6b), on the other hand, lacks an overt NP in the subject position of the clause *to see the ocean*. It is obvious however that the one who intends to see the ocean is Kamau (the subject of the matrix clause). Due to the locality condition, the external argument of the verb *to see* must have a local relation with it. Thus, there is an external argument of the verb *to see* in (6b) which is phonetically null but syntactically active. Since the null NP in the subject position of infinitives is PRO, then, the structure of sentence (6b) will be (6c).

- 6) c. Kamau_i went to Mombasa in order [PRO_i to see the ocean].

Thirdly, the syntax of the collectivizer *together* proves the existence of PRO. Consider sentence (7)

7. a. The children played together.
- b. *The child played together.

Together requires a local plural antecedent, the NP *the children* in (7). Lack of locality between *together* and its antecedent leads to unacceptable constructions, as in (7c).

7. c. *The children complained [_{CP} that [_{IP} Wanjiru played together]].

In some instances, *together* is used without an overt local antecedent but the sentences remain legitimate. Such a sentence is shown in (8).

8. a. For the children to play together would be advisable.
- b. To play together would be advisable.

In sentence (8a), the antecedent of *together* is the NP *the children* whereas in (8b), there is no overt subject but the clause remains acceptable suggesting that the antecedent for *together* is realized by the non-overt NP (PRO). (8b) satisfies locality condition via the use of PRO and can be re-written as (8c).

8. c. [PRO_i to play together_i] would be advisable.

Fourthly, binding of reflexives justifies the existence of PRO as shown in sentence (9).

9. a. Kamau_i loves himself_i.
- b. To love himself is acceptable.

In (9a), the antecedent is straight forward since it is overt, that is, the NP *Kamau*. The reflexive *himself* must be bound in its Local Domain as per principle A of the Binding Theory. This suggests the existence of PRO as the external argument of the verb *to love* and the antecedent of *himself* in (9b) hence (9c).

9. c. [PRO_i to love himself_i] is acceptable.

Thus, the existence of PRO in GB is justified by the EPP and Local relations such as binding in the syntax of the collectivizer *together*.

2.2.2 Features of PRO

In terms of Binding Theory (a module in GB), PRO has both anaphoric and pronominal features. (10) illustrates these features of PRO.

10. a. Poirot is considering [_{CP} whether [_{IP} PRO to abandon the investigation]].
- b. Poirot was glad [_{CP} [_{IP} PRO to abandon the investigation]].
- c. [_{CP} [_{IP} PRO to abandon the investigation]] would be regrettable.
- d. The operation was abandoned [PRO to save money].

(Haegeman, 1994:262-264).

In (10a), the infinitive clause complements the matrix verb *consider* while the one in (10b) complements the matrix adjective *glad*. In both sentences, PRO is interpreted as referring back to the subject NP *Poirot* as it does to the implied subject of (10d). As used in these cases, PRO behaves like an anaphor that is with the [+Anaphor] feature as “it is dependent on another NP for its interpretation” Haegemann (1994:263). It picks the agreement features such as number and person of the controller (antecedent) and by default has the features [+N, -V], since it is an NP. Agreement is illustrated in the following sentences.

11. a. Kamau_i is wondering [_{CP} whether [PRO_i to turn himself_i in]].
- b. Kamau and Wanjiru_i are [_{CP} wondering whether [_{IP} PRO_i to turn themselves_i/*himself_i/*herself_i in]].
- c. *Kamau_i is wondering whether [_{IP} PRO_i to turn yourself_i in]].

Since reflexives must be bound in their governing domains, PRO acts as their antecedent in (11). The reflexives overtly reveal the number feature that PRO bears, that is, PRO in (11b) is plural in contrast to PRO in (11a). (11c), on the other hand, proves that PRO must agree in person with its antecedent.

In (10c) however, PRO does not depend on any other NP in the clause for its interpretation. It behaves like pronouns which are free in their governing domains. Indeed, it can be replaced by an overt pronoun as long as a complementizer such as *for* is added to case mark it. Thus, PRO in (10c) picks a referent from the universe of discourse. Since pronouns have the

feature [+Pronominal], PRO as used in this case also bear the feature [+Pronominal]. These examples confirm that PRO has the feature matrix [+Anaphor, +Pronominal].

2.2.3. *Distribution of PRO*

The feature matrix [+Anaphor, +Pronominal] cannot hold at the same time since anaphors are bound while pronouns are free. The formulation of the features of PRO is dependent on government and for PRO to bear both, it must remain ungoverned. This leads to the PRO theorem which states that:

PRO must be ungoverned, Haegeman (1994:272-273).

The only ungoverned position in English clauses is the subject position of infinitives and gerunds. This then is the only slot in English which can be filled by PRO. Consider (12):

12. a. Kamau wanted [PRO to embrace Wanjirũ].
- b. *[PRO would embrace Wanjirũ].
- c. *Kamau wondered whether [_{IP} Wanjiru would embrace PRO].
- d. *Kamau prayed hard [_{CP} for [_{IP} PRO to embrace him]].

This data shows that PRO cannot be used as the subject of a finite verb, as in (12b), or a direct object, as in (12c), or the object of a preposition, as in (12d). This restricts PRO to the subject position of non-finite clauses, such as (12a). The positions in (12b-d) are governed and hence the PRO Theorem would not hold. Thus, PRO only occurs in the subject position of non-finite clauses.

2.3. *Control in Lexical Functional Grammar*

In LFG, Control is a feature of the F-Structure, that is, the structure that deals with grammatical and semantic relations and not the C-Structure which deals with the arrangements of constituents in a clause. It is therefore important to classify Grammatical Functions represented in F-Structure. According to Dalrymple (2001:11-13), grammatical functions are classified dialectically into governable and modifiers, terms and non-terms, semantically restricted and semantically unrestricted as well as objective and non-objective ones. The governable

grammatical functions are subcategorized by the verb while modifiers are not. The former include SUBJ, OBJ, OBJ_θ, COMP, XCOMP AND OBL_θ while the modifiers are ADJ and XADJ. The X in XCOMP and XADJ shows that they are not syntactically saturated. Governable grammatical functions are re-classified into Terms and Non-terms. Terms refer to the ‘direct or core functions, and only a Term can be a controller, Lam (2008:100).

Control is divided into Functional and Anaphoric Control. The differences between the two arise from the properties of the predicate and also the type of complement that the predicate takes. The complement is open in Functional control also called ‘functional predication’ Bresnan (2001:287) but closed in Anaphoric Control. The two grammatical functions are designated as XCOMP and COMP respectively.

2.3.1. *Motivation for PRO*

LFG also takes the null NP in the subject position of non-finite clauses as PRO. However, LFG takes PRO to be purely a Pronominal and hence does not differentiate between PRO and *pro*. PRO is however told apart from overt pronominals by bearing the ‘feature +U (unexpressed morphologically)’ Bresnan (1982:330). PRO is taken as an element of F-Structure (grammatical relations) and does not appear at the C-Structure (constituent relations). Several reasons have been advanced to defend the existence of PRO in the theory.

Firstly, the ‘verb in the infinitive selects a subject argument,’ Falk (2001:118). Lack of this governable argument would make the F-Structure of the infinitive incomplete violating the Completeness condition which states that:

All argument functions specified in the value of the PRED feature must be present in the local f-structure, *ibid* (2001:60).

This in turn would make the sentence ungrammatical. Secondly, though null, the subject of non-finite clauses ‘interacts with Binding Theory,’ *ibid*, (2001:119). For example, PRO can act as an antecedent to a reflexive pronoun which obeys Principle A of Binding Theory which states that ‘A nuclear (reflexive) pronoun must be bound in the minimal nucleus that contains it.’ Bresnan (2001:215). Consider the following:

13. [To clone himself] would please the geneticist even more. (From Falk, 2001 pp.119).

The antecedent in (13) is not overt but binds the reflexive *himself*. Since the clause is grammatical, there must be an antecedent in its local clause which we take to be PRO. These two reasons justify the existence of PRO in LFG.

2.3.2. *Distribution of PRO*

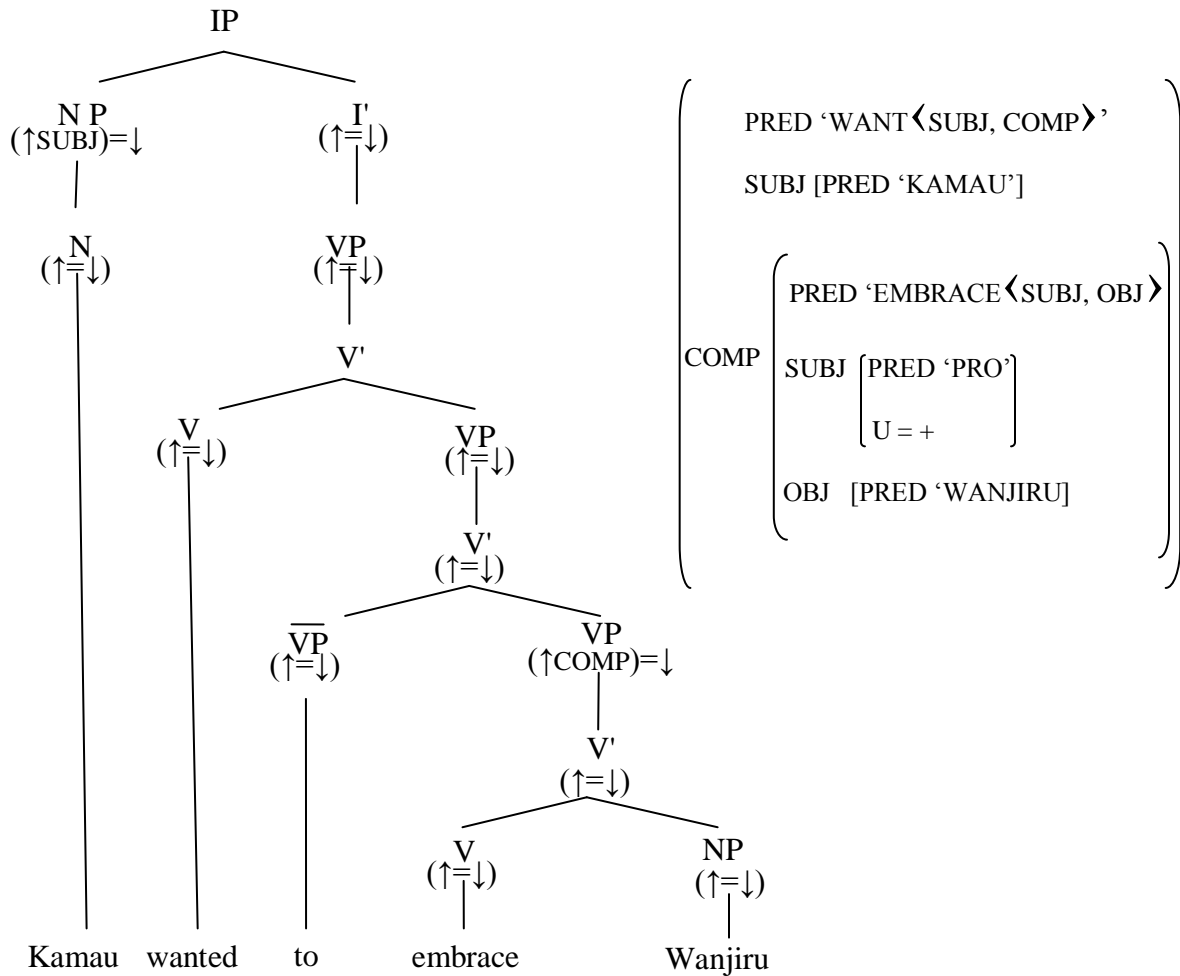
LFG is a highly lexical theory and the distribution of PRO is also explained lexically in that it is taken to be a property of a lexical item. This is captured by the following lexical entry rule.

Add the optional equation (\uparrow SUBJ PRED) = 'PRO' to the lexical entry of a verb without the feature TENSE.

Falk (2001:120).

This rule correctly predicts the distribution of PRO in that only non-finite verbs bear the feature [-TENSE]. Accordingly, PRO can only occur at the subject position of non-finite verbs contradicting Bresnan (1982:329) who argues that it is a pronominal and can hence occur in other positions. PRO is purely an F-Structure (where grammatical relations are shown) construct which is never represented in C-Structure (where constituent relations are shown). However, the infinitive marker *to* may be represented in the C-Structure using the 'node V,' Falk (2001:119) which is optional due to the condition on Economy of Expression which bars superfluous C-Structure nodes. To show the differences between the two structures, the C- and F- Structures of sentence (12a) repeated here as (14) for convenience are presented next.

14. Kamau wanted to embrace Wanjiru.



2.3.3. *Functional Control*

Dalrymple (2001:315) posits that functional control occurs when ‘the same argument is an argument of the matrix verb and the SUBJ of the subordinate XCOMP.’ The complement is therefore an XCOMP which lacks a SUBJ and hence requires a relationship to be established between it and a SUBJ outside it. This relationship is what makes the complement open, that is, it is related to a SUBJ outside it. Consider (15):

15. David seemed to yawn.

(Dalrymple, 2001:314).

The verb *seem* takes the clause *...to yawn* as its complement. This complement lacks a subject NP although the verb *to yawn* requires an agent which in (15) is interpreted as the NP *David*. But

the NP *David* lacks a grammatical relation with the matrix clause verb *seem*. The verb *seem* does not govern the NP *David* which is governed by the complement verb *to yawn*. This is a feature of the verb hence the lexical entry for *seem* will be as below which shows that the SUBJ of *seem* is not its argument as it is entered outside the angled brackets..

[PRED 'SEEM<XCOMP>SUBJ']

LFG does not posit movements and such a relationship is termed as Functional Control where 'the SUBJ of the raising verb functionally controls the SUBJ of the subordinate XCOMP,' Dalrymple (2001:314). This means that the SUBJ of the matrix verb and that of the subordinate verb share the same f-structure. This 'relation between the controller (outside SUBJ) and the infinitival clause is one of predication' Falk (2001:124). Such sharing is called 'token identity' ibid (2001:126). When the sharing is between the SUBJ of the matrix and the SUBJ of the XCOMP, as in (21) above, it is called SUBJ Functional Control. When the sharing is between the matrix object and the XCOMP SUBJ (that is OBJ of the matrix verb controls the SUBJ of the subordinate clause), it is referred to as Object Functional Control, as in the following sentence.

16. Kamau believed Njoroge [PRO to know the directions].

Functional Control is therefore further divided in to subject and object control their difference the peculiarity of the verb; so specified in the lexical entry of the verb.

Several arguments have been advanced to support the existence of Functional Control. To begin with, 'any syntactic restrictions imposed on the SUBJ in the subordinate clause must also hold for the raised argument...' Dalrymple (2001:316). This follows naturally since the two share an F-Structure and the features should therefore be the same. For example, Dalrymple (2001:317) notes that 'the case of the raised OBJ depends on the case marking requirements on the SUBJ of the lower clause. This sets functional control apart from anaphoric control. Another piece of evidence for functional control given by Jacobson (1990,1992) in Dalrymple (2001:317) is that the VP complement cannot be omitted without making the sentence grammatically unacceptable or changing its meaning as shown in (17).

17. a. David seemed [to yawn].

b. *David seemed [Ø] Dalrymple (2001:314-315).

This is further shown in object functional control as illustrated by the following sentences.

18. a. Kamau believed Njoroge [to know the directions].

b. Kamau believed Njoroge [Ø].

The meaning of (18b) is different from the original sentence. Thirdly, the subordinate clause in a Functional Control construction cannot appear at the beginning of a sentence, as in (19).

19. *[to know the directions] Kamau believed Njoroge.

2.3.3 *Anaphoric Control*

For Bresnan (1982:278), anaphoric control is similar to the relation that ‘links pronouns to their antecedents...’ It ‘is like pronominal binding: only the referential index of the controller and the controlled are identified, Bresnan (2001:298).’ Notice that ‘anaphors are either coreferential or referentially dependent upon their antecedents’ *ibid* (1982:327). Sentence (20) illustrates anaphoric control.

20. Tom felt sheepish. Pinching those elephants was foolish... Bresnan (1982:328).

The subject of the gerund acts as an anaphor that refers back to Tom as its antecedent hence anaphoric control.

Dalrymple (2001:324) identifies two types of Anaphoric control obligatory and arbitrary control. In obligatory Anaphoric control, co-reference is a prerequisite between an argument of the matrix and the position that it controls. Arbitrary Anaphoric Control, on the other hand, does not demand co-reference and PRO is interpreted as a pronoun. Consider sentence (21).

21. [PRO To hurt himself] was not wise.

Here, the controller of PRO is remote because it is outside the clause. This is a good example of arbitrary control where the SUBJ of the COMP is independent of a matrix controller.

2.3.4.1. *Differences between Anaphoric and Functional Control*

The main differences between Anaphoric and Functional Control have to do with the arguments of the matrix verb and the nature of the subordinate clause. To begin with, the SUBJ in the

matrix clause is a governable argument of the matrix verb while in Functional Control, the matrix SUBJ is not an argument of the matrix verb. Secondly, the complement in Anaphoric Control is a closed COMP meaning that all the arguments of the verb are realized within the clause of the verb and the subject is not inherited from outside the complement. Therefore, the relation between the controller and the controlled does not involve shared identity but binding as illustrated by (22a) compared to (22b) which shows functional control.

- 22. a. Kamau_i wants [PRO_i to eat food].
- b. Kamau wants Wanjirũ [PRO to eat food].

Notice that all the arguments of the subordinate verb are realized within its clause with the SUBJ being realized by 'PRO'. According to Bresnan (2001:298), anaphoric control allows split antecedents while functional control does not. I illustrate this point with sentence (23).

- 23. Kamau_i embraced Wanjiru_j without PRO_{i/j} feeling embarrassed.

In addition, anaphoric control may have a remote antecedent or the antecedent may not be available at all, as in the case of arbitrary anaphoric control. In contrast, the controller must always be available in the matrix clause in functional control.

2.3.4.2. *Constraints for a Controller in both Anaphoric and Functional Control*

Dalrymple (2001:345) asserts that in both forms of control,

- a. The controller must be a term (SUBJ, OBJ OR OBJ_θ)
- b. By default, the controller is the lowest available argument on the grammatical function hierarchy SUBJ > OBJ > OBJ_θ.

The first constraint indicates that arguments that are not terms cannot control. For example, in sentence (24) below, the controller for the second 'PRO' is the NP *Kamau* and not the XCOMP *to eat food* although it is nearer the PRO and bears a potential antecedent the NP *food*. This is because the XCOMP is a non-term and hence cannot be a controller.

- 24. Kamau wants [PRO to eat food [PRO to grow strong]].

Secondly, the controller is the lowest term in the hierarchy in the construction. In (24) above, the nearest constituent to PRO is the non-term *to eat food*. Its lowest term is the subject NP *Kamau* which therefore controls it. These syntactic constraints not only aid in identifying the controller but also accounts for Visser's and Bach's generalization on control. Visser (1963-1973) cited in Dalrymple, (2001:345) noted that a verb involved in subject control cannot be passivized. Consider the following data.

25. a. Pavarotti persuaded Domingo to sing the part.
- b. Domingo was persuaded by Pavarotti to sing the part.
- c. Pavarotti promised Domingo to sing the part.
- d. *Domingo was promised to sing the part by Pavarotti.

(Huang, 2000:42).

(25a) is passivized into (25b) because it is object control with the NP Domingo controlling the SUBJ of the infinitival clause. The same is not possible with (25c) because the relationship involved is subject control by the matrix subject Pavarotti. Bach's generalization, on the other hand, asserts that there is 'no detransitivized version of a verb involved object control' Darylmples (2001:345). Thus, the object controller must be present in a control construction. Huang (2000:41) offers the following illustrations.

26. a. Pavarotti promised Domingo to sing the part.
- b. Pavarotti promised to sing the part.
- c. Pavarotti persuaded Domingo to sing the part.
- d. * Pavarotti persuaded to sing the part.

Sentence (26a) is a case of subject control with the NP Pavarotti controlling the SUBJ of the infinitive complement. It is possible to drop the object NP *Domingo* hence (26b). (26c) however is a case of object control; so, the object NP *Domingo* cannot be dropped hence the unacceptability of (26d).

2.4. Typology of Control in both GB and LFG

2.4.1. Typology of Control in GB

Haegeman (1994:276-277) postulates that Control is divided into Obligatory and Optional control. In an obligatory control construction, PRO must be controlled by a C-commanding overt NP present in the matrix clause. The reference of PRO is therefore restricted to the identity of the overt NP and cannot be substituted. The following sentence illustrates this.

27. Kamau_i wants [PRO_{i/*arb} to eat food].

In (27) above, PRO can only be interpreted as referring to the NP *Kamau* and cannot assume an arbitrary interpretation.

In Optional control, PRO may be interpreted in terms of an NP in the matrix clause or may receive an arbitrary interpretation. It is not fully bound to the available controller but might be assigned a controller outside the clause. This is captured by sentence (28).

28. Kamau said that he wondered [how [PRO to love himself /oneself]]

Here, the interpretation of PRO is not restricted to any of the overt NPs but may be controlled by the NP *Kamau* or by an arbitrary NP. Landau (1999:12) offers a classification of control which subdivides Obligatory Control into exhaustive and partial while Non-Obligatory Control is subdivided into long distance and arbitrary control.

In Exhaustive obligatory control, PRO is fully identical to its controller while this is not the case in Partial Obligatory Control where PRO only includes but is not identical to its controller. In Non- Obligatory Control, the clause mate condition between PRO and its controller is not enforced. In long distance control, PRO and its controller are not in the same clause while it lacks an overt NP controller in the clause in Arbitrary Control. (29) illustrates each of these forms of control.

29. a. Kamau wants [PRO to eat food]. (Exhaustive)
- b. Kamau said [_{CP} that [_{IP} it was interesting [_{IP} PRO to embrace Wanjiru in public]]].(Partial)
- c. Kamau argued [that [it was natural [PRO to love himself]]]. (LDC)
- d. [PRO embracing /to embrace in public] is embarrassing. (Arbitrary)
- } OC
- } NOC

2.4.2. *Typology of Control in LFG*

LFG classifies Control into Functional and Anaphoric with Functional Control sub-dividing into lexically induced control and constructionally induced control. Control is a part of the lexical entry in lexically induced control, that is, the controlled is subcategorized by the verb. Anaphoric control is further subdivided into Obligatory control and Arbitrary Control. According to Daryl Imple (2001:338-339), obligatory control arises when the referent of the controlee is dependent upon the idiosyncrasies of the matrix verb whereas in arbitrary control its reference is not syntactically determined. Bresnan (1982:329) calls Obligatory control ‘definite’ and Arbitrary ‘generic’ interpretations of PRO. (30) is an example of these forms of control.

30. a. David seemed to yawn.
- b. Mary wished to vote.
- c. Pinching elephants is foolish

(Examples *a* taken from Dalrymple, 2001p.314;c & d were taken from Bresnan, 1982:329&330).

2.5. *Summary to Chapter 2*

This chapter described the main tenets of Control Theory. It raised the questions that must be answered concerning PRO. In a GB account of control, the existence of PRO was justified through the EPP and Locality in binding. A GB account of the features of PRO was found to be troublesome as PRO bears both +anaphoric and +pronominal features. It was noted that these features restrict PRO only to ungoverned positions in a clause.

LFG on the other hand divides control into functional and anaphoric control their main differences being the type of verb and the complement it takes. It was argued that the existence of PRO have been justified via the argument structure of the verb and Binding Theory. The chapter further argued that the distribution of PRO in LFG is dependent on a lexical rule which adds PRO to the entry of a verb without the feature tense. Equating PRO to pro contradicts this rule. Functional control was defined as a situation where the subject of a 'raising' verb controls the subject of the subordinate. The two theories, however, agree on the typology of control constructions with only a difference in terminology.

CHAPTER THREE

THE MORPHOSYNTAX OF KIKUYU SENTENCES

3.1. Introduction

This chapter is a pre-theoretic description the structure of Kikuyu sentences. The argument structure of the verb is discussed. Noun classification and their respective agreement markers are discussed before their interaction with the verb is shown via a discussion on the verb affix template. Examples of Simple and complex sentences in Kikuyu are given with the aim of setting a foundation for analyzing control in Kikuyu sentences. Section 3.2 looks into the general structure of the simple declarative sentence while 3.3 and 3.4 concentrate on the NP and the verb respectively. This leads to a discussion on several simple sentences in section 3.4. Section 3.5 discusses complex sentences before a chapter summary in 4.0 which concludes that SOV sentences are legitimate in Kikuyu.

The structure of the simple sentence in Kikuyu follows the S V O schema which further decomposes into (NP) V (NP) as shown in (1)

- | | | | |
|------------|-----------|---------------|-----------|
| 1. (Kamau) | <i>nĩ</i> | <i>arĩire</i> | (irio). |
| (Kamau) | foc | tns(past)eat | food |
| Subject NP | | the verb | object NP |
- Kamau ate food.*

The scheme in (1) is tentative at this stage until it stands further scrutiny. The subject NP is optional and is generally left out except in cases where a speaker wishes to express a lot of emphasis on the agent. This occurs because the features of the dropped NP are recoverable from the subject agreement marker attached to the verb. Similarly, the object NP is dispensable with its semantic contribution being recovered either from the peculiarities of the verb, the object agreement marker or the Pragmatics of the discourse. NPs comprise of nouns (with or without modifiers) and pronouns and are used as either subjects or objects in sentences. It is judicious, therefore, to briefly discuss NPs with special emphasis on the agreement markers before discussing the argument structure of the verb.

3.2. *Kikuyu NPs*

Nouns are used as arguments in Kikuyu and as in English, a majority of nouns in Kikuyu are marked for number which is shown by their agreement markers. Gender is inherent in some nouns, such as, people's names and it is distinguished along the sex dichotomy. It is common practice to mark gender on one noun in a binary, such as, males or females and not both. For example, while different gender marked names are used for *cow* and *bull* (*ng'ombe* and *ndegwa* respectively); it is not the case with a bitch and a male dog. To show gender in the two, additional words which are gender marked are employed mainly using the possessive *ya* (of). The neuter for dog is *ngui/ngitĩ* while a bitch is *ngui ya mĩtumia/nga* (from *aka* meaning females) (lit. dog of wife) and a male dog is *ngui ya njamba* (dog of a hero or a strong man) or simply *ngui*.

Being a Bantu language, 'Kikuyu has a complex Noun Class system...' which 'roughly represents semantic groups' Schwarz (2003:4). 'Each class being marked by a distinctive singular and plural prefix which goes in front of the noun stem,' Leaky (1959:1). The importance of the prefix is evident in noun classification as well as in sentence structure where they function as arguments. Kikuyu noun classes are shown in table (1).

Table 1: *Kikuyu Nouns*

Class	Prefix	Examples		Gloss
		Singular	Plural	
1/2	Mũ/ a	Mũndũ	Andũ	People
3/4	Mũ/mi	Mũtĩ	Mĩtĩ	Trees
5/6	i/ma	Itimũ	matimũ	Spears
	Ri/ma	Ritho	Maitho	Eyes
7/8	Kĩ/gĩ/i	Kigũta	Igũta	Lazy people
9/10	n/n	Nguo	Nguo	Clothes
11/10	Rũ/n	Rũkũ	Ngũ	Firewood
12/13	Ka/ tũ	Kanyoni	Tũnyoni	Birds
14/6	ũ/ma	Ũta	(Maũta)mota	Bows
15/6	Kũ/gũ/ma	Kũgũrũ	magũrũ	Legs
16/1	Ha/kũ	Handũ	Kũndũ	Places

Adapted from Gatende, (1991: 33-34).

Pronouns, like nouns, function as arguments and bear subject markers (SMs) and object markers (OMs) which represent them in the argument structure of the verb. This suggests the necessity to understand the way they are classified. Personal pronouns do not depend on their prefix but person while all impersonal pronouns bear a similar ‘root -o-’ and their ‘prefix is controlled by the class of the noun,’ Gatende (1991:37). The agreement marker used for a pronoun depends on the noun class that pronoun represents.

Table 2: *Personal Pronouns*

Person	Pronoun		Gloss	
	Singular	Plural	Singular	Plural
First	Nĩĩ	Ithuĩ	I	We
Second	We	Inyuĩ	You	You
Third	Wee	O	He/she	They

Agreement, on the other hand, refers to ‘syntactic relations between words and phrases which are compatible, in a given construction, by virtue of inflections carried by at least one of them,’ Mathews (2007:13) in Mwangi (2012:29). It dictates the forms of words occurring together in a sentence. Agreement markers in Kikuyu establish the relationship between a noun and a verb as well as other constituents of a sentence such as certain adjectives. The vitality of this relationship is noted by Barlow (1951:14) who concludes that ‘knowledge of this interdependence of the parts of the sentence is of the first importance.’ Each word in a sentence has concord with the noun as in (2).

2. a. **Marigũ marĩa maku mega nĩmabuthĩte.**

Those nice bananas of yours have gone bad.

- b. **Irigũ rĩrĩa rĩaku rĩega nĩ rĩbuthĩte.**

That nice banana of yours has gone bad (Barlow, 1951:14).

Use of the wrong concord marker makes the sentence unacceptable as illustrated in (3).

3. ***Marigũ rĩrĩa maku mega nĩmabuthĩte.**

The unacceptability of (3) arises from the lack of number agreement between the noun and the demonstrative following it. To understand the Kikuyu sentence, one must then understand the concord markers used by each of the noun classes presented above. Table (iii) sums up these agreement markers as per noun class. The object agreement markers are adapted from Barlow (1951:66-67) except for class 1/2 which are self-generated.

Table 3: Agreement Markers-Nouns

Class	Prefix	Subject Agreement Marker		Object Agreement Marker		Example subject Agreement	Gloss
		Sing.	Plr	Sing	Plr.		
1/2	Mũ/ a	A	Ma	Mu	Ma	Andũ nĩ ma rĩa	The people (they) have eaten
3/4	Mũ/mi	Wa	ya	Ũ(w,u)	Mĩ/mi (before <i>u</i>)	Mĩĩ nĩ ya temwo	The trees have been felled.
5/6	i/ma	Rĩa (rya)	ma	Rĩ/ri- before <i>u</i>	Ma	Matimũ nĩ ma unĩka	The spears have been broken.
	Ri/ma	Rĩa (rya)	ma	Rĩ/ri- before <i>u</i>	Ma	Maitho nĩ ma ratura	The eyes are aching.
7/8	Kĩ/gĩ/i	Kĩa(kya)	cia	Kĩ/ki- before <i>u</i>	Ci/i-before consonants	Itĩ nĩ cia gũrwo	The seats have been bought.
9/10	n/n	Ya	Cia	Mĩ/mi- before <i>u</i>	Ci/i-before consonants	Nguo nĩ ya hĩa	The dress has burnt down.
11/10	Rũ/n	Rũa(rwa)	cia	Rũ/ru- before <i>o, u</i>	Ci/i-before consonants	Rũkũ nĩ rwa gwata	The wood has caught fire.
12/13	Ka/tũ	Ka	Tũ/- tu, tw	Ka	Tũ	Tũnyoni nĩ tũ a ina (twa)	The birds have sung.
14/6	ũ/ma	Wa	mo	Ũ(w,u)	Ma	Mota nĩ mo inĩka	The bows have broken down.
15/16	Kũ/gũ /ma	Gũ	ma	Kũ/gũ/ku /kw	ma	Kũgũrũ nĩ gwa tuura.	The leg has ached.
16/1	Ha/kũ	Ha	kũ	Ha	Kũ (kw/ku)	Kũndu nĩ kũ rĩa	The place is there.

Personal pronouns also have agreement markers which are illustrated in table (iv) below. Following Mwangi (1992:41) and Barlow (1951:66), personal pronouns bear the object agreement markers shown in column 3 of table (4).

Table 4: Agreement Markers- Personal Pronouns

Personal Pronoun		Subject agreement marker	Object agreement marker	Example subject agreement	Gloss Translation.	
1 st	Sing	Niĩ (I)	ⁿ d	N	Ndarĩa	I have eaten.
	Plr.	Ithuĩ (we)	tũ	Tũ	Tũ arĩa(twarĩa)	We have eaten.
2 nd	Sing	We (you singular)	ũ	Kũ	Ũ arĩa (warĩa)	You have eaten.
	Plr.	inyuĩ (you plural)	mũ	Mũ	Mũ arĩa (mwarĩa)	You have eaten.
3 rd	Sing	Wee (he/she)	a	Mũ	A ria	He/she has eaten.
	Plr.	O (they)	ma	Ma	Ma ria	They have eaten.

The markers discussed above together with other affixes are attached to the verb to form a sentence. To understand the way they relate with the verb, we now turn to a study on the verbal morphology and template.

3.3 Verb Structure

3.3.1 Affixes

The Kikuyu verb root is un-interpretable on its own necessitating the need for several affixes (suffixes and prefixes). Barlow (1951:19) claim of infixes lacks support from Kikuyu data. This follows the observation that infixes are ‘segmental strings that do not attach to the front or back of a word but rather somewhere in the middle,’ Aronoff and Fudeman (2011:3) that is, they ‘are inserted right into a root or a base,’ Lieber (2009:76). In Kikuyu therefore, an infix would be inserted right within the verb root and not into the verb stem. For example the verb *thoma* (study or read) has *thom* as its verb root. The final vowel is a suffix added to show the mood thereby making the root meaningful while a subject agreement prefix shows the agent depending on the noun class. Adding these to the verb root we get: **a thom e**, or **ma thom a** (he should study and they have studied respectively). Using any of these affixes or any other as an infix results in an unacceptable construction like: **thaom*, **thoam*, **tmahom*, **thomam*, among others.

As will be seen below, the prefixes show agreement, negation and tense among other senses. Suffixes show, among others, aspect and number in some cases. This makes the verb a

complex morphological unit. Affixes may change the meaning of the verb or the tense in ‘many subtle but very useful ways,’ Leaky, (1959:29). For example, the verb *rĩa* (eat) changes in meaning when the habitual morpheme {ag} is added to become *rĩaga* (eats habitually or I leave you-singular- to continue eating). Adding the post final morpheme {i}, *makes the object NP plural*.

3.3.2. Verb Template

The different affixes are arranged around the verb root usually forming a meaningful sentence. According to Meeussen (1967:108) cited in Nurse (2008:31), a Bantu verb “exhibits a clear structure with definable elements occurring in a fixed order.” He labels the elements as ‘pre initial, initial, post initial, formative, limitative, (infix, radical and suffix), pre final, final (final vowel) and the post final’ Nurse (2008:31).

The pre initial position is filled by the ‘Primary negative morpheme,’ *ibid*, (2008:31) in the first person singular. In all the other cases, it is filled by the focus morpheme {*nĩ*} which is in complementary distribution with the negative morpheme. The initial on the other hand is occupied by the mandatory subject agreement marker. These positions are illustrated in (4):

4. a. (i) ⁿd i na ma rĩri a.
NEG

I did not talk to them.

In (4a), the negative marker is (ⁿd) as confirmed by (5a. ii).

4. a (ii). - Nĩ a ma rĩri a.
Foc

He talked to them.

- ⁿd a na ma rĩri a.

He/she did not talk to them.

The negation morpheme in a sentence with a plural subject occurs in the post initial position as shown by the contrast in (5a) which is singular and (5b) which is plural.

5. a' (Andũ acio) ⁿd a na ma rĩri a.
 Object Neg sm
 pre-initial
He/she did not talk to them (those people).
- b. (Andũ acio) ma ti na ma rĩri a
 Object sm Neg
 post initial
They did not talk to them.

The formative on the other hand is reserved for tense and aspect as shown in (6).

6. a) (Andũ acio) ma ti **na** ma rĩri a.
 SM NEG **TNS(past)**
 formative
They did not talk to them.

The tense morpheme is confirmed by a change of tense in the same sentence as illustrated in (6b).

- 6 b) (Andũ acio) ma ti **ka** ma rĩri a.
 SM NEG **TNS(future)**
They will not talk to them.

When aspect is not overtly marked, it is fused into the tense morpheme. Nurse (2008:35) argues that the limitative is filled by ‘a small set of aspect markers.’ In Kikuyu, this slot is occupied by the reflexive morpheme and not an aspect marker as (7) proves.

7. Kamau nĩ a **ĩ** endete.
 Kamau foc sm **refl** love.
Kamau loves himself.

The next slot is the infix which obligatorily contains the object agreement marker. The objects thus represented are either met earlier in the clause or follow the verb as shown in (8)

8. a. (Andũ acio) ⁿdi na **ma** rĩri a.
 Object(people those) agr+neg tns OM

Though it has been claimed that the Bantu verb template is rigid (see Nurse, (2008:31); Schwarz, (2003: 4) among others), some Kikuyu sentences flout this conclusion. A look at the following sentences confirms the variability of the template.

12. a. Kamau na Wanjirũ **ma** ti na **mon** a. (mona= ma+ona)
 Kamau conj. Wanjirũ sm Neg tns om+see fv.
Kamau and Wanjirũ did not see them.

- b. Kamau na Wanjirũ ma raria ta **ma** ta na **mon** a.
 Kamau conj. Wanjirũ sm talk like sm neg tns om+see fv.
Kamau and Wanjirũ are talking like they have not seen them.

When one wants to show cynicism or contempt, the resultant construction changes the verb template.

13. Kamau na Wanjirũ mararia ciao, [ti ta **ma** **ma** on a]
 Neg like **sm** **om**+tns see fv
Kamau and Wanjirũ are talking about them [like they have not seen them].

As noted in (13), the SM and OM follow each other in contravention of Meussen (1967) in Nurse, (2008:31) template. This is affirmed by (14) below.

14. Kamau a ma kor a mucĩĩ
 Kamau sm om find fv home.
Kamau found them at home.

The object agreement marker can be inserted in the infinitive form of the verb. This also changes the format of the template as proposed by Meussen (1967). Sentence (15) illustrates this claim.

15. a. Kamau nĩ e ndete [kũ ruga mũcere].
 Kamau foc sm likes inf cook rice (object).
Kamau likes cooking rice.

- b. Kamau nĩ e ndet e [kũ ũ ruga].
 Kamau foc sm likes fv inf OM cook.
Kamau likes to cook it.

Having looked into the morphology of the NP and the verb, we now study the way they interact to form a sentence.

3.4. Argument Structure in Kikuyu

‘Arguments are participants minimally involved in the activity or state expressed by the predicate,’ Haegeman (1994:44). Every verb therefore has an argument structure which shows the elements that must appear in its sentence. According to Dalrymple (2001:197), argument structure ‘encodes the relation between semantic roles and syntactic functions.’ Bresnan (2001:304) posits that argument structure has both semantic and syntactic faces. It is semantic when it captures the ‘core participants in events...designated by a single predicator,’ Bresnan (2001:304). Thus, it shows the thematic roles assigned by a verb such as agent, beneficiary and patient. Syntactically, it represents the arguments that are related to a given head in a sentence. In this sense, argument structure shows the syntactic constituents required by a verb such as direct and indirect object. Argument structure is therefore important as it forms a link between the semantic and the syntactic levels of a clause and licenses the occurrence of PRO.

In GB, argument structure is normally taken in the semantic sense and shown via the theta grid. A verb like *rĩa* (eat) will take an agent and a patient (and others). Since the patient is in the VP, it is called an internal argument while the agent is external and represented by an underlined 1. Since the external argument is obligatory, it is always entered in the theta grid. (16) is a theta grid for the verb *rĩa* (eat).

16. a.	<i>rĩa</i> :verb	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px 10px;">Agent</td> <td style="padding: 2px 10px;">patient</td> </tr> <tr> <td style="height: 30px;"></td> <td style="height: 30px;"></td> </tr> </table>	Agent	patient			or b.	<i>rĩa</i> : verb	<table border="1" style="border-collapse: collapse; text-align: center;"> <tr> <td style="padding: 2px 10px;"><u>1</u> NP</td> <td style="padding: 2px 10px;">2 NP/S</td> </tr> <tr> <td style="height: 30px;"></td> <td style="height: 30px;"></td> </tr> </table>	<u>1</u> NP	2 NP/S		
Agent	patient												
<u>1</u> NP	2 NP/S												

LFG, on the other hand, uses both a semantic and syntactic approach. The semantic approach will use thematic roles, as in, (16a) while the syntactic which is normally used in the F-Structure uses grammatical functions such as subject as shown in (16b). LFG represents the argument structure of the verb *rĩa* (eat) as shown in (17)

17. a. *rĩa* <agent, patient>
 b. [EAT <SUBJ, OBJ>]

In (17) the verb *eat* is shown as one that requires an agent that functions as its subject and a patient that functions as its object. Consider (18) for an illustration.

18. Kamau a ra rĩ a irio
 Kamau sm tns(present) eat fv food.
Kamau is eating food.

In example (18), the external argument is the NP *Kamau* (as it is not within the VP) which has the theta role of an agent while the NP *irio* is the internal argument. The subject marker is the obligatory external argument in Kikuyu as the overt NP can be dropped without severing the acceptability of the clause. Sentence (19) below illustrates this observation.

19. a. A ra rĩ a irio.
 He tns(pres) eat fv food.
He is eating food.
- b. *Kamau ra rĩ a irio.
 Kamau tns(pres) eat fv food.
Kamau eating food.

Sentence (19b) is unacceptable (though the subject NP is present) because the Kikuyu verb takes the agreement marker as its argument and not the overt NP. This is in agreement with Mwangi (2012:82) who notes that the SM is ‘both an agreement marker and an argument.’ This is not the case with the object marker (OM) which is in complementary distribution with an overt object NP hence acts as a pronominal. The dropped NP is represented by an underlying null NP *Pro* making the language pro-drop. Both SM and OM copy the features of their respective NPs on to the verb making the verb a “self-contained sentence.” A verb that subcategorizes an internal argument is called transitive and one that subcategorizes two internal objects a ditransitive. This is explored further in section (3.5) below.

3.5. *Kikuyu Simple Sentences*

By referring to a sentence as simple, it is assumed that the sentence constitutes of only one clause. A relative sentence therefore is a not a simple sentence for it has a subordinated relative clause and a main clause. A simple declarative sentence in Kikuyu has a SVO schema as in (20) below.

20. Kamau (nĩ) **a ra rĩ a** irio.
 Kamau foc sm tns+asp(progressive) eat fv food.

Kamau is eating food.

The part in bold shows the verb and its affixes while the NPs *Kamau* and *irio* are the subject and object of the verb respectively. This is shown by (21) below.

21. Kamau (nĩ) ararĩa irio.
 S foc V O

Barlow (1951:116) groups Kikuyu verbs into transitive, intransitive and stative verbs. Transitive verbs are further subdivided into purely transitive and double object verbs. In the following section, this observation is explored.

3.5.1. Transitive and Intransitive Sentences

A sentence in which the verb takes a direct object, such as (20) above, is transitive. When the object of a transitive verb is dropped, its content will still be recovered from the universe of discussion or from the idiosyncrasy of the verb which a competent language user already knows.

The verb in an intransitive sentence lacks a direct object and is mainly followed by nothing or by other parts of speech such as adverbs. Its theta grid will only show the external argument. (22) gives an example of an intransitive sentence.

22. a. Kamau nĩ a re ciri a
 Kamau cop sm tns think fv

Kamau is thinking.

b. *Kamau nĩ a re ciri a meciria.
 Kamau cop sm tns think thoughts.

Kamau is thinking thoughts.

Stative verbs are purely intransitive since they show the state of the subject. Kikuyu normally employs the particle *nĩ* as its copular verb to form a link between a subject and its state. Consider the following illustration.

23. a. Kamau e nd a mwarimũ.
 Kamau sm love fv teacher.

Kamau has loved a teacher.

b. Kamau nĩ mwarimũ.
 Kamau cop teacher.

Kamau is a teacher.

In (23a), Kamau is the agent of the verb love while its object is the NP *a teacher*. In (23b), the NP *a teacher* refers to Kamau to which it is linked by the copular *nĩ* hence intransitive.

All transitive verbs in Kikuyu may be made to take two objects by attaching the benefactive affix *ĩra* in the verb. This affix however undergoes certain euphonic changes sometimes being realized as *era* and others as *ira*. These changes are not a focus of this paper and we will therefore not delve further into them. Contemplate on (24) below.

24. Kamau arugĩra Wanjiru irio.
 Kamau has cooked Wanjiru food.
 S V O (pri) O(sec).

The sentence above has two objects and one verb. The verb however has a benefactive morpheme that signals the presence of a second object. Kroeger (2004:66) calls the first object the primary object and the second the secondary object since the first object ‘seems to dominate in the mind of the speaker...’ Ndwiga (2008:37). Other examples of simple sentences are discussed following. Notice the importance of morphology in the structure of the sentences.

3.5.2. Negative Sentences

There are several ways of negating a sentence in Kikuyu. Firstly, a negative sentence is formed by adding the prefix ⁿd to the subject agreement marker if it starts in a vowel and adding the affix *-i-* after the subject agreement marker if it begins in a consonant. I illustrate this point next.

25. a. Kamau nĩ a ra thom a
 Kamau foc SM tns study f.v.

Kamau is studying.

b. Kamau ⁿd a ra thom a
 Kamau neg SM tns study f.v.

Kamau is not studying.

But

- c. Kamau na Wanjiru **ma ti** ra thom a.
Kamau conj. Wanjiru SM neg tns study f.v.

Kamau and Wanjiru are not studying.

Another method of negating is the use of the affix *-ta-* regardless of whether the subject marker begins in a vowel or a consonant. It is affixed after the subject agreement marker. *-ta-* induces a change in the first person subject agreement marker from *-a-* to *-i-*. Normally, *-ta-* is used “in relative and other subordinate clauses [and work] only in the indicative and conditional moods,” Barlow, (1951:119). The following sentences highlight this fact.

26. a. Mũndũ ãrĩa ã **ta** ra thom a nĩ Kamau.
Person who SM **NEG** tns study f.v. cop. Kamau.

The person who is not studying is Kamau.

Dropping the *-ta-* changes the sentence in to a positive one as below.

- b. Mũndũ ãrĩa ã ra thom a nĩ Kamau.
Person who SM tns study f.v. cop. Kamau.

The person who is studying is Kamau.

The *-ta-* negative is also used after the interrogative *-kaĩ-* to form negative questions as in (27)

27. a. Kaĩ Kamau a ra thom a?
Wh Kamau sm tns study fv?

Is Kamau studying?

- *Kaĩ Kamau a **ti** ra thom a?
Wh Kamau sm neg tns study fv?

**Is Kamau not studying?*

- b. Kaĩ Kamau a **ta** ra thom a?
Wh Kamau sm neg tns study fv?

Is not Kamau studying?

Other clauses that take *-ta-* to form a negative include adverbial clauses and conditional clauses. Some forms of negative clauses take the infinitive but the resultant structures do not involve control.

3.5.3. Imperatives

The simple imperative in kikuyu is formed by the use of the verb stem with the final vowel indicating the mood. Normally, the verb ends with the indicative *a* but may also take the subjunctive *e*. Importantly, the verb is a bare infinitive as shown below.

28. a. Kamau thom a!
Kamau study fv!
Kamau study!

In many cases, the imperative lacks the subject NP which only appears in cases of emphasis. The dropped subject is recovered from the universe of communication. Sentence (28a) then reads:

28. b. Thom a!
Study fv!
Study!

Notice, the subject is still implied in sentence (28). This leads to an imperative singular which is changed into a plural by simply adding the post final vowel *-i-* as illustrated below.

28. c. Kamau thom a!
Kamau study fv!
Kamau study!

This addresses Kamau alone. If they are many but Kamau is included, the *-i-* is added as follows:

28. d. Kamau thom a i!
Kamau study fv pfv (plural).
Kamau and others study!

This will however be interpreted differently from the plural verb stem because the hearers are not known such as in (28e)

28. e. Thom a i!
Study fv pfv.
You(plural) study!

The imperative is also formed in the negative as in the following example.

29. Nd ã rĩ e!

Neg om eat fv.

Roughly translates to: *Eat!*

Imperatives do not lead to control constructions since they have the implied subject *you*.

3.5.4. Passives

Passive sentences are formed by ‘substituting the suffix -wo- (or its variations...) for the final vowel a or e of the active sentence,’ Barlow, (1951:120). Sentence (30) shows this.

30. a. Kamau nĩ a rĩ ir e irio
Kamau foc sm tns eat fv food.

Kamau ate the food.

b. Irio (nĩ) i rĩ ir wo nĩ Kamau.
Food foc sm tns eat pas by Kamau.

The food was eaten by Kamau.

According to Barlow, (1951:120), the passive suffix assumes the following changes:

31.

a. Verbs ending in *ia* or *ie* take *io* for passive.

Kamau a iki a mũtĩ.
Kamau sm throw fv stick

Kamau has thrown a stick.

Mũtĩ wa iki o nĩ Kamau.
Stick sm throw Pass cop Kamau.

A stick has been thrown by Kamau.

b. Verbs whose stems end in *r* or *ny* take *ũo*.

i. Kamau a ir a mũtĩ.

Gloss: Kamau has belittled a tree.

ii. Mũtĩ wa ir ũo nĩ Kamau.

Gloss: A tree has been belittled by Kamau.

c. Verbs whose stems end in *y* or *ũo* take *o*

i. Kamau nĩ akiinya magego.

Gloss: Kamau has brushed the teeth.

33. a. Nũ/ ũ (who)

Nũ Kamau arugĩra?

Who Kamau cooked for?

or

Kamau arugĩra u?

Gloss: Kamau has cooked for who?

b. Kũ/Ha (where)

Nĩkũ/ha Kamau athiĩ?

Where Kamau go?

Kamau athiĩ kũ/ha?

Kamau go where?

Gloss: Where has Kamau gone?

c. Atĩa (how)

Kamau aruga atĩa?

Kamau cooked how?

Gloss: How has Kamau cooked?

d. Kĩ (what)

Kamau aruga kĩ?

Kamau cooked what?

Gloss: What has Kamau cooked?

e. Rĩ? (when)

Kamau akaruga rĩ?

Kamau will cook when?

Gloss: When will Kamau cook?

f. Nĩkĩ? (Why)

Kamau aruga nĩkĩ?

Kamau cooked why?

Gloss: Why has Kamau cooked?

As depicted above, (see 33a), most of these interrogatives have two forms, one where the interrogative pronoun is fronted and the focus marker (*nĩ*) affixed to it and one where the interrogative pronoun is in situ. The interpretation is however the same. The pronouns are often used alone for interrogative purposes where the subject is pragmatically deciphered. For example, talking of Kamau, one can simply ask: *aruga kĩ* (what has he cooked). Subsequent questions do not require the subject or the verb and one can simply ask: *nĩkĩ, atĩa, rĩ* (why, how, when) etc.

Certain morphemes can also be affixed to a subject marker to form a question. They include *-rĩkũ* and *-tũũ* as attested next.

34. a. Kamau aruga irio irĩkũ?

Kamau cooked food which

Gloss: Which food has Kamau cooked?

b. Kamau arugira Wanjiru ũrĩkũ?

Kamau cooked for Wanjiru which?

Gloss: Which Wanjiru did Kamau cook for?

c. Kamau ahũthĩra thaburia ĩrĩkũ na aruga tũirio turĩkũ?

Kamau used pot which conj. cooked food (diminutive) which?

Gloss: Kamau has used which pot and cooked which food?

Another common way of forming interrogative sentences is echoing where a hearer repeats the statement of a speaker either with the apt question tone or beginning in the complementizer *atĩ* (that). Look at the short dialogue in (35) below:

35. Speaker: Kamau arugĩra Wanjirũ irio.

Gloss: Kamau has cooked Wanjirũ food.

Hearer: Kamau arugĩra Wanjirũ irio?

Gloss: Has Kamau cooked food for Wanjirũ?

Hearer: Atĩ Kamau arugĩra Wanjirũ irio?

Gloss: That Kamau has cooked food for Wanjirũ?

The scope of this paper does not allow us to discuss questions formation using ‘quantifier and qualifier interrogatives,’ Gatende (1991:65) such as *-gana* (how many). We need to note

however, that some forms of interrogatives do take infinitive verbs but the consequent sentences do not involve control. This is discussed in chapter four of this paper.

3.6. *Complex sentences*

These are sentences made up of more than one clause joined together either through coordination, subordination or complementation. In this section, I discuss examples of coordinated and subordinated sentences for complementation will be handled in the next chapter. It would be fair however, to offer examples of complementation as well. In coordination, different constituents of the same category such two NPs can be joined together resulting in another constituent of the same category. For example, *Njoroge* is a noun as is *Nyambura* and both can function independently as NPs in sentences. They can also be conjoined to form a compound noun which functions as a single NP i.e. *Njoroge and Nyambura*. The interest of this paper however is the clause where in coordination, independent clauses are joined together using a coordinating conjunction such as *na* in (36a,b) or simply by placing them side by side as in (36c).

36. a. Kamau a ruga irio na Wanjiru a ruga cai.

Kamau sm cook food conj Wanjirũ sm cook tea.

Kamau has cooked food and Wanjiru has cooked tea.

b. Kamau a ruga irio no Wanjiru a ruga cai.

Kamau sm cook food conj Wanjirũ sm cook tea.

Kamau has cooked food but Wanjiru has cooked tea.

c. Kamau a ruga irio, Wanjiru a ruga cai.

Kamau sm cook food, Wanjirũ sm cook tea.

Kamau has cooked food, Wanjiru has cooked tea.

As evident above, ‘two (or more) S constituents occur as daughters and co-heads of a higher S... [and] each of the daughters has the internal structure of an independent sentence and neither is embedded in the other,’ Kroeger, (2004:40-41). The two coordinated clauses can function as independent sentences as neither depends on the other for semantic content.

Subordinated sentences on the other hand bear a clause that is embedded into another and cannot make complete sense without it. The clause that depends on the other to make sense is called the subordinate or dependent clause while the independent clause is called the main or the matrix clause. Like coordinated clauses, they are also joined by conjunctions only that they use subordinating conjunctions and complementizers. Kroeger, (2004:41) identifies three types of subordinate clauses namely:

Complement clauses

Adjunct (or adverbial) clauses

Relative clauses.

Conditional clauses however, are also complex sentences and they are discussed below.

3.6.1. Relative Clauses

Relative clauses involve the use of a clause ‘as a modifier within a noun phrase...’ *ibid*, (2004:41). This makes the rewrite rule for an NP taking a relative clause become:

NP→N+S, Gatende, (1991:57).

The basic relativizer in Kikuyu is *-rĩa* which due to assimilation, the phoneme /j/ replaces the *ĩ* to form *-rya*. Another relativizer that is in lesser use is *-cio*. An agreement marker is attached to the relativizing morpheme depending on the noun class, person and number of the subject. The subsequent sentences serve as illustrations.

37. a. Kamau **ũ rya** ũrarugĩre Wanjirũ nĩ aramũhikirie.

Kamau **sm who** cooked for Wanjirũ foc married her.

Kamau, who cooked for Wanjirũ, married her.

b. Irio **i rya** Kamau ararugire irarĩ na cama.

Food **sm which** Kamau cooked was with taste.

The food that Kamau cooked was tasty.

c. Irio **i cio** wonire i rugirwo nĩ Kamau.

Food **sm which/that** you saw sm cooked preposition Kamau.

The food that you saw was cooked by Kamau.

The relative clause itself does not participate in control.

3.6.2. Conditional sentences

Conditional clauses in kikuyu are formed by adding the affix -ngĩ- between the subject agreement marker and the tense affix in the verb stem. This is shown by the next example.

38. a. Kamau nĩ a ra thom a.
 Kamau foc SM tns study f.v.
 Kamau is studying.

b. Kamau a ngĩ ra thom a.
 Kamau SM Cond tns+asp study f.v.
 If Kamau would be studying...

As in English, a conditional sentence normally has two clauses joined together. The conditional clause (the one with -ngĩ-) can appear at the beginning or the end of the complex clause as shown in (38 c,d).

38. c. Kamau a ngĩ thom a, no a hĩ tũke.
 Gloss: If Kamau would study, he would pass.

d. No a hĩ tũke Kamau a ngĩ thom a.
 Gloss: Kamau would pass if he would study.

The first person subject agreement marker changes to -i- before the conditional marker as illustrated below.

39. a. Nĩ nĩ ndĩ ra thom a
 I foc agr+SM TNS study f.v.
 I am studying.

*Nĩ ndĩ ngĩ ra thom a.

But

Nĩ i ngĩ ra thom a.
 I sm cond. tns study fv.
 If I were studying...

The *"d* re-appears in a negative conditional clause as in (39b).

39 b. I ngĩ rĩ Kamau, ndi ngĩ ra thom a.
 I cond tns Kamau, sm+neg cond tns study fv.

If I were Kamau, I would not be studying.

Note that the conditional occurs in all the tenses in kikuyu and the subordinate clause does not take an infinitive verb.

3.6.1. Complemented Sentences

A complement clause refers to a sentence which is subcategorized for by the verb as one of its arguments. The main clause is referred to as the matrix clause, Kroeger (2004:41). The complement is either finite or infinite as illustrated by (40a,b) and (40c) respectively.

40. a. Kamau oiga [atĩ a rug ĩir e Wanjirũ].
 comp sm(he) cook asp fv Wanjirũ.

Kamau has said [that he cooked for Wanjirũ].

b. Kamau oiga [a rugĩire Wanjirũ].
 Sm (he) cooked for Wanjirũ

Kamau has said [that he cooked for Wanjirũ].

c. Kamau a thiĩ kũ rug a nĩũndũ wa Wanjirũ.
 Kamau sm go inf cook fv conn. pre Wanjirũ.

Kamau has gone to cook because of Wanjiru.

When a complementizer is used, it forms a constituent with the clause that follows it. However, it can be dropped as in (40b) because the verb is finite and hence bears the subject agreement marker. Infinitival complements will be central in chapter four and will not be discussed further here.

4. Summary to Chapter Three

This chapter delved in to the structure of sentences in Kikuyu concentrating on simple and complex sentence. The role of morphology in sentence structure was discussed and

morphological processes such as affixation as well as morpho-phonological processes such as assimilation have been identified as central in the structure of a Kikuyu sentence. It has been noted for example that certain affixes assimilate with others to form compound affixes such as in the reflexive hence affecting the structure of the resultant sentence. Data however fails to support the use of infixes as proposed by Barlow, (1951:19), Leaky, (1959:28) among others. The structure of the verb and its rich morphology has also been discussed. It has been noted that a finite verb always subcategorizes the subject marker affix and that the verb root is semantically deficient and always a monosyllable. However, with apt affixation, the verb makes a complete sentence. The different affixes are arranged in a given order whose invariability as claimed by some authors such as Schwarz, (2000:4) was found inadequate. This led to a discussion on the simple sentence that is, a sentence made up of only one clause such as the passive. It has also been shown that Kikuyu has double object verbs but no direct and indirect verbs as the verb changes to accommodate the two objects. Complex sentences, on the other hand, are made up of more than one clause related to each other either through subordination, coordination or complementation. A relative sentence for instance has a finite clause embedded in a matrix clause by a relativizer pronoun. Complemented clauses have a verb that subcategorizes a clause as its complement. The complement may either be finite as in the case of *atĩ* (that) clauses or infinite. Other sentences discussed include reflexives, interrogatives and coordinated sentences. With this knowledge, it is now easy to discuss control in Kikuyu which will heavily depend on the verb, its finiteness or infiniteness, agreement markers and most importantly the argument structure of the verb.

CHAPTER FOUR

ANALYSIS OF CONTROL IN KIKUYU

4.1 Introduction

This chapter endeavours to analyse the syntax of control in Kikuyu within an LFG framework. GB is also used to analyze sentences with the aim of offering a backdrop to an LFG analysis. Attention is focused on PRO the subject of infinitive and gerunds, and on testing the various claims of LFG. This follows a discussion on the X' representation of Kikuyu sentences. Section 4.2 discusses the phrase structure of Kikuyu sentences, 4.3 looks at infinitives and gerunds while section 4.4 is a general discussion on control in Kikuyu. Sections 4.5 and 4.6, offer a GB and LFG analysis of control in Kikuyu before a summary in section 4.7.

4.2 Clausal Organization of Kikuyu Sentences

Like GB, LFG uses X' notation as attested to by Falk (2001:34) who postulates that ‘the theory of c-structure assumed in most generative work, including LFG, is generally known as (X-bar) theory.’ This is the use phrase structure tree to capture the overt sentence structure, that is, it ‘indicates the superficial arrangement of words and phrases in the sentence,’ Bresnan (1982:175). Carnie (2006:436) however contends that X' theory in LFG is not as strictly applied to all languages. GB and LFG theories differ in that, a phrase structure tree in LFG lacks traces and its structure is built directly from the PS rules known as ‘node admissibility conditions,’ Dalrymple (2009:19). This is because the theory lacks movement and a D-Structure. Moreover, C-Structure lacks nodes for affixes which Kroeger (1993) in Dalrymple (2001:52) calls ‘disembodied morphological features.’ The trees are generated by phrase structure rules such as (1)

1. $XP \rightarrow \text{Spec } X'$
 $X \rightarrow X; YP$ (adapted from Haegeman, 1994p.104).

Where X stands for the categories and the bar shows the level in the phrase structure tree. For example, an X representing a head bears a superscripted zero to show that it lacks a bar level. The following table summarizes category levels.

Table 1: Major Category Types

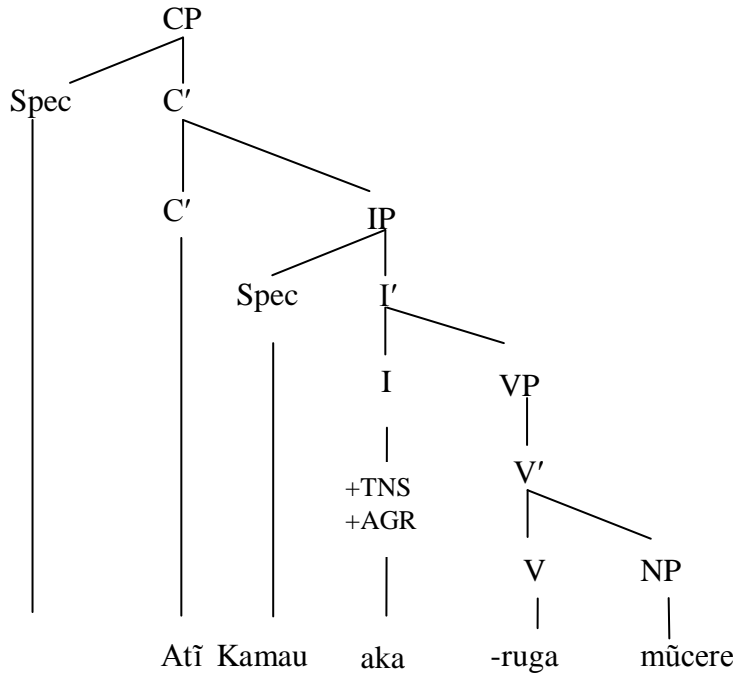
Type	0	1	2
Category	V	V'	V'' (VP)
	P	P'	P'' (PP)
	N	N'	N'' (NP)
	A	A'	A'' (AP)
		S	\bar{S}

Taken from Bresnan (1982:295)

In a Phrase Structure tree, 'lexical items appear as heads of phrases and may be associated with a Spec and a complement position within the same phrase' Dalrymple (2001:56). This is endocentricity as opposed to exocentricity which allows a phrase that lacks a lexical head. It is endocentricity that 'guarantees that the c-head of every phrase is a category,' *ibid* (2001:120). In such a theory, phrases and heads are related. Sentences are projections of INFLⁱ while complemented sentences are projections of a complement. This is upheld in GB but not in LFG which treats sentences as exocentric S or S' for the complemented sentence. This study takes the structure of complemented sentences as in figure (1) for sentence (2)

2. Atĩ Kamau a ka ruga mũcere?
 Comp Kamau sm tns(fut) cook rice
That Kamau will cook rice?

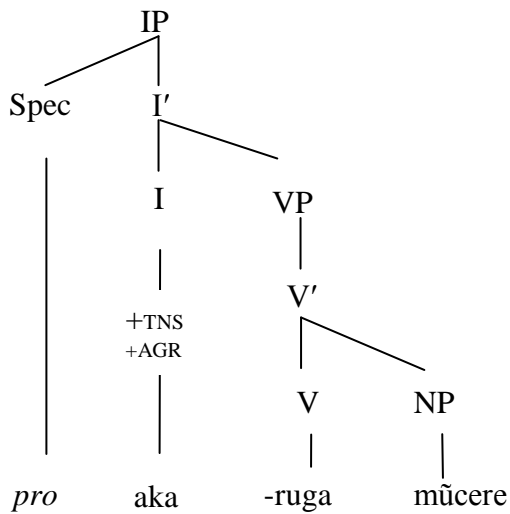
Figure 1



Notice, though the Spec CP is not filled, GB argues that the node is still available as it had already been generated. Kikuyu uses a variety of sentences whose phrase trees will be shown as per the requirements of the discussion. Normally, Kikuyu sentences lack an overt subject NP as illustrated by (3). In such a case, SM shows the properties of the dropped subject NP which is shown in the PS tree via *pro* as shown in figure (2)

3. A ka rug a mũcere.
 sm tns(fut.) cook fv rice.
He/she will cook food.

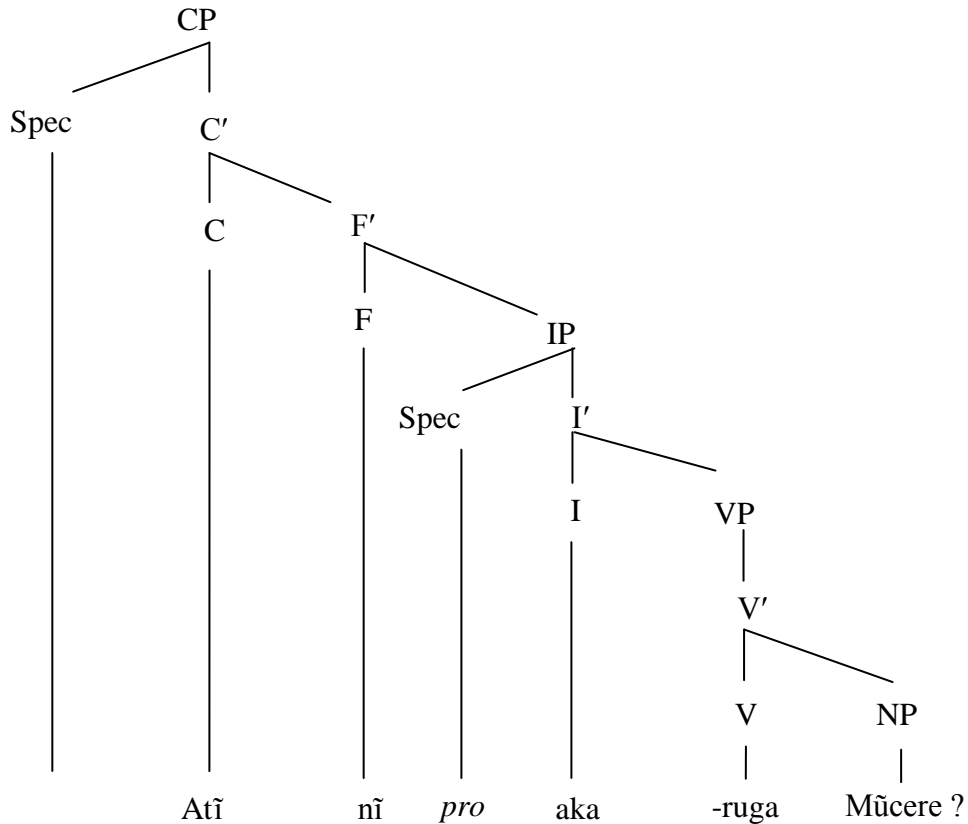
Figure 2



It is quite common however, to hear Kikuyu sentences that bear the focus marker *nĩ*. In such sentences, a Focus Phrase is added to cater for the focus morpheme as shown in sentence (4) and figure (3).

4. Atĩ nĩ a ka ruga mũcere?
 Comp foc sm tns cook rice
That he/she will cook rice?

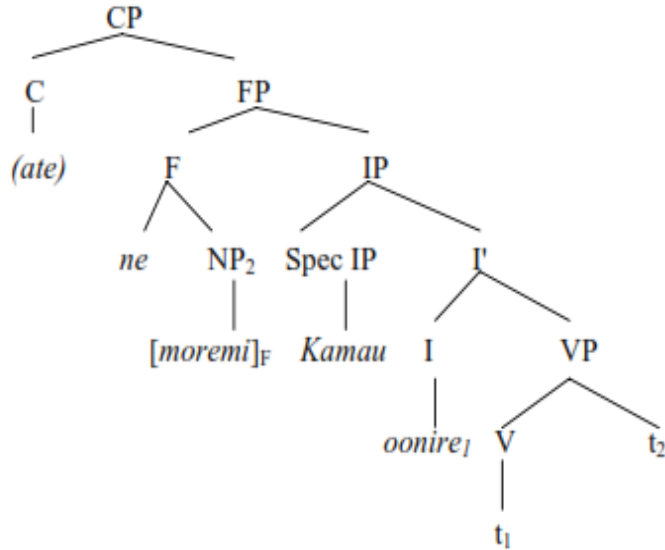
Figure 3



Yet other sentences bear a focused NP and a focus marker, in which case, the focus node is split to accommodate the new NP. Such a sentence is illustrated in (5).

5. Atĩ nĩ mũrĩmi Kamau oonire? (adapted from Schwarz, 2003 p.65).
 Comp foc farmer Kamau saw.
That it is a farmer Kamau saw.

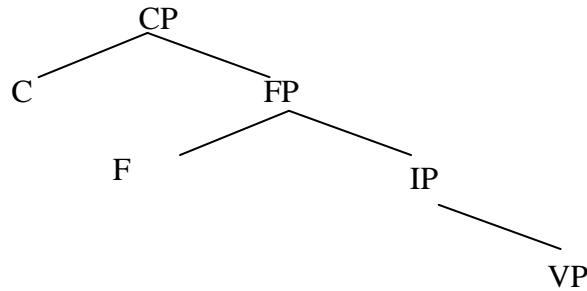
Figure 4



Taken from Schwarz (2003:65).

Schwarz (2003:62) therefore concludes that the generalized PS tree for Kikuyu would be as in figure (5).

Figure 5



This structure is not invariant across GB and LFG. For example, LFG takes all the type 1 and 2 categories as projections of type 0 categories and \bar{S} and S (CP and IP in GB) as exocentric projections. This affects the way the two theories present their phrase structures. In addition, X' theory is challenged in presenting the subject agreement marker as it is both an argument and an agreement marker in Kikuyu while GB can only treat it as an agreement marker.

4.3 Infinitives and Gerunds in Kikuyu

4.3.1 Infinitives

The infinitive in Kikuyu is marked via the use of the morpheme *Kũ* which due to euphonic changes is realized as *gũ* before the sounds /θ, s, t, and k /. Tentatively, this study hypothesizes that the infinitive verb cannot take a subject argument or a tense morpheme. This is confirmed by the following sentence.

6. a. Kamau a ka rug a mũcere.

 Kamau sm tns(fut) cook fv rice.

Kamau will cook rice.

b. *Kamau a ka *kũ* rug a mũcere.

 Kamau sm tns(fut) inf. cook fv rice.

Kamau will to cook rice.

Sentence (6b) is unacceptable because the infinitive is made to take a tense morpheme ending with the implausible combination of a “finite infinite”. It is legitimate however to insert the OM in between the infinitive morpheme and the verb root. For example, the infinitive of the verb *ruga* (cook) is *kũruga* (to cook) but the OM can be used as an infix to mark its object argument as shown by (6c).

6. c. Kamau nĩ a *kũ* **ũ** rug a.

 Kamau foc sm inf **om** cook fv.

Kamau will cook it.

The infinitive in Kikuyu therefore will be taken to be a verb that begins with either *kũ/gũ* and cannot take a subject agreement marker, a tense morpheme or the habitual mood morpheme {ag}. A finite verb, on the other, takes an agreement marker and this distinction will be used to identify the kinds of clauses under analysis.

4.3.2 Gerunds

Verbs in Kikuyu can be used as nouns; a verb noun is referred to as a gerund. In English, gerunds end in *-ing* while in Kikuyu, they use the infinitive form of the verb as discussed in section 4.3.1. But is a gerund really a noun? Milsark (2006:438) in Martin et al. (2006:1310) notes that, since it occurs in argument positions; its internal complements require the preposition

of and it can include determiners, genitive subjects and adjectival modification, then it is a noun. Sentence (7) below illustrates some of these points:

7. a. Kamau nĩ endete **Wanjirũ** mũno.
 Kamau foc love Wanjirũ much.
 Kamau loves Wanjirũ very much.
- b. Kamau a ka ruga mucere.
 Kamau sm tns(fut) cook rice
 Kamau will cook rice.
- c. Kamau nĩ endete **kũruga** mũno.
 Kamau foc love cooking much.
 Kamau loves cooking very much

The verb *enda* (love) is a two place predicate that takes *Kamau* as the subject NP and subcategorizes the NP *Wanjirũ* as its internal argument in (7a). (7b) behaves the same with the verb *ruga* (cook) again taking *Kamau* for an external argument and *mucere* (rice) for an internal argument. The a-structure of the verb *enda* (love) in (7c) like in (7a) is

[PRED ‘ENDA <SUBJ, OBJ>’].

Following the Completeness Condition, all these arguments must be realized in a sentence formed from this verb. Considering (7c), we note that the verb is immediately followed by another verb instead of an NP. On the surface, it would appear that (7c) is violating the Completeness Condition since the object NP is not realized. The sentence is however acceptable proving that it does not violate this condition. This is because the infinitive *kũruga* (to cook) is functioning as the object NP rather than a verb. The F-Structure of (7c) in (6) shows this.

Figure 6

[PRED ‘ENDA <SUBJ, OBJ>’]
TOPIC	[PRED KAMAU]	
SUBJ	[PRED ‘PRO’]	
OBJ	[PRED ‘KũRUGA’]	
]		

Thus, an infinitive verb in Kikuyu can function as either an internal or external argument of another verb. The object NP in (7c) is used in (8) below as the agent of the verb.

8. Kamau oiga atĩ [kũruga nĩ kũega(kwega)]
 Kamau say COMP cooking cop good.

Kamau has said that [cooking is good].

In line with Milsark (2006:438), the infinitive verb *kũruga* (cook) has the same distribution as a noun and takes adjectives as shown by the use of the quantifier *muno* (much) in the example above. This proves it is a gerund. Take cognizance of the fact that there exists no morphological difference between an infinitive and a gerund and their distinction can only be inferred from the environment of their syntax. Their prefixes *kũ* or *gũ*, classifies them into class VIII of the Kikuyu nouns which they enlarge from only three nouns though unlike the nouns in the class, they lack a plural form.

When gerunds or infinitive complements form sentences in Kikuyu, control constructions may arise. In Kikuyu control constructions, only the subject position of the infinitives and gerunds can be controlled. In subject gerundive constructions, PRO normally bear an arbitrary interpretation. The following examples illustrate this observation.

9. a. PRO kũ rug a mucere nĩ ãndũ mũhũthũ.
 PRO inf cook fv rice cop thing easy.

Cooking rice is a simple thing.

- b. Kamau e ra Wanjirũ atĩ PRO kũ andĩk a nĩ kũhũthũ.
 Kamau sm tell Wanjirũ comp PRO inf write fv cop easy.

Kamau told Wanjirũ that writing is simple.

Here, PRO does not depend on any constituent in the sentence for its interpretation but rather has an extra sentential referent. When gerunds are used in object positions, PRO becomes controlled by the subject of the matrix verb.

10. Kamau nĩ e ndet e PRO kũ rug a mũcere.
 Kamau foc sm like fv PRO inf cook fv rice.

Kamau likes cooking rice.

Notice that the forms of gerundives and infinitives are the same; their differences being deciphered from their syntax. For example, in gerundive interrogatives, PRO picks the overt or an implied controller while the infinitive cannot replace the gerundive.

11. (Kamau) Nĩ PRO gu thom a kana nĩ PRO kũ in a?
 (Kamau) foc PRO inf study fv conj foc PRO inf sing fv
Is it studying or singing?
**Is it to study or to sing?*

Infinitives on the other hand function as verbal complements or adjuncts. Again, the interpretation of PRO is subject to syntactic, semantic and pragmatic rules. (12) gives some examples of control constructions in Kikuyu and their gloss translations.

12. a. ‘Nĩ ngeretie [PRO kũnyita wambui mĩcore...]’ Kamau (1995:12)
I have tried [to capture a zebra].
- b. Ruta arĩa ethĩ [PRO gũtĩa aciari ao]
Teach the young to respect their parents.
- c. Kamau ahihinyire Njoroge ate PRO kũigua ruo.
Kamau pressed Njoroge without feeling pain.
- d. Kamau oiga atĩ nĩ wega PRO kũhĩmbĩria Wanjirũ kĩng’ang’a-inĩ.
Kamau has said that it is good to embrace Wanjirũ in public.
- e. ‘...Mũndũ o wothe nĩahiũhage [PRO gũthikĩrĩria] no ndakahĩke [PRO kwaria kana PRO kũrakara]’ Kenya Bible Society (1965:1374).
Everyone should be quick [PRO to listen] but should not be quick [PRO to talk or PRO to get angry].
- f. Kũraiguĩka **mũnene** ena murimu.
Mũnene araugũika x ena murimu, Gatende (1991:8).

It is important to note that Kikuyu allows an ‘infinitive’ to take an overt subject argument in the near future tense. This works for both positive and negative sentences where the subject agreement marker is subcategorized by a seemingly nonfinite verb. Example (13) illustrates this claim.

13. a. *Question:* Kamau e **kũ** rug a kīī?
 Kamau sm inf cook fv what?
 Kamau will (near future) cook what?
- b. *Answer:* Kamau e **kũ** **rug a** mũcere.
 Kamau sm inf cook fv rice.
 Kamau will (near future) cook rice.
- c. Kamau na Wanjirũ ma ti **kũ** rug a mũcere.
 Kamau conj Wanjirũ sm neg inf cook fv rice.
 Kamau and Wanjirũ will (near future) cook rice.
- d. Kamau a **ka /*kũ** rug a mũcere.
 Kamau sm tns inf cook fv rice.
 Kamau will (far future) cook rice.

Sentence (13a) illustrates the use of the infinitive form of a verb in an interrogative while (13b) is an example of a declarative use of the infinitive form. (13c) shows the use of the same in negative sentences. Following this observation, I argue that it is the tense (near future) that licenses the use of an infinitive form with an overt argument. Other tenses fail to license it as shown by (13d). Although the form of the verb *kũruga* (to cook) is similar to that used in infinitive complements, it bears tense (near future) and hence not an infinitive. Such constructions do not involve control as their subject argument is overt. This justifies the use of the phrase ‘control constructions in Kikuyu’ as not all sentences with nonfinite verbs are control sentences as is the case in English. This study therefore, theorizes that, it is only a coincidence that the form of the near future tense in Kikuyu resembles that of the infinitive. Their difference can only be deciphered from the syntax of their use.

Another syntactic operation that leads to control constructions in Kikuyu is raising where an NP moves from a subordinate clause to either the object or subject position of a higher clause. (12f) is an example of such a construction where the moved NP leaves a gap (x) which is controlled by the moved NP *Munene*. In summary, control constructions arise in Kikuyu, when gerunds are used as verb arguments; infinitive phrases are used as complements and when NP raising occurs.

If this agreement marker is omitted, PRO fails to make sense since the clause containing it becomes incomplete. Thus, PRO has an anaphoric property as it refers back to an antecedent. In some constructions, a controller may control two subject positions as in (12e) where the NP *everyone* (via its agreement marker *nd*) controls the subjects of *talk* and *get angry*.

Nevertheless, PRO does not always behave like this. Consider the next sentence.

15. PRO kũ rĩm a nĩ kwega.
 PRO inf farm fv cop good.

PRO to farm/farming is good.

In this case, PRO does not refer back to an antecedent but rather appears to refer to a specific referent in the universe. It does not need another NP for it to have semantic content. Thus, Kikuyu shows that PRO is both an anaphor and a pronominal. Since it appeals to contradicting principles of Binding Theory, that is, principle A and B, PRO satisfies both of them by remaining ungoverned hence the PRO Theorem. Moreover, PRO and its antecedent (when it has one) bear different theta roles. Looking at sentence (12b) again, the antecedent of PRO serves as the external argument of the verb *ruta* (teach) while PRO is the external argument of the verb *gũtĩa* (to respect).

According to the Case module of GB, overt NPs, *Pro* and WH-traces occur in case marked positions. Gatende (1991:94) however contends that, case is not necessary in accounting for kikuyu syntactic phenomena. This study offers counter examples to this assertion. Consider the following example.

16. a. Kamau nĩ e ndet e Wanjirũ.
 Kamau foc sm love fv Wanjirũ.

Kamau loves Wanjirũ.

- b. Wanjirũ nĩ e ndet wo nĩ Kamau.
 Wanjirũ foc sm love pass by Kamau.

Wanjirũ is loved by Kamau.

- c. Wanjirũ nĩ a thi ĩ kũ rug a.
 Wanjiru foc sm go fv inf cook fv.

Wanjirũ has gone to cook

18. a. Mwaana arageria [*kũnyita ngũkũ*]

Gloss: A child is trying to catch a hen.

d. Andũ marageria [*kũnyita ngũkũ*]

Gloss: People are trying to catch a hen.

Note the changes in the agreement marker do not affect the infinitive marker confirming that Harford (1960:60) conclusion a misnomer. This debate will be advanced further in the next section since LFG also posits that PRO can occur in object positions which are in terms of GB, governed.

Control in GB is classified using two dimensions namely the type of controller and the manner of control. GB therefore satisfactorily explains sentence (12a) above in which the subject NP *Nĩĩ* (I) represented by its agreement marker controls the subject NP of the infinitive clause. Object control, on the other hand, accounts for sentence (12b) in which the object NP *ethĩ* (the young) controls the subject of the complement infinitive. Obligatory control again explains sentences (12a and 12b) in which the subject of the infinitive must refer to the subject or object of the matrix verb. Optional control, on the other hand, explains sentence (12d) in which PRO is interpreted as referring to the NP *Kamau* or to an arbitrary referent. GB however fails to explain split control. Let us consider sentence (12c) briefly repeated here as (19) for convenience.

19. Kamau_i a hihiny ir e Njoroge_j ate PRO_{i+j} kũ igu a ruo.
 Kamau sm press asp fv Njoroge pre inf feel fv pain.

Kamau pressed Njoroge without feeling pain.

PRO in sentence (19) may be interpreted as referring to the NP *Kamau*, that is, *Kamau* did not feel pain while pressing *Njoroge* or it might also be that; *Njoroge* did not feel any pain after being pressed by *Kamau*. Here, PRO has two potential controllers hence split antecedents. This is not explained in GB. Moreover, GB does not fully account for inherently plural nouns, that is, + Merⁱⁱ nouns such as committee, crowd and class. The following sentence illustrates this fact.

20. a. Kĩrathi_i gya (**gĩa**) thiĩ [PRO_i kuona nyũmba iyo].
 Class sm (sing.) go PRO to see house that.

The class has gone to see that house.

b. Kīhĩĩ; **gya (gĩa)** thĩĩ [PRO_i kuona nyũmba iyo].

The boy (augmentive) sm (sing.) go PRO to see house that.

The boy has gone to see that house

c. Irathi; cya(cia) thĩĩ [PRO_i kuona nyũmba iyo].

Classes sm (plr.) go PRO to see house that.

The classes have gone to see that house.

It is easy to note that the number feature of PRO in (20a) is different from that of (20b) although their agreement markers are the same. This is because the NP *class* is inherently plural and GB does not explain whether in such cases PRO is also plural. Assuming it is plural, which number does PRO assume when the collective noun is changed into its plural form as in (20c)?

A closer analysis of object control shows that GB treats an object control construction as a case of Exceptional Case Marking (ECM)ⁱⁱⁱ. Although Ndwiga (2008:104) argues that Gĩ Gĩchuka (a Bantu language like Kikuyu) lacks ECM, object control constructions in Kikuyu show that certain verbs do allow ECM. Let us consider sentence (21) for a discussion.

21. Kamau a ra rut a Wanjirũ kũ in a.

Kamau sm tns teach fv Wanjirũ inf sing fv.

Kamau is teaching Wanjirũ to sing.

In a GB analysis, the NP *Wanjirũ* is in the lower clause serving as the subject of the infinitive verb *kũina* (to sing). Noting that the infinitive cannot case mark the NP *Wanjirũ*, we conclude that the NP is case marked by the matrix verb *ruta* (teach). This would in turn mean that it has accusative case since it is at the object position of the said verb. This observation is confirmed by the use of an agreement marker instead of the overt object NP as shown below.

22. a. Kamau a ra **mũ** ruta kũ in a.

Kamau sm tns **om**(him/her) teach inf. sing fv.

Kamau is teaching him/her to sing.

b.*Kamau a ra a ruta kũ in a.

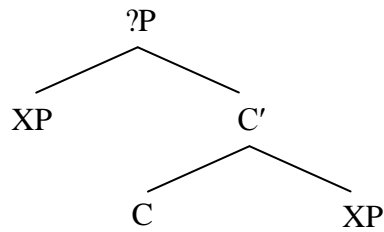
Kamau sm tns sm(for Wanjirũ) teach inf. sing fv.

Kamau is teaching Wanjirũ to sing.

Trying to substitute the object agreement marker with one that is subjective makes the sentence illicit. Thus, the verb *ruta* (teach) case marks a subject NP in a lower clause hence ECM. This works when the complement serves as an adverbial adjunct.

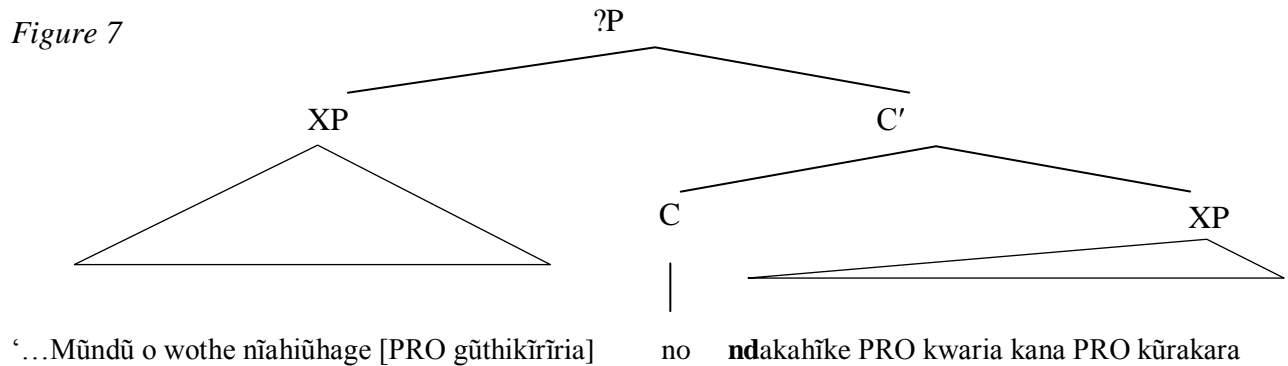
GB treats the gap left by a raised constituent in raising constructions as a trace and not PRO. The trace forms an A-chain with the raised NP which is its antecedent with the trace taking the theta role and the antecedent taking case^{iv}. Therefore, raising in GB does not lead to a control construction.

The syntax of (12e) is unique since the sentence is a compound control construction. The first part is simple with the NP *mũndũ o wothe* (person all) acting as the controller of PRO in the enclosed subordinate clause. Crossing the first conjunction *no* (but) we note that the subject agreement marker *nd* which agrees with the NP *mũndũ o wothe* (person all) acts as the antecedent to PRO in the subject position of both *kwaria* (to talk) and *kũrakara* (to get angry). The same antecedent serves two PROs. How can this be explained? GB does not discuss coordinated clauses. X' bar theory would however treat conjunction as 'a conjunction phrase (ConjP)' Carston (2005:354) of the following schema.



Taken from Carston (2005:354)

For example, sentence (12e) should have the following phrase structure tree.



According to Emma et al. (2011:10-11), such a schema faces several challenges top among them being the level of the top most projection. In *X'* theory, the top most projection is an XP but in IP coordination, the conjuncts are themselves XPs making it hard to give a label to the top most projection. Secondly, the conjuncts are not selected by the head Conj. as claimed by *X'* theory. Moreover, the specifier and the complement bear different relationships with the head. For example, the complement forms a constituent with the head while the specifier does not. This is challenged by coordination. This relationship is incorrectly predicted in coordinate clauses which can freely be alternated without a resultant semantic distortion. In short, GB fails to account for coordinated clauses and by extension fails to explain control in coordinated predicates.

Government is a structural relationship based on sisterhood or agreement between two nodes. It is ‘the relation that holds between a lexical head and all of the nodes contained within its maximal projection that are not separated from it by another maximal head’ Davis and Dubinsky (2004:180). Haegeman (1994:134 and 137) defines government in terms of C-command and M-command stating that:

A governs B if and only if

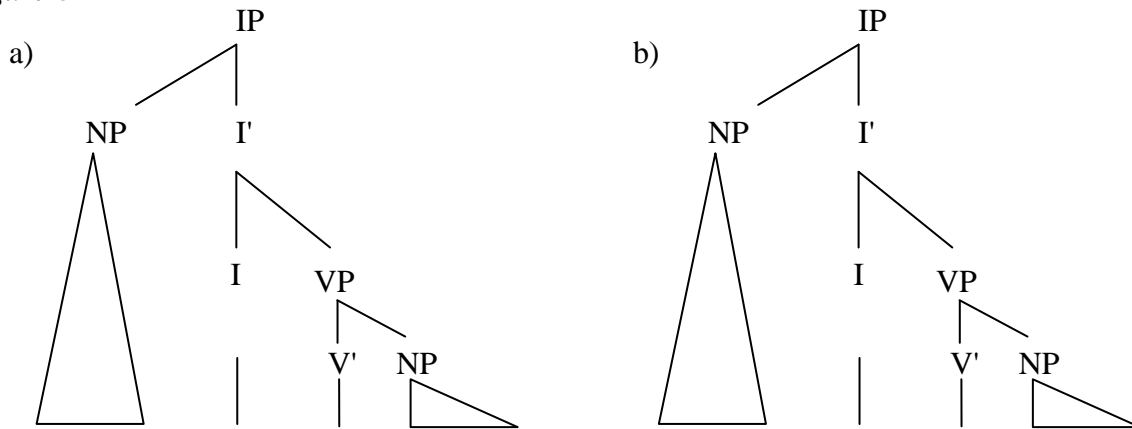
- i. A is governor; and
- ii. A C-commands B and B C-commands A.

A governs B if and only if

- i. A is a governor; and
- ii. A M-commands B; and
- iii. No barrier intervenes between A and B.

C-command and M-command are structural relationships based on sisterhood and precedence. Thus defined, there exists no difference between the structures of a finite and non-finite IP. Let us borrow an illustration from section 2.2.1

Figure 8



Assuming that figure (8a) represents a finite IP, and figure (8b) represents a non-finite IP, where is the structural difference? Of course there is none – and the only way to make them different is by introducing the features of ‘I’ especially the tense feature. Boeckx et al. (2010:15) notes that, ‘if a finite INFL can govern its Spec, so should a non-finite one as the two structural configurations are identical.’ Only the introduction of the features [+TNS] or [+AGR] differentiates the two structures. Bresnan (1982:320) is of the same opinion and remarks that ‘no reason in principle why the type 0 category of nonfinite S [-agr] [-tns] should not be just a much a governor as the [+agr] [+tns].’ Tense and agreement features are not structural but lexical features. GB therefore fails to offer a structural reason to prohibit government by a non-finite INFL. It is a misnomer therefore for structural government to be used to explain the difference between a finite and non-finite INFL. One might argue that the Projection Principle solves this by stating that Lexical information is syntactically represented. But does not this principle make GB a lexical theory? Moreover, why would a theory prefer to use structure to show lexical properties? There is no justification for such an effort. Government as defined in GB fails to fully account for control constructions as this argument shows that a nonfinite INFL is structurally a governor as a finite one is. This in turn discredits the PRO Theorem for PRO can occur in a governed non-finite position which makes GB fail in explaining the distribution of PRO.

The projection INFL is headed by the inflectional features of the verb and not the verb which bears its own projection: the VP. Inflectional features on the other hand, may not function without the verb. Consider tense for instance which cannot occur without the verb it is

qualifying. My point is, having inflection as a projection is mutilating the verb which would otherwise work as well in one piece. Remember, a finite INFL governs the subject NP in a sentence, but as we are arguing here, inflection is a part of a verb and hence the verb governs its subject as well against the claims of GB. In agreement with this view is Bresnan (1982:320) who wonders ‘why verbs are always taken to govern their objects.’

Contrary to the claims of GB, Kikuyu control constructions have shown that PRO can be alternated with subject lexical NPs. The argument in GB follows naturally from the case filter which holds that ‘*NP if NP has phonetic content and has no case’ Davis and Dubinsky (2004:184). Thus all non-null NPs must be marked for case or must appear in a case marked sentence position. As already noted, lexical subject NPs in Kikuyu occur in an A’ position the reason they can alternate with PRO as sentence (23) below proves.

23. a. PRO kũ rug a nĩ kũ hũthũ Kamau.
 PRO inf cook fv cop agr easy Kamau.

PRO to cook is easy Kamau.

- b. *Kamau* kũ rug a nĩ kũ hũthũ.
 Kamau inf cook fv cop agr easy

Kamau to cook is easy.

PRO does not serve as an argument of the infinitive verb *kũruga* (to cook) in (23b) as an overt NP *Kamau* is availed. In light of this evidence, the claim that PRO cannot replace overt NPs should be taken as a cross linguistic variation. PRO, in this case, is shown to be caseless as it cannot replace object NP markers (OM) or subject agreement markers (SM) which are always case-marked in Kikuyu. This complicates Control theory further since PRO serves as an external argument of a non-finite verb hence marked for nominative case in agreement with later transformational theorizing. The Minimalist Program, for example, argues that PRO bears and checks for null case. Sentence (24) below justifies that PRO in Kikuyu is marked for nominative case and not for accusative case.

24. a. Kamau nĩ a ka ũ ruga.
 Kamau foc sm tns om cook.

Kamau will cook it.

b. *Kamau nĩ a ka PRO ruga.^v
 Kamau foc sm tns PRO cook.

Kamau will cook it.

PRO is unlicensed in (24b) as it precedes a finite verb and the original meaning of the sentence changes.

Delving further, one notes that PRO functions as the subject argument of non-finite verbs. This is a theta marked position and according GB theory, theta roles can only be assigned to visible NPs and ‘abstract case renders an NP visible’ Haegeman (1994:189). Abstract case in GB, on the other hand, is assigned under government while inherent case is assigned via theta marking according to the inherent case condition which states:

If A is an inherent case assigner, then A assigns case to an NP if and only
 if A theta-marks the NP, Haegeman (1994:176).

Only nouns and adjectives assign inherent case while verbs assign case via government whereas a non-finite verb is a non-governor. PRO therefore remains caseless and GB fails to explain why it is visible for theta marking.

GB takes PRO as a pronominal anaphor which is licensed by the PRO Theorem. In Kikuyu, GB cannot predict when PRO will act like an anaphor and when it acts like a pronominal. Notice, the presence of a possible antecedent to PRO does not make it anaphoric as it may have an arbitrary interpretation. Consider sentence (25) following.

25. Kamau oig a PRO kũ rug a nĩ kũ hũthũ.

Kamau say fv PRO inf cook fv cop agr easy.

Kamau has said cooking is easy.

PRO in (25) has an arbitrary interpretation although the NP *Kamau* provides a possible antecedent.

In addition, GB takes PRO as a theory internal construct and not a lexical item. It is hard to understand why PRO bears content; for example, it acts as an antecedent to reflexives yet it is not lexical. Moreover, PRO is inserted at D-structure and is a product of PS rules and LI rules as well as other interacting modules and principles of the theory. Thus conceptualized, a theory without a D-structure (such as Minimalism or LFG) may not account for PRO. Does that mean that PRO ceases to exist? GB does not account for this while minimalism which does away with

D-structure drops the concept of PRO as a theory internal construct and equates it to a null lexical item.

GB theory works well with isolating languages like English. Kikuyu is an agglutinating language and morphology as seen in chapter III plays a major role in sentence structure. Importantly, the rich verbal morphology allows for the dropping of the subject NP; the features of which are recovered from the subject agreement marker. The subject agreement marker therefore functions as both the subject pronominal and an agreement marker (See Mwangi 2012 p.44-47 and 63ff for a detailed discussion). GB represents the dropped NP via *pro* and maintains that the SM remains an agreement marker. This is essentially not true because the agreement marker also acts as the subject argument and would therefore appear in two positions, that is, Spec NP and I. When it appears in one projection, then, one function of the agreement marker is not realized yet it cannot appear in two projections simultaneously. It so happens because GB uses phrase structures to show syntactic and lexical information. This presents a challenge to the theory in accounting for mixed categories (for example the the SM pronominal) and its account of control when the subject NP is dropped. Consider Sentence (26) below.

26. a. A thi ĩ PRO kũ rug a mũcere.
 SM go fv PRO inf cook fv rice.
 He has gone to cook.

b. *pro* A thi ĩ PRO kũ rug a mũcere.
 SM go fv inf cook fv rice.
 He has gone to cook.

GB analyzes the sentence as having *pro* at the subject position as shown in (26b). It becomes problematic to assign a controller for PRO in the subordinate clause since there are two possible controllers, *pro* and the SM. Note, it would be wrong to argue that the controller in this case is implied since the pronominal (present in the clause) represents the controller unlike in an implied controller construction.

As noted above, GB treats a raising-to-object construction as a case of ECM where a matrix verb governs across an IP to case mark a subject in a subordinate clause. The passive

transformations which ‘is purely clause-internal’ Postal (1974:55) and the use of the OM in Kikuyu offer counter examples to such a stand. In addition, ECM would make the subordinate verb bear two arguments (the overt NP and PRO) contravening the theta criterion. An LFG account of control in Kikuyu and the way the theory addresses these challenges is the focus of the following section.

4.5. *An LFG Analysis of Control in Kikuyu*

Control in LFG is treated as a grammatical relation and hence represented in the F-Structure (see section 1.8). PRO (the null subject NP of infinitives and gerunds) is taken as a lexical item inserted from the lexicon and not as a product of derivations or interacting principles of a theory. PRO however, lacks independent representation and is attached to a verb that bears the feature –Tense, Falk (2001:120). In LFG, PRO differs from overt pronominals via its feature +U, that is, unexpressed morphologically or unpronounced. This feature is used in this study to differentiate PRO with the SM pronoun in Kikuyu which serves as the subject argument of a verb (note: both are represented by the PRED feature ‘PRO’ in an F-structure. The overt subject NP in Kikuyu is not an argument of the verb and hence occurs in a topic position. Control is divided into anaphoric and functional control as discussed in section 2.4.2. Several well-formedness conditions conspire to license control and other F-structure relations in LFG. The Completeness Condition is one such condition which states that:

An F-Structure is locally complete if and only if it contains all the governable grammatical functions that its predicate governs.

An F-Structure is complete if and only if it and all its subsidiary F-Structures are locally complete, Sells (1985:147).

In the words of Carnie (2006:450), an f-structure must contain all the governable grammatical functions that its predicate governs. Thus, all the entries in the angled brackets in the a-structure of a verb must be realized in the sentence formed by the said verb. For example, the subcategorization frame of the verb *Kūruga* (to cook) is as given below.

[PRED ‘KŪRUGA <SUBJ, OBJ>’]

The SUBJ and OBJ arguments must be realized in an F-structure of this verb. If, we construct the F-Structure of the verb *kūruga* (to cook) as used in the complement of sentence (27), the

structure becomes ill formed because an argument is missing. Note, PRO is not shown in the sentence because the overt elements of a sentence constitute the C-Structure whereas PRO is an element of the F-structure.

27. Kamau a renda [kũruga mũcere].

Kamau wants to cook rice

Figure 9

$$\# \left[\begin{array}{l} \text{PRED 'KũRUGA <SUBJ, OBJ>'} \\ \text{SUBJ []} \\ \text{OBJ [PRED 'MũCERE]} \end{array} \right]$$

By extension, completeness condition will rule out the F-structure of sentence (27) since its subsidiary f-structure is incomplete. LFG therefore licenses PRO as the subject of the infinitive to serve as the missing argument in order to satisfy the completeness condition. Figure (9) therefore becomes figure (10) below which is well formed.

Figure 10

$$\left[\begin{array}{l} \text{PRED 'KũRUGA <SUBJ, OBJ>'} \\ \text{SUBJ [PRED 'PRO'} \\ \quad \text{[U = +]} \\ \text{OBJ [PRED 'MũCERE]} \end{array} \right]$$

This complement F-Structure now satisfies the Completeness condition and we can now attach it to the matrix clause. Remember, according to Sells (1985:147), the F-structure of the clause will only be complete if all its f-structures are complete. The F-structure of sentence (27) is now shown in figure (11).

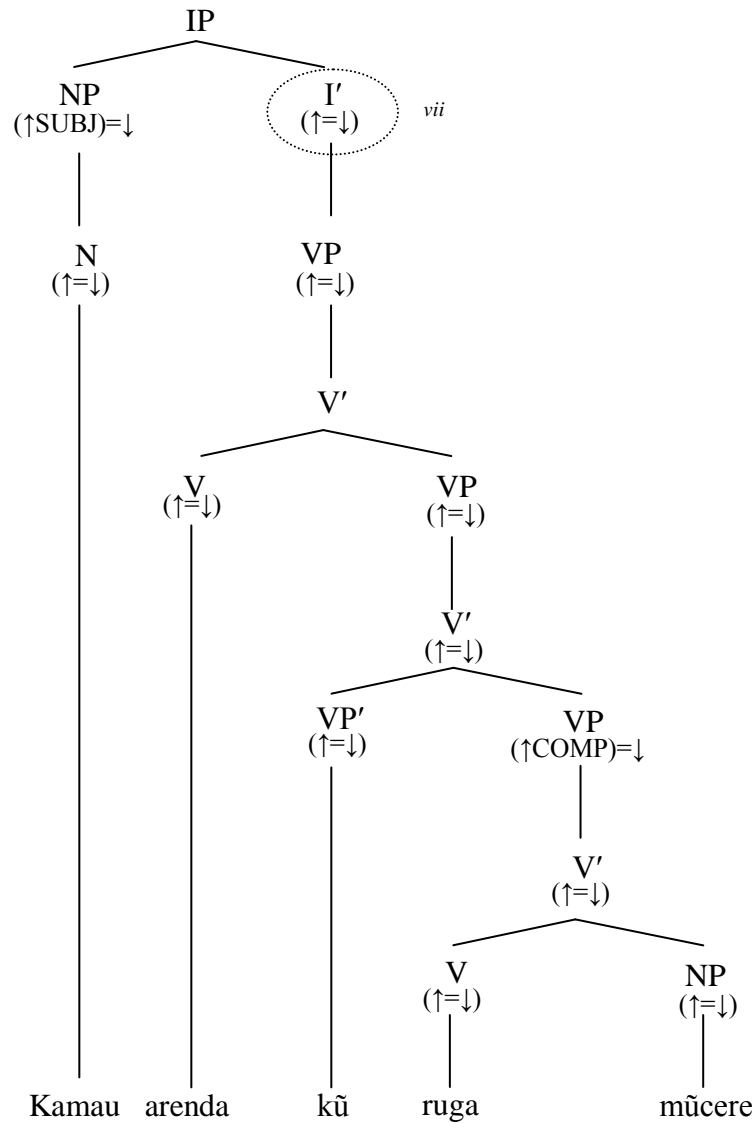
Figure 11

$$\left[\begin{array}{l} \text{PRED 'ENDA <SUBJ, COMP>'} \\ \text{TOPIC [PRED 'KAMAU']^{vi}} \\ \text{SUBJ [PRED 'PRO']} \\ \\ \text{COMP } \left[\begin{array}{l} \text{PRED 'KũRUGA <SUBJ, OBJ>'} \\ \text{SUBJ [PRED 'PRO'} \\ \quad \text{[U = +]} \\ \text{OBJ [PRED 'MũCERE]} \end{array} \right] \end{array} \right]$$

This way, it is possible now to interpret the sentence in that, the one who wants, is the same one who desires to cook.

Now that control is shown in the F-Structure, PRO does not appear in the C-Structure. Moreover, PRO is phonetically null and having a node to represent it in the C-structure will be ruled out by firstly, the realization that C-Structure represents the overt constituents of a sentence and secondly by the Economy of Expression Principle. This principle states that ‘all syntactic phrase structure nodes are optional and are not used unless required by independent principles (completeness, coherence, semantic expressivity) Bresnan (2001:91). In other words, the c-structure should be the ‘simplest and the smallest’ Dalrymple (2001:85). It is imperative to note that phrasal nodes refer to the all ‘the non-terminal nodes... [and this] privileges lexical over phrasal expression where possible,’ Bresnan (2001:91). Having PRO in the C-Structure would make the sentence long and complex hence violating the desire for the ‘simplest and the smallest’ as prior mentioned. Another impetus for omitting PRO from the C-Structure is that the terminal nodes of the C-Structure are morphologically complete words according to the Lexical Integrity Principle which states that ‘Morphologically complete words are leaves of the c-structure tree and each leaf corresponds to one and only one c-structure node’ Falk (2001:26). Dalrymple (2001:52) asserts that the leaves of the c-structure tree must be individual words. Although PRO is a lexical item in this theory, it is phonetically null and hence does not qualify as an individual word. A special phrasal projection is introduced to host the infinitive marker. The legitimacy of this phrase is discussed below. The C-Structure of sentence (27) above serves as an illustration for this discussion.

Figure 12



In addition to the already mentioned condition and principles, LFG relies on Coherence Condition which constraints sentence structure by requiring that ‘every argument function in an F-structure be designated by a PRED’ Bresnan (2001:63) and ‘ any function that has its own PRED feature must be assigned a thematic role’ Falk (2001:61).

Consider sentence (28) below.

28. *Kamau a r(a) end a kū rug a mūcere Wanjirũ.

Kamau sm tns want fv inf cook fv rice Wanjirũ.

**Kamau wants to cook rice Wanjirũ.*

Since the Coherence Condition works at F-Structure, we construct the F-structure of (28) as figure (13).

Sentence (29) represents a common way of speaking among Kikuyus. However, it is not uncommon to hear this sentence as (29b) when speakers want to emphasize on the content of the gerund; or as (29c) when a speaker wants to show cynicism or contempt.

29 b. PRO kũ ruga Kamau ñĩ e ndet e.
 Inf cook Kamau foc sm like fv.
 PRO cooking Kamau is he like.
 Cooking, Kamau likes.

c. Nĩ PRO kũ rug a Kamau e ndet e.
 Foc PRO inf cook fv Kamau sm like fv.
 It is cooking that Kamau likes.

Now that PRO is in a focus position, it must be linked to an argument of the predicate in the a-structure of the verb. This happens by coindexing PRO with whatever it represents in the sentence, in this case, the subject agreement marker subcategorized by the matrix verb *enda* (like). Remember that overt Subject NPs are not arguments in Kikuyu but their agreement markers are. Since the gerund has been pre-posed, this study assumes that there exists an anaphoric control relationship between the SM and PRO hence satisfying the Extended Coherence Condition. This condition therefore licenses PRO when it occurs in topic positions.

The Uniqueness or Consistency Condition on the other hand ensures that each F-structure attribute has a unique value as it states that ‘in a given F-Structure, a particular attribute may have at most one value,’ Sells (1985:146). This condition licenses PRO in the sense that another argument already in the F-Structure may not take its thematic roles since it will cease being unique. In other words, no other argument in an F-structure may serve as PRO and hence PRO must be used when required by the demands of the theory. This condition is augmented by the Argument-Function Biuniqueness which relates an argument to only one theta marked grammatical function. Simply put, a single clause may not have two subjects for example or four objects. Each of the predicate’s arguments then appears only once in the predicate’s local F-structure.

A condition that establishes the relationship between an antecedent and a pronominal in LFG is called F-Command which shows that a controller F-Commands its contree. In

simplified terms, F-Command states that a ‘node f-commands another if it is less deeply embedded in the f-structure...’ Carnie (2006:447). More formally, the condition states that:

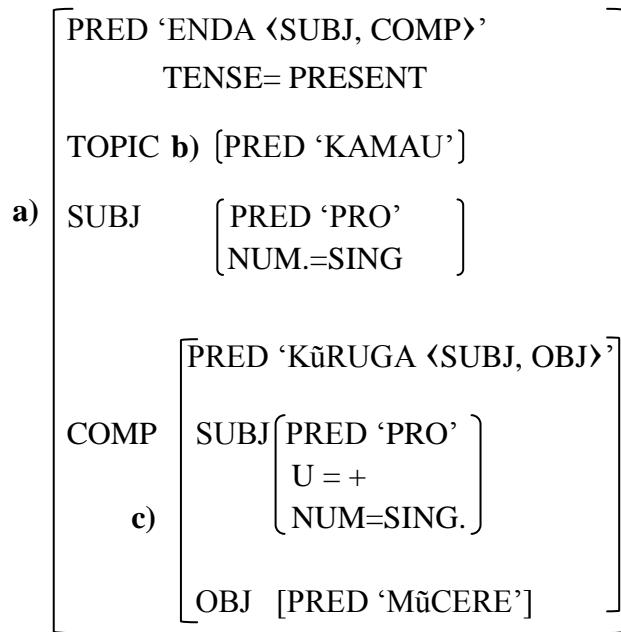
f f-commands *g* if and only if *f* does not contain *g*, and all f-structures that contain *f* also contain *g*. Dalrymple (2001:159)^{viii}.

In the concern of this paper, F-Command can only be tested in cases where PRO lacks a generic interpretation. To illustrate F-command, consider the F-structure of sentence (27) above repeated here as sentence (30) for convenience.

30. Kamau_i arenda [PRO_i kūruga mūcere].

Kamau wants to cook rice.

Figure 14



From the F-Structure of sentence (30), the NP *Kamau* F-Commands PRO because the F-Structure that contains the NP *Kamau* (b) does not contain PRO and the F-Structures that contain *Kamau* (a) also contains PRO shown in f-structure (c). Considering sentence (30b) and its f-structure (figure 15), we note that f-command works even in cases of focus marking.

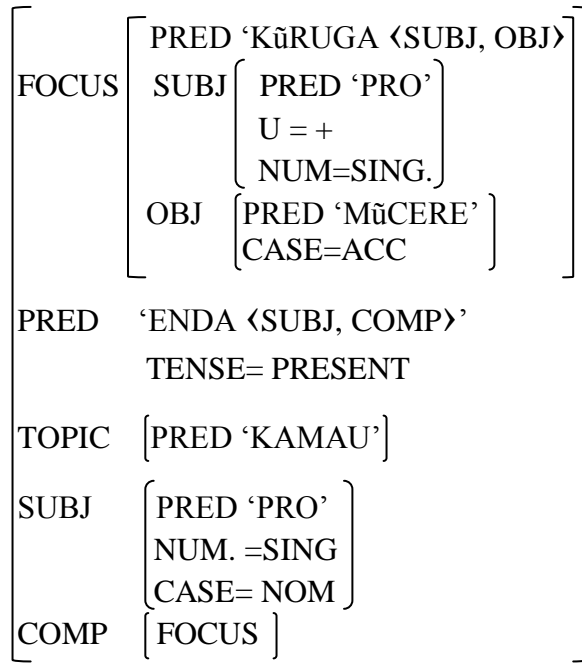
30 b. PRO kūruga a mūcere Kamau nĩ e ndet e.

PRO inf cook fv rice Kamau cop sm like fv.

Cooking rice, Kamau is he like.

Kamau likes cooking rice.

Figure 15



This f-structure shows that f-command still holds even in cases of fronted elements.

A further aim of this paper was to test the way and the extent to which functional control works in Kikuyu. I state at the outset that, functional control licenses “raising” constructions in Kikuyu. Consider sentence (31) below:

31. a. Kũraiguĩka **mũnene** ena murimu.

b. **Mũnene** araiguĩka ___ ena murimu.

(*It is being heard*)*It is being rumoured that Munene has the disease (AIDS).*

(adapted from Gatende, 1991 p.81).

In (31b), the matrix subject *Munene* lacks a thematic relationship with the matrix verb *kũigua* (hear) but bears theta roles from the subordinate verb *na* (have). This indicates that the NP *Mũnene* has been raised from the subject position of the subordinate clause to the subject position of the matrix clause as shown in figure (15a) below. The verb *kũigua* (hear) is therefore a raising verb which had not subcategorized the NP *Mũnene*. Sentence (31a) confirms this argument in that, the verb *kũigua* (hear) in the sentence takes an expletive *Kũ*. The matrix subject NP *Munene* is identical to the gap left by the raised NP and the two should therefore share an F-structure. Moreover, raising constructions obey the lexical rule of functional control which states in part:

Let L be a lexical form and FL its grammatical function assignment, then

(↑OBJ2)= (XCOMP SUBJ)

Otherwise

(↑OBJ)= (XCOMP SUBJ)

Otherwise

(↑SUBJ)= (XCOMP SUBJ)

(adapted from Bresnan 1982p. 322).

Postal (1974:285) contends that, raising ‘is bounded: the transported NPs are raised into the immediately higher clause.’ The rule above therefore expands thus, if OBJ2 is available, it will be the functional controller, if not available, OBJ will be the controller and if not the SUBJ becomes the controller. Sentence (31), lacks OBJ2 and OBJ leaving the matrix SUBJ *Mūnene* via its subject marker as the only “controller”. Bresnan (1982:374) also equates “raising” to functional control because:

- a) The verb has a predicative complement whose understood subject is referentially dependent upon (in fact identical to) a pre or post verbal NP.
- b) This pre or post verbal NP is not a logical or thematic argument of the verb.

Sentence (31b) challenges this claim since the complement subject is not ‘understood’ but overt while the object in a raising-to-object construction is an argument of the matrix verb contravening part (b) of this rule. When the NP that provides identity is pre-verbal, the result is a raising-to-subject construction and a raising-to-object construction when the NP is post verbal. Therefore, the sentences analyzed as ECM or raising in GB can be analyzed as functional control in LFG. Sentence (31b) has the F-structure in figure 16 where (16a) is based on Bresnan (1982:374) argument while (16b) is my representation of the sentence.

Figure 16

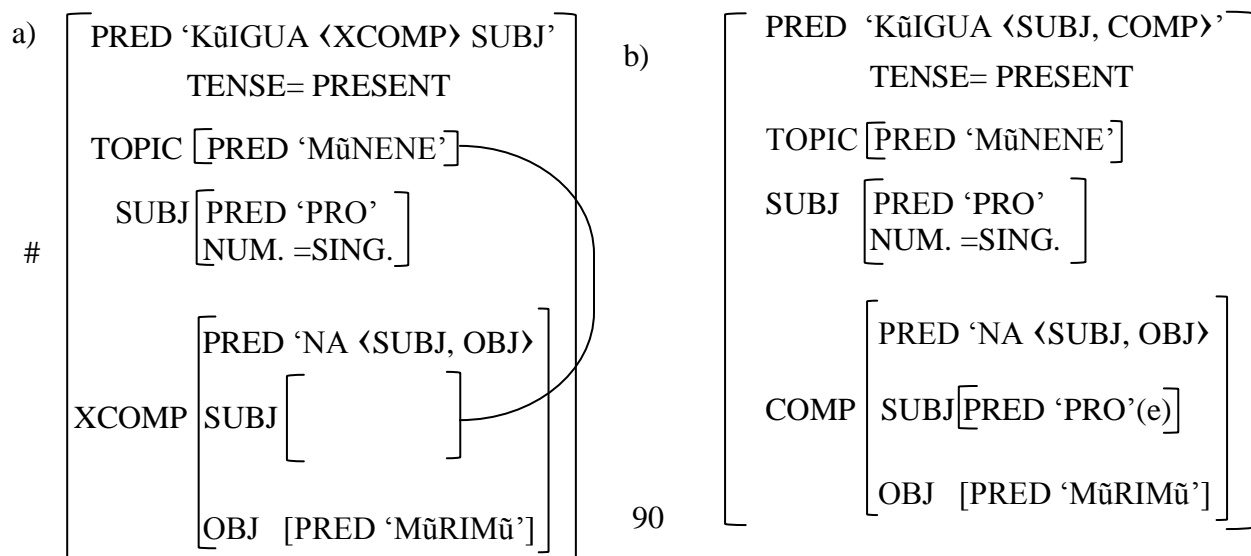


Figure (16a) is ill formed since raising in Kikuyu leaves the SM of the raised NP as the SUBJ of the subordinate verb. Moreover, the raised NP was not the subject argument of the subordinate clause but its SM. I propose the structure in figure (16b) which changes the XCOMP to a COMP. Not all instances of functional control in Kikuyu involve control as defined in chapter one since the subordinate in some cases has an overt argument, (see figure 16b). Object control is discussed next.

LFG accounts for object control via raising-to-object and not Exceptional Case Marking (ECM). Consider (13b) and (21) repeated here as sentence (32).

32. a. Rut a a rĩa ethĩ PRO gũ tĩ a aciari ao.
 Teach fv sm those young inf respect fv parents theirs.

Teach the young to respect their parents.

- b. Kamau a ra rut a Wanjirũ PRO kũ in a.
 Kamau sm tns teach fv Wanjirũ inf sing fv.

Kamau is teaching Wanjirũ (how) to sing.

In a GB account, the NPs *arĩa ethĩ* (the young) and *Wanjirũ* are in the subordinate clause. This approach has been challenged by LFG which places them in the matrix clause via a raising-to-object operation. Falk (2001:128-131) gives passivization, scope of adverbials, and constituent structure as some of the reasons that favour a raising-to-object account. When passivization occurs, the object of the verb becomes its subject and the original subject is omitted and can only be introduced by a preposition. If the raised-to-object NP is actually in the subordinate clause, then the matrix verb may not passivize. Sentence (33) shows the legitimacy of passivizing an object control construction.

33. a. Ruta *arĩa ethĩ* PRO gũtĩa aciari ao.

Gloss: Teach the young to respect their parents.

- b. Arĩa ethĩ nĩ marutwo PRO gũtĩa aciari ao.

Gloss: The young to be taught to respect their parents.

- c. Kamau araruta *Wanjirũ* PRO kũina.

Gloss: Kamau is teaching Wanjirũ to sing/dance

- d. *Wanjirũ* ararutwo (nĩ Kamau) PRO kũina.

Gloss: Wanjirũ is being taught (by kamau) to sing.

This is proof enough that the object NPs in object control constructions are indeed in the matrix and not the subordinate clauses. Passivization as notes Kroeger (1994:121) does not change the meaning of a clause that bears a raised-to-object argument. Postal (1974:55) also notes that ‘to claim that passive can operate across higher clause boundaries...[is] an unnecessary weakening of linguistic theory.’ Thus, passivization only works within a clause.

An adverbial following the matrix object can have the matrix clause as its scope but this does not happen when the adverbial follows a constituent in the subordinate clause. This is illustrated by the next example.

34. Rut a andu ethĩ *wega*, PRO gũ tĩ a aciari ao.
 Teach fv people young adv, PRO inf respect fv parents theirs.
Teach the young well to respect their parents.

As an adverb of manner, *wega* (well) takes scope over the matrix sentence and shows the manner in which the young should be taught. The same does not happen when the adverb is placed after the subordinate object *aciari ao* in which case it suggests that the young should love their parents well. Another proof to show that the object NP in a raising-to-object construction is a constituent of the matrix clause is the use of object agreement marker in Kikuyu. As noted earlier the object NP is optional and may be substituted by its OM. Sentence (21) is repeated here as (35) to show the use of the agreement marker in classifying the object control controller.

35. a. Kamau araruta Wanjirũ kũina.
Gloss: Kamau is teaching Wanjirũ how to sing.
- b. Kamau a ra **mũ** ruta kũ ina.
 Kamau sm tns **om**(him/her) teach inf. sing.
Kamau is teaching him/her to sing.
- c. *Kamau a ra **a** ruta kũ ina.
 Kamau sm tns **sm**(Wanjirũ) teach inf. sing.
Kamau is teaching she(wanjirũ) to sing.

The subject agreement marker for the NP *Wanjirũ* cannot make an acceptable sentence in this case proving that the NP is the object position of the verb *ruta* (teach).

From the foregoing, we note that the well-formedness conditions of Completeness, Extended Coherence, uniqueness and biuniqueness as well as the principles of Economy of

expression and Lexical integrity license control constructions in LFG. Functional control explains the syntax of ‘raising’ constructions in Kikuyu.

Nevertheless, LFG faces several not insignificant challenges. The theory uses X’ bar syntax to parse sentential constituents. One of the major claims of X’ syntax is endocentricity, that is, lexical items head phrasal projections. Bresnan (1982:298) aptly notes that ‘every phrase has a unique head and the features of a phrase are identified with those of its head.’ In the words of Dalrymple (2001:120), this ensures that every c-head of every phrase is a category, where categories are nouns, prepositions, verbs and adjectives. Looking at figure (ix) however, one notes that there is the infinitive phrase VP’ which makes the tree strange. This is a phrasal projection which should be headed by a category with an intermediary bar level as per the demands of X’ theory. LFG violates this requirement without explanation by positing a headless projection. This phrase needs to be justified. Agreeing with Carnie (2006:436) however that X’ theory in LFG is not as strictly applied to all languages does not solve the problem posed by X’ to LFG. It remains unclear in which languages to use X’ and in which not to apply it. This is not a desirable state for the theory as it suggests that c-structure in LFG lacks generalization a core principle of a sound theory.

Bresnan (1982:328-331) contends that PRO is purely a pronominal sharing features with overt pronominals but with the additional feature (+U) unexpressed morphologically. This is correct in accounting for arbitrary PRO and clauses in which PRO is used but refers to an NP outside the clause (especially as the subject of gerunds in a discourse) such as in the next example:

36. Kamau nĩ amakire mũno. PRO gũthiĩ cukuru thaa thita cia ũtukũ nĩ ũgwati. Ningĩ PRO gũkora gutarĩ mwarimũ nĩ hathara.

Gloss: Kamau got shocked. PRO to go to school at midnight is dangerous. Again, PRO to find no teacher is a loss.

In this case, one might assume that *Kamau* is the agent who went to school at midnight or that there is another referent being referred to and *Kamau* is simply listening to the story. In the former case, PRO is purely pronominal acting in the same way as the pronoun *he*. In the latter, PRO, is arbitrary having the meaning of *someone*. Thus, PRO in this case qualifies as a pronominal since its reference is not bound. The ramifications of such an equation would change the distribution of PRO and make it appear in tensed clauses and in object positions like other

pronominals. It would be contradictory for PRO to serve as an object NP in that Bresnan (1982:317) defines control as ‘a relation of referential dependence between an unexpressed **subject** (the controlled element) and an expressed or unexpressed constituent (the controller)...’

PRO may also not occur in tensed clauses as the lexical rule that licenses it reads:

Add the optional equation (\uparrow SUBJ PRED) = ‘PRO’ to the lexical entry of a verb without the feature TENSE, Falk (2001:120).

Such an approach is also challenged by sentence (27) shown here as sentence (37).

37. Kamau_i a renda [PRO_{i/*arb} kũ ruga mũcere].

Kamau sm want inf cook rice.

Kamau wants to cook rice.

In this sentence, PRO is “bound” to the NP *Kamau* and cannot have a generic interpretation. Therefore, PRO refers back to the NP *Kamau* and does not have its own referent. It is anaphoric just like a reflexive. Kikuyu shows that PRO has anaphoric properties against the claims of the theory. Indeed, how else would the theory justify the usage of the term Anaphoric control?

Therefore, it would be illogical then to have PRO in a sentence like (38b) for the verb is tensed.

38. a. Kamau a ka rug a mũcere.

Kamau sm tns(fut) cook fv rice.

Kamau will cook rice.

b. *PRO ka rug a mũcere.

PRO tns cook fv rice.

PRO will cook rice.

Remember, PRO in kikuyu can only appear before verbs that begin in either *kũ/gũ* save in the near future tense. Equating PRO to pro, Bresnan (1982:328-329), contravenes the *pro* drop parameter which states:

ii. pro is governed by X⁰

iii. Let X be the licensing head of an occurrence of pro: then pro has the grammatical specifications of the features of X coindexed with it.^{ix}

The pro drop parameter therefore rules out the occurrence of PRO before the subject agreement marker in Kikuyu.

requirements of the matrix and the subordinate verbs must also be satisfied. This works well with raising-to-subject since the two f-structures will have the same case. Considering raising-to-object however, one can easily note the difference in case assignment. If the raised NP is functioning as the SUBJ of the lower clause, it would be having ‘nominative case’ and when it raises to the object of the matrix, it is marked accusative by the matrix verb. This shows that the assertion that the structure is shared is not essentially correct in Kikuyu syntax.

On the other hand, LFG addresses some of the shortcomings identified in a GB account of control. LFG treats government as lexical but not structural. Bresnan (1982:310) defines government as the ability of lexical items to determine the features of other constituents. It is also termed as agreement. This in turn makes interpretations of syntactic relations easier by reducing the levels of representation, that is, from lexical to syntactic. A verb in LFG governs all its arguments which would explain the occurrence of an argument in the subject of non-finite verbs in Kikuyu. Remember, in GB, the projection principle ensures the visibility of lexical idiosyncrasies from syntactic trees! This appears to me a longer, route towards the same end. Government in GB informs the PRO Theorem which accounts for the distribution of PRO. Since this study discredits the definition of government in structural terms, the adequacy of the PRO theorem in restricting PRO to the subject of infinitives and gerunds is challenged. LFG restricts the distribution of PRO to the subject of infinitives and gerunds through a lexical rule which adds PRO to a verb ‘without the feature TENSE,’ Falk (2001:120). This explanation is not only adequate but also simpler to grasp than the PRO Theorem which relies on an understanding of supplementary modules of the grammar.

Accounting for control constructions in Kikuyu that lack lexical NPs is straight forward in LFG. Unlike GB, LFG proposes two structures: one for the constituents and another for the grammatical relations. This approach allows the theory to represent portmanteau which seriously challenges GB. Secondly, the theory allows for agreement marker to act as the subject argument. PRO would in a such a case be controlled by the agreement marker in a construction called ‘false backward raising where the only evidence for the subject being in the matrix clause is agreement and case, predicates, properties which are determined by matrix predicate’ Sells (2006:11). Such a language permits the ‘subject condition to be satisfied by only agreement features’ *ibid*

(2006:13). This is allowed by the following lexical rule and shown by the f-structures in figure (17) which substitutes the XCOMP with a COMP due to the nature of the sentence given.

(↑SUBJ INDEX AGR)= (↑XCOMP SUBJ INDEX) Sells (2006:16).

Figure 17

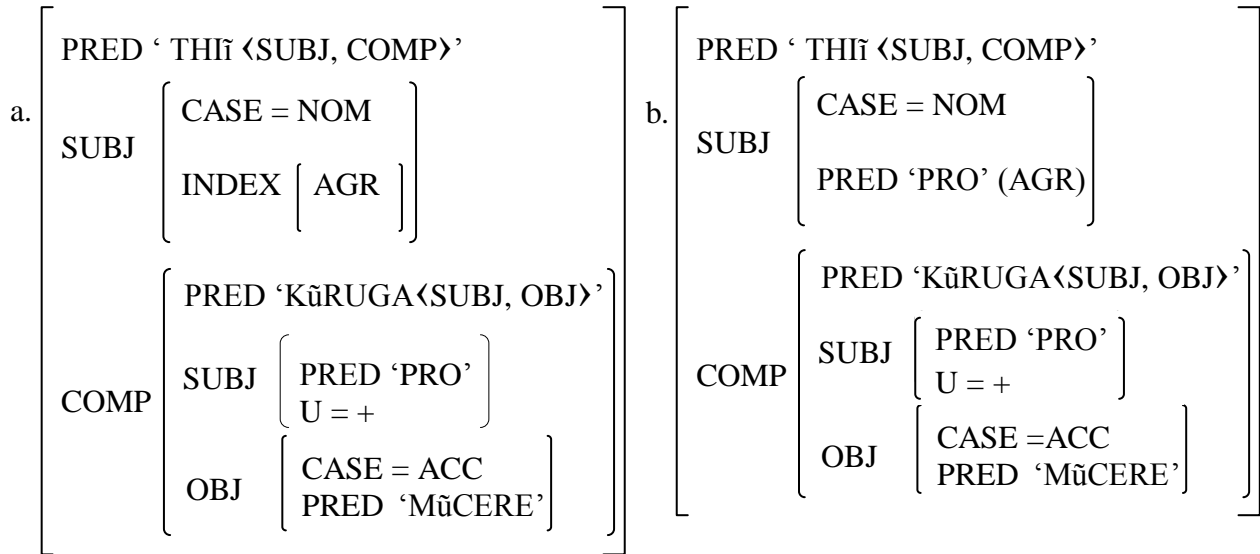


Figure (17a) uses INDEX instead of subject PRED as per the given rule but (17b) adapts the rule to the more conventional structure used elsewhere in this paper.

The verb in LFG governs all its arguments and assigns theta roles to them. The ability to theta mark is an idiosyncrasy of the verb which is not dependent on case. Therefore, in LFG, PRO bears a theta role because the verb (not the inflection of the verb) theta marks it. PRO in LFG is a lexical item and not a ‘semantic place holder’ Boeckx (2006:6) for interacting grammar principles, that is, it is not ‘a theory internal formative’ *ibid* (2006:5). This feature secures PRO as an item of UG since it is no longer reliant on grammar which may vary. This however as earlier seen challenges the theory since lexical items bear their own independent properties such as phonetic and semantic ones yet obligatorily controlled PRO lacks independent reference. Moreover, it complicates explanation of control constructions since PRO is already assigned certain unique features in the lexicon and not by the construction. Object control is treated as “raising-to-object” and not ECM which solves the challenges GB faces of justifying the clause to which the raised object NP belongs.

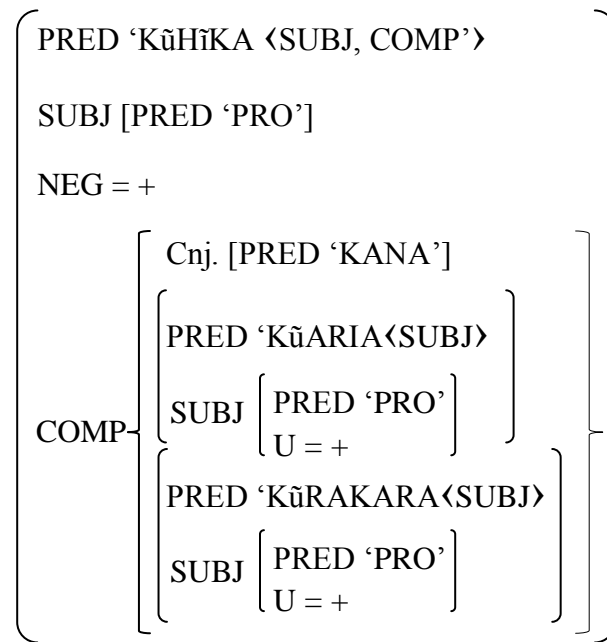
LFG easily accounts for coordinated constructions which GB fails to account for. The second IP in (12e) however, has some coordinated nonfinite verbs. How are they explained? To begin with, the coordinated verbs follow the following coordination rule.

$$\begin{array}{ccc} V \rightarrow V^+ & \text{Cnj} & V \\ \uparrow \epsilon \downarrow & & \uparrow \epsilon \downarrow \end{array}$$

Dalrymple (2001:363).

The Kleen plus shows that the first verb in the equation is obligatory and the annotations beneath the verbs show that they are members of a larger verb. Secondly, the condition of completeness must be gratified for both verbs hence PRO is added to function as the missing subject. The problem is that this PRO is obligatorily controlled by the SM in the matrix clause. I hypothesize that an SM was present in the second verb as well but was ellipited since it was similar to the matrix SM. The f-structure of this sentence relates the two PROs to the SM in the matrix clause as they are both members of the same COMP. This is shown below:

Figure 18



Structure adopted from Dalrymple (2001:35)

Anaphoric control in LFG allows for split antecedents, Bresnan (2001:298), hence the theory accounts for sentence (19) which is ignored in a GB account of control.

4.6. Summary to Chapter Four

This chapter looked at an analysis of control constructions in Kikuyu using both an LFG and GB approach. It was noted that, GB faces some challenges, which include government, in accounting for control in Kikuyu. The typology of control in GB was also found inadequate as it could not account for certain kinds of control such as control by split antecedents.

Though facing a number of challenges, an LFG account of control was found more satisfactory. The null subject PRO is treated as a lexical item and government is a property of the verb whether finite or nonfinite. The occurrence of different types of control is dependent on the idiosyncrasies of the verb. LFG also explains the typology of control in Kikuyu better than GB. Anaphoric control was found adequate in explaining a majority of anaphoric control constructions in Kikuyu while functional control accounts for the syntax of raising sentences. The conditions of completeness, extended coherence as well as the principles of lexical integrity and economy of expression license control constructions in Kikuyu. LFG addresses the shortfalls of a GB approach to control through redefining government, considering PRO as a lexical item and using equations to restrict the distribution of PRO.

Note

ⁱ Haegeman (1994:114-116) proves that a sentence is a projection of an INFL since it is the finite INFL that legitimizes a sentence that is , INFL heads a sentence in the same way a noun heads an NP

ⁱⁱ Boeckx et al. (2010:21) proposes the use of mereology as a feature of collective nouns which shows their semantic plurality even in their singular forms.

ⁱⁱⁱ ECM occurs when the subject of a lower clause is governed and case marked by an outside governor, Haegeman (1994:213).

^{iv} Haegeman (1994:314) offers a nice summary of the features of NP movement(raising is a kind of NP movement) but this study restricts itself to what is important for this discussion. For a fuller discussion, the reader is referred to the said work.

^v This interpretation was meant to be like in (24c) but the inclusion of PRO deletes the object marker making it impossible to identify what *Kamau* will cook unlike in (24c).

^{vi} Overt subject NPs are used in the F-structures in this paper since they are the ones represented by the SM (the real argument) and also to avoid confusion in the use of “PRO” (the pred feature of pronouns) and PRO. AGR is used in figure 16 for the same reason. This also simplifies the f-structure which would have to include the function TOP to accommodate the overt subject NP.

^{vii} Notice, the I' category is not used in the same way it is used in GB. It is a convenient way of representing the VP while avoiding too much repetition. LFG does not posit an Inflectional category for all inflections are done in the lexicon before insertion into a syntactic structure.

^{viii} Sells (1985: 178) puts F-command thus: An antecedent A f-commands a pronominal P iff

- (a) A does not contain P, and
- (b) every nucleus that contains A contains P.

This is in agreement with the definition adopted in this paper with terminology being the only difference. Nucleus in this case refers to a local F-structure.

^{ix} See Haegeman (1994:457) for a discussion.

CHAPTER FIVE

Conclusion

5.1. Summary of the Findings

This study aimed at studying control in Kikuyu using an LFG framework with GB forming the backdrop. It studied the interpretation of the understood subject in the subject position of infinitives and gerunds termed PRO. The major challenges facing a GB account were isolated and the adequacy of LFG in addressing these challenges discussed. The contentious issues raised by LFG pertaining to PRO were also highlighted.

The objectives of the study were:

- i. To identify the shortfalls of GB Theory in describing control constructions in Kikuyu
- ii. To test the well-formedness conditions and principles in LFG as they relate to Control constructions in Kikuyu.
- iii. To establish how the notion of control works in Kikuyu within the LFG framework, thereby testing Anaphoric and Functional control.
- iv. To investigate the adequacy of LFG in describing control in Kikuyu.

These objectives arose from the following questions:

- i. What are the shortfalls of a GB account of Control?
- ii. How do the well-formedness conditions and principles in LFG explain and license control constructions in Kikuyu?
- iii. How and to what extent do anaphoric control and functional control work in Kikuyu?
- iv. How does LFG address the shortfalls of a GB account of control in Kikuyu?

To address these research questions, self-generated sentences and sentences from published and unpublished works on Kikuyu were listed and first analyzed within a GB framework before an LFG analysis. A comparison based on licensing of PRO, government and accounting for portmanteau among other parameters was undertaken. Some of the limitations met involved accessing published materials on Kikuyu while the scope was limited to the syntactic account of control.

This study found that GB faced the following challenges in accounting for control in Kikuyu: first, the concept of government was found inadequate in explaining the distribution of

PRO. The use of verbal inflection to govern the subject of a sentence was also found challenged by Kikuyu data. Second, the study found that it is impossible for GB to show that the SM is both an argument and an agreement marker (portmanteau). Third, the view that lexical NPs cannot alternate with PRO was also found inaccurate. Fourth, the inclusion of PRO in the phrase structure was also found untenable, as it is never realized in the actual pronunciation of the sentence. Fifth, GB does not explain why PRO is not governed and, hence, not marked for case, yet visible for theta marking. Sixth, GB fails to show why PRO lacks fixed features, that is, either pronominal or anaphoric and seventh, the origin of PRO is also suspect in that it results from an interaction of other modules of the theory. It is not a part of the lexicon.

Further, this study found that the completeness condition obliges the inclusion of PRO in the F-structure in order to host a missing argument. Without this, the f-structure of such a clause would be incomplete, and, hence, ill-formed. The coherence condition was found inconsequential in licensing control constructions in Kikuyu. The extended coherence condition however licenses PRO in focus positions. The consistency and biuniqueness condition, on the other hand, ensures that PRO is unique and related to only one theta role in an F-structure. The principle of lexical integrity rules out the occurrence of PRO in the C-structure of a sentence, as does the principle of economy of expression.

Contrary to the views of O'Grady (2005:58) and Boeckx (2006:162), PRO was found to exist in Kikuyu grammar since some non-finite verbs have an understood subject. It emerged that, whenever sentences in Kikuyu contain gerunds, infinitive complements or NP raising-to-object occurs, control results. Raising-to-subject does not lead to control in Kikuyu. Gerunds are normally used as sentence subjects or objects, in which case their subject NP (PRO) has an arbitrary interpretation. Contrary to the findings of Harford (1987:60-61) and the claims of LFG, this study found that PRO could only occur in the subject position of infinitives and gerunds in Kikuyu. The 'infinitive' in interrogatives and declaratives in the near future tense was found to be a case of form similarity, as the verb is already marked for tense. The study also confirmed that PRO can be alternated with overt subject NPs in Kikuyu. The contention that PRO cannot alternate with lexical NPs was based on English in which overt, non-topic NPs are marked for case. The study also found that PRO in Kikuyu shows both anaphoric and pronominal features, contrary to the claims of LFG that it lacks anaphoric properties. It was also realized that Kikuyu displays anaphoric and arbitrary control.

The study found that anaphoric control, as proposed in LFG, accounts for some types of control constructions in Kikuyu but fails to explain the syntax of +Mer antecedents. Functional control accounts for some types of control constructions in Kikuyu by explaining the syntax of raising constructions. Its proposal of structure sharing was however found inadequate.

LFG addresses the issue of government by equating it to subcategorization where a verb governs all its arguments. Finite and non-finite verbs are governors in LFG. PRO in LFG is a unique lexical item that does not occur on its own but is attached to a non-finite verb. LFG uses lexical equations to restrict PRO to the subject position of infinitives. PRO can receive theta roles because it is governed by a non-finite verb. Treating PRO as a pronominal only was however not supported by data in Kikuyu.

5.2 Suggestions for Future Research

The following issues should be investigated by further research: first, the fact that case is important in Kikuyu for licensing NP distribution and that PRO appears in both A and A' positions in Kikuyu. Second, an LFG account of control fails to explain certain subtypes of control and relies on some terminology borrowed from transformational theory such as raising. This study therefore recommends further studies in Kikuyu using LFG to offer the theory different avenues for testing its adequacy. Third, this study concentrated on the syntactic representation of the control in Kikuyu. Control however, also has a semantic and pragmatic facet in agreement with Carnie (2006:412) which I suggest is in need of further research. This study did not aim at resolving the contentions on the features of PRO (including case) which Huang (2007:26) sees as 'irreconcilable.' I therefore, recommend further research to ascertain the features of PRO.

References

- Aronoff, M. and Fudeman, K. (2011). *What is Morphology? 2nd edition*. Oxford: Wiley-Blackwell.
- Asude, A. and Toivonen, I. (2009). Lexical Functional Grammar. In Bernd H. et al. *The Oxford Handbook of Linguistics*. Oxford: Oxford University Press.
- Barlow, A. Ruffell (1951). *Studies in Kikuyu Grammar and Idiom*. Edinburgh: Blackwood & Sons.
- Bergvall, Victoria (1986). 'A typology of empty categories for Kikuyu and Swahili. In: Dimmendaal, G. (ed.): *Current Approaches to African Linguistics Vol. 3*. (pp. 55-70). Dordrecht: Foris.
- Black, C. (1999). A step by step introduction the government and binding theory of syntax. Mexico.
- Boeckx C., Hornstein, N. and Nunes, J. (2010). *Control as Movement*. New York: Cambridge University Press.
- Boeckx, Cedric (2006). *Agreement Systems*. Amsterdam: John Benjamins .
- Boeckx, Cedric (2006). *Linguistic Minimalism: Origins, Concepts, Methods and Aims*. New York: Oxford University Press.
- Bresnan, Joan (1982). *The Mental Representations of Grammatical Relations*. Cambridge, Massachusetts: MIT Press.
- Bresnan, Joan (2001). *Lexical Functional Grammar*. Oxford: Blackwell Publishers.
- Carnie, Andrew (2006). *Syntax A Generative Introduction (2nd ed)*. Oxford University Press: Blackwell Publishing.
- Carston, Robyn (2005). Introduction to Coordination: syntax, Semantics and Pragmatics. In *Lingua* 115 (2005) pp. 353-358. Elsevier.
- Chomsky, Noam (1981b). *Lectures on Government and Binding: The Pisa Lectures*. Dordrecht-Netherlands: Foris Publications.
- Cook, V. and Newson, M (2007). *Chomsky's Universal Grammar: An Introduction (3rd ed)* Oxford: Blackwell Publishing.
- Culicover, P. W. and Jackendoff, R. (2005). *Simpler Syntax*. New York: Oxford University Press.

- Darlymple, Mary (2001). *Syntax and Semantics: Lexical Functional Grammar*. San Diego: Academic Press.
- (2009). *Lexical Functional Grammar*. Centre for Linguistics and Philology. Oxford University e paper.
- Davis, D. W. and Dubinsky, S. (2004). *The Grammar of Raising and Control: A Course In Syntactic Argumentation*. Oxford: Blackwell Publishing.
- Emma, Chloe, Jacob, Shawna and Sam (2011, September 29). The Phrase Structure Component of our Grammar of English. Retrieved from: <http://www.babel.ucsc.edu/syntaxiiiassignment1> on 24.9.2014 at 2138hours.
- Falk, Yehuda (2001). *Lexical Functional Grammar: An Introduction to Parallel Constraint Based Syntax*. Stanford : CLSI Publications.
- Gatende, A. (1991). NP Movement and WH Movement in Kikuyu. Unpublished MA Thesis. University of Nairobi.
- Haegeman, Liliane (1994). *Introduction to Government and Binding Theory, 2nd edition*. . Oxford: Blackwell.
- Harford, Carolyn (1987). *A Syntactic Study of the Tharaka Language*. Project Report. University of Nairobi
- Hornstein N. and Polinsky, M. (2010). *Movement Theory of Control*. Amsterdam: John Benjamins Publishing.
- Huang, Yan (2000). *Anaphora: A Cross Linguistic Study*. Oxford: Oxford University Press.
- Huang, Yan (2007). *The Syntax and Pragmatics of Anaphora*. New York: Cambridge University Press.
- Iribe, M. and Kihara, C. (2011). ‘The Gikuyu Reference Phrase: a Role and Reference Grammar [RRG] Perspective)’ in *Baraton interdisciplinary Research Journal* (2011) 1 (2), pp.46-57.
- Kamau, P.(1995). *Mithomere ya Gikuyu*. Nairobi: Kesho Publications.
- Kroeger, Paul (2004). *Analyzing Syntax. A Lexical Functional Approach*. Cambridge: Cambridge University Press.

- Lam, Olivia (2008). *Object Functions And The Syntax of Double Object Constructions in Lexical Functional Grammar*. Unpublished MA Thesis. University of Oxford.
- Landau Idan (1999). *Elements of Control*. Unpublished Phd Thesis: Massachusetts Institute of Technology.
- Leaky S.L. (1959). *First Lessons in Kikuyu*. Nairobi: East Africa Literature Bureau.
- Lieber, R. (2009). *Introducing Morphology*. New York: Cambridge University Press.
- Lipps J.(2011). *An LFG Analysis of Swahili Relative Clauses*. Unpublished MPhil. Thesis. Oxford University.
- Martin, E., Riemsdijk, H., Goedemans, R. and Hollebrandse, B. (eds) (2006). *The Blackwell Companion to Syntax*. Oxford: Blackwell Publishing.
- Mwangi, G. Wawerũ (2012). *A Lexical Functional Grammar Analysis of Pronominalization in the Kikuyu Language*. University of Nairobi-Unpublished MA Thesis.
- Mwangi, J. (1992). *A Typology of Empty Categories*. Unpublished MA Thesis: University of Nairobi.
- Ndwiga, Silvano (2008). *A Syntactic Examination of Empty Categories in the Syntax of Gichuka: Government-Binding Perspective*. Unpublished MA project, University of Nairobi.
- Nurse, Derek (2008). *Tense and Aspect in Bantu*. Oxford: Oxford University Press.
- O'Grady, W. (2005). *Syntactic Carpentry. An Emergentist Approach to Syntax*. London: LEA.
- Postal, P. (1974). *On Raising One Rule of English Grammar and Its Theoretical Implications*. Cambridge: Massachusetts Institute of Technology.
- Polinsky, M. and Postdam, E. (2004). Malagasy Control and its Theoretical Implications. In Berkeley Linguistic Society Proceedings 30 (1) pp. 365-376.
- Rosenbaum, P. (1967). *The Grammar of English Predicate Complement Constructions*. Cambridge, Massachusetts: MIT Press.
- Schwarz, F. (2003). Focus Marking in Kikuyu. Unpublished MA Thesis: Humboldt-Universität zu Berlin.
- Sells, Peter (1985). *Lectures on Contemporary Syntactic Theories*. Stanford: CSLI.

Sells, Peter (2006). Using Subsumption rather than Equality in Functional Control. In Butt et al. (2006). Proceedings of the LFG 06 Conference. Stanford: CLSI Publications.

Sewangi, S. (1993). *The Syntax of Empty Categories in Kiswahili Simple Sentences: The Government and Binding Approach*. Unpublished MA Thesis. University of Nairobi.

The Bible society of Kenya, (1965). *Ibuku Ria Ngai*. Nairobi: The Bible Society of Kenya.