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PRO and Control in Lexical Functional Grammar: Lexical or Theory Motivated? Evidence from Kikuyu

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Abstract:

Control theory is a module of grammar that deals with the interpretation of the null subject of non-finite verbs. The purpose of this paper is to interrogate the claims of control theory in Lexical Functional Grammar using data from Kikuyu a Bantu language spoken in central Kenya. Specifically, the paper investigates Lexical Functional Grammar claims concerning PRO the null pronoun in a non-sharing account of control. Various sentences are listed and analysed for control within a Lexical Functional Grammar framework before a conclusion is made. The paper argues that PRO in Lexical Functional Grammar is not equal to overt pronominals. PRO unlike overt pronominals is restricted to the subject position of non-finite verbs and would never function as an object in a clause. The paper further established that PRO is not a lexical item as claimed in Lexical Functional Grammar but rather a product of interacting conditions and principles in the theory.

Keywords: Kikuyu, PRO, Lexical Functional Grammar, control, raising.

1. Introduction

This paper concerns itself with control in Lexical Functional Grammar. The major aim is to test the validity of the claims made in the theory concerning PRO. PRO is a hypothesized null pronominal functioning as the subject of non-finite verbs. The data used in this work is mainly self-generated given that the researcher is a native speaker of the language under study. The sentences are listed before being analysed within an LFG framework. The paper begins with a brief introduction to Lexical Functional Grammar here after LFG followed by a discussion on control and the null pronoun PRO which is followed by some counter arguments before a conclusion is made.

2. Lexical Functional Grammar

The Lexical Functional Grammar (LFG) “is a lexicalist, declarative (non-transformational), constraint based theory of generative grammar,” Asude (2009: ii). The main aim is to offer an alternative to Chomskyan theories of Language analysis. It argues 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 positing that the different structures exist parallel to each other, at the same time, with each having its own representation. The different structures are related through a system of mapping and the theory permits differing phrase structures for different languages. Since the theory is lexical, 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 onto 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.

2.1. C(onstituent)-Structure

In this paper, a constituent refers to a word or related words which function as a unit in a sentence. The C-structure represents such constituents in a sentence by the use of phrase structure trees following some modification on the X' notation. Syntactic relations such as domination and precedence express constituent relations in a sentence and are hence shown through the C-structure as is the category of a word.

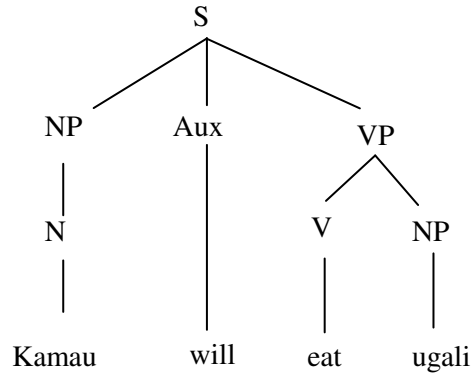
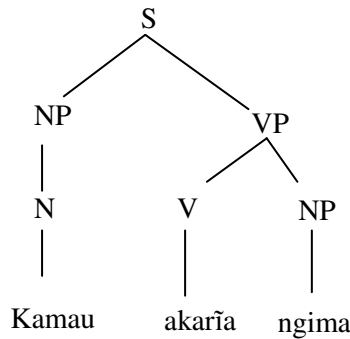
The terminal nodes of the C-Structure bear complete words where every word is attached to only one node. This is guided by the *Lexical Integrity Principle* which states that terminal nodes of c-structures are morphologically complete words. Using Dalrymple (2001:52) terminology, the leaves of the constituent 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). This

principle forbids the appearance of empty categories in the C-Structure. The C-structures of sentence (1) and its English translation are illustrations of C-structure.

1. Kamau a ka rĩ a ngima
 Kamau 1sm tns(fut) eat fv ugali.
Kamau will eat ugali (maize meal)

Kamau akaria ngima

Kamau will eat ugali



Notice that the verb in the Kikuyu sentence is not reduced to its constituent parts but is represented as a unit due to the lexical integrity principle. In the Minimalist Program for example, the subject agreement marker (*a*) would have its own maximal projection *AgrsP*.

2.2. *F(unctional)-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 a-structure of a predicate. Grammatical functions such as subject and object 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 within angled brackets. Other governable grammatical functions include COMP, XCOMP and OBL₀. A word in a sentence contributes a semantic form called PRED which is shown by the use of single quotation marks as (2) below:

2. Eat.
 [PRED 'EAT <SUBJ, OBJ>']

This shows that the verb *eats* a two place predicate taking 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 sentence (3) is as shown.

3. Kamau appeared to understand.
 [PRED 'appear <XCOMP>SUBJ']

This implies that the verb "appear" takes only one thematic argument which is an open complement and 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 functions but also other features such number, case specifications and tense.

Certain symbols (metavariables) are used to show F-Structures on C-Structures thereby relating them. 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). Also, the metavariable ↑ before arguments means 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 (1) will then have the following C and F- Structures

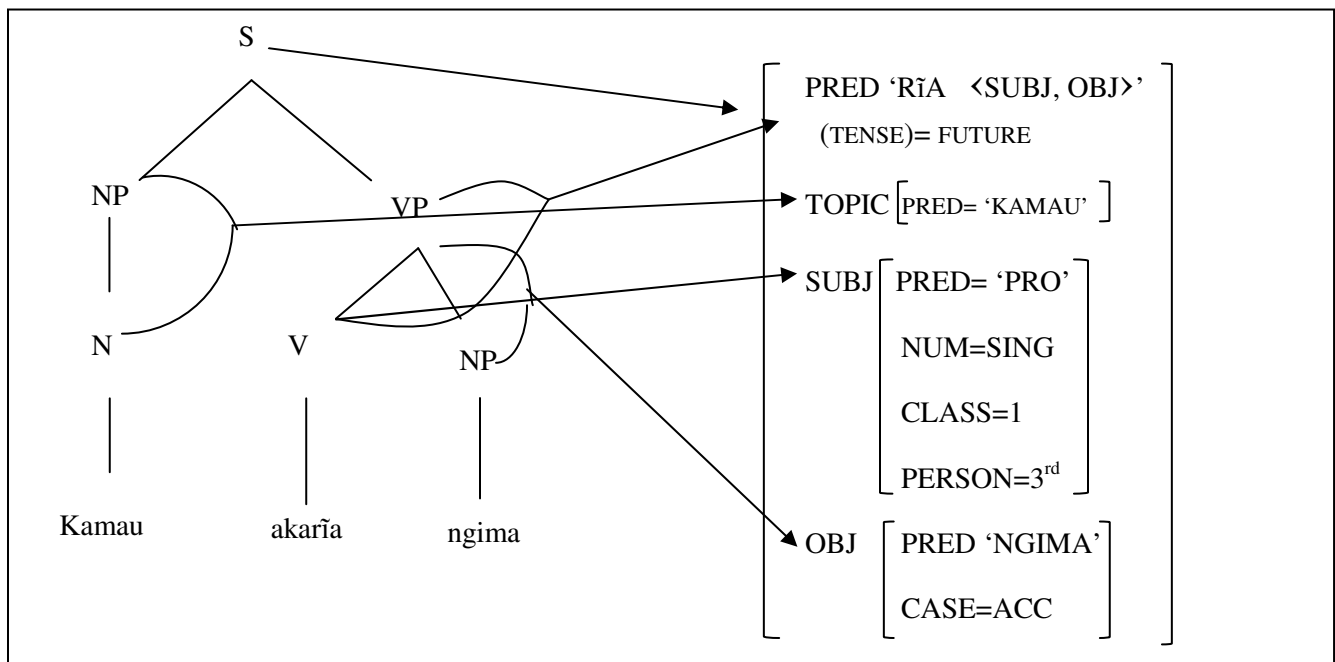


Figure 1

LFG is constrained by several conditions and principles. They 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 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 relates an attribute at the topic position of a sentence to a value in argument position in the sentence. These conditions constrain the F-Structure while the Lexical Integrity Principle which holds that the terminal nodes of c-structures are morphologically complete words constrains the C-structure. 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 which states that phrase structure nodes are not obligatory and are only inserted as they are required to construct a well formed sentence also constrains the C-structure.

3. PRO and Control in LFG

“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). Consider the following sentence for an example.

- 4. a. Kamau *wants to eat* food.

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

- 5. a. Kamau *wants eggs*.
- b. *They* *eat* food.

In sentence (4), 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 (4), the null subject of the verb *eat* is therefore controlled by the NP *Kamau*. Now look at the following sentence.

- 6. a. The kitchen was constructed [*to cook* novel meals].
- b. Kamau *wants* [*to cook* novel meals].

The subject of *cookin* (6a) is controlled by the implied subject of *construct* unlike in (6b) where the overt NP *Kamau* controls the controlee. Thus, the controlee can be controlled by an implicit argument.

Polinsky (2013:577) argues that control is ‘an obligatory interpretive dependency between an overt argument NP in the matrix clause and a lower unpronounced argument in the complement clause, represented atheoretically as a gap.’ She gives the following sentences for an illustration.

- 7. a. John is Likely [*to apply* for this job]
 - b. John is Planning [*to apply* for this job]
- Polinsky (2013:577)

Sentence (7a) is an example of a raising construction where raising is a syntactic operation moving a constituent from an embedded clause to the matrix clause. Logically, the NP *John* is an argument of the verb *apply* and not the predicate *likely*. Notice that the predicate *likely* does not assign accusative case and hence according to the Burzio's generalization does not assign an external theta role, (see Haegemann, 1994 for a discussion). Consequently, the NP *John* is not an external argument of *likely*.

Where then did the NP *John* raise from? The NP *John* was initially in its thematic position within the embedded clause. The reasons which motivated such a movement will be discussed in the following sections of this paper. Such an NP may raise to the subject or object position of the matrix clause. The former is referred to as Raising-to Subject (RtS) while the latter is called Raising-to-Object (RtO) an example of which is given below.

8. Kamau requested Wanjirũ [___to cook ugali].

Sentence (8) above suggests that the NP *Wanjirũ* denotes the referent to cook ugali. Thus, it receives theta roles from the embedded verb *cook* but receives case marking from the matrix verb *requested*.

According Hudson (1998), there are two ways of explained the subject of the embedded clause in sentences like (6-8) above namely the 'non-sharing analysis and the structure sharing analyses,' (1998: 151). In the non-sharing accounts, the subject of the embedded predicate is represented by a null pronoun termed PRO which is 'linked by a combination of pragmatic and grammatical rules to its antecedent' Hudson (1998:151). In structure sharing, an NP is shared by two verbs i.e. it simultaneously functions as either the subject or the object of the matrix verb and the subject of the embedded predicate. For example, in sentence (6b) the NP *Kamau* is shared by the matrix and the embedded verb.

Control is treated as a grammatical relation in LFG, hence represented in the F-Structure. Two types of control are identified in the theory namely Functional and Anaphoric control. Functional control is explained through a structure sharing account while Anaphoric control is explained via a non-sharing analysis. PRO (the null subject in a non-sharing approach) is taken as a lexical item inserted from the lexicon and not as a product of derivations or interacting principles of a theory. However, being a null NP, PRO lacks independent representation and is attached to a verb which bears the feature –Tense, Falk (2001:120).

On the other hand, functional control licenses "raising" constructions. Fully raising constructions are non-existent in Kikuyu as the subject agreement marker left at the place of extraction functions as the preverbal logical argument. Consider sentence (9) below:

9. a. Kũraiguĩka **mũnene** ena murimu.
b. **Mũnene** araugũika ___ ena murimu.

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

(adapted from Gatende, 1991 p.81).

In (9b), 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. The verb *kũigua* (to hear) is therefore a raising verb which had not subcategorized the NP *Mũnene*. Sentence (9a) confirms this argument in that, the verb *kũigua* (to hear) in the sentence takes an expletive *Kũ*. The matrix subject NP *Munene* is identical to the gap left by the raised NP. The two therefore share an F-structure: a hallmark of functional control.

Raising is also equated to functional control as 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).

This rule 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 (9), lacks OBJ2 and OBJ leaving the matrix SUBJ *Mũnene* via its subject marker as the only "controller".

LFG accounts for object control via raising-to-object and not Exceptional Case Marking (ECM). Consider sentence (10) below.

10. Ruta *a* *rĩa ethĩ* PRO *gũ tĩa* *aciari ao.*
Teach 1sm those young inf respect parents theirs.
Teach the young to respect their parents.

Transformational theory takes the NParĩa *ethĩ* (the young) to be in the subordinate clause. This approach has been challenged by LFG which places such an NP 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. Were the raised-to-object NP actually in the subordinate clause, then the matrix verb may not passivize as it will lack a thematic object argument. Example (11) proves that sentence (10) can be passivized implying the presence of an internal argument of the verb *teach*.

11. Arīa ethī nī ma rut wo PRO gū tī a aciari ao.
 Those young foc 1sm (plr) teach pass PRO inf respect fv parents theirs.
The young are to be taught (how) to respect their parents.

This is proof enough that object NPs in object control constructions are indeed in the matrix and not the subordinate clauses. 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 suggesting no possibility of an embedded NP functioning as the subject of a matrix clause in passive constructions.

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.

12. Ruta andu ethī wega, PRO gū tī a aciari ao.
 Teach people young well, 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 with the subject NP, the object NP is optional and may be substituted by its OM. Sentence (13) shows the use of the agreement marker in classifying the object control controller.

13. a. Kamau a ra rut a Wanjirū kū in a.
 Kamau 1sm tns teach fv Wanjirū inf sing fv.
 b. Kamau a ra **mū** rut a kū in a.
 Kamau 1sm tns **om(him/her)** teach fv inf. Sing fv.
Kamau is teaching him/her to sing.
 c. *Kamau a ra **a** rut a kū in a.
 Kamau 1sm tns **sm(Wanjirū)** teach fv inf. Sing fv.
Kamau is teaching she (wanjirū) to sing.

The subject agreement marker for the NP *Wanjirū* cannot make an acceptable sentence in this case proving that the NP it replaces is the internal argument of the verb *ruta* (to teach).

4. Counter Arguments

Bresnan (1982:328-331) contends that PRO is purely a pronominal sharing features with overt pronominals but with the additional feature Unpronounced (+U). It is therefore equal to *pro* and the overt pronominals. Such an equation would change the distribution of PRO as to make it appear in tensed clauses and in object positions like other pronominals. This cannot lead to a licit syntactic construction as in example (14b) below in which PRO substitutes an overt object pronoun.

14. a. Kamau a ra **mū** rut a kū in a.
 Kamau 1sm tns **om(him/her)** teach fv inf. Sing fv.
Kamau is teaching him/her to sing.
 b. *Kamau a ra **PRO** rut a kū in a.
 Kamau 1sm tns **PRO** teach fv inf. Sing fv.
**Kamau is teaching ____ to sing.*

Since the object NP is missing, the sentence is unacceptable. If PRO was equal to overt NPs (save for a lack of pronunciation), it should have replaced the object pronoun with the resultant sentence being acceptable. Further, it would be a contradiction if PRO would 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)...' Object positions in a clause are case marked and hence objects occur in tensed clauses. PRO should not occur in tensed clauses as the lexical rule that licenses it holds:

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

It would be illogical then to have PRO in a sentence like (15) because the verb is tensed and hence not subject to the rule presented above.

15. *PRO **ka** rug a mūcere.
 PRO tns cook fv rice.
PRO will cook rice.

The theory further argues that PRO does not have anaphoric properties. Now consider the following example.

16. Kamau_i a rend a [PRO_{i/*arb} kū rug a mūcere].
 Kamau 1sm want fv inf cook fv rice.
Kamau wants to cook rice.

In this sentence, PRO is “bound” to the NP *Kamau* and does not 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. Thus, 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? 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), then contravenes the *pro* drop parameter which states:

- i. *pro* is governed by X⁰
- ii. 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.

Haegemann (1994:457)

The *pro* drop parameter therefore rules out the occurrence of PRO in finite verbs as the second part of the parameter excludes generic PRO. It holds that PRO (if equated to *pro*) must be co-indexed with a governing head.

Although PRO is a lexical item in this theory, it is phonetically null and hence does not qualify as an individual word as is proven by its lack of a node in the C-structure. Remember that the nodes of C-structure are morphologically complete words meaning that PRO is not a morphologically complete word as it lacks not only phonetic representation but also semantic sense hence not a product of the lexicon. Moreover, the theory cannot explain why PRO attaches itself only to a verb with the feature –Tense (see the discussion above). Notice also that the theory minimizes effort use in explaining the loci of PRO in a clause, that is, why is PRO restricted to the subject position of a non-finite verb?

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 *Kũruga* (to cook) is as given below.

[PRED ‘KũRUGA <SUBJ, OBJ>’]

The SUBJ and OBJ arguments must be realized in an F-structure of this verb. When we construct the F-Structure of the verb *kũruga* (to cook) as used in the complement of sentence (17), the structure becomes ill formed since 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.

17. Kamau a r(a) end a [kũ rug a mũcere].
 Kamau 1sm tns(prs) want fv inf cook fv rice.
Kamau wants to cook rice.

[PRED ‘KũRUGA <SUBJ, OBJ>’
 SUBJ []
 OBJ [PRED ‘MũCERE]]

By extension, completeness condition will rule out the F-structure of sentence (17) since its subsidiary f-structure is incomplete. LFG therefore licenses PRO as the missing argument of a predicate in order to satisfy the completeness condition. The following F-structure is now well formed.

[PRED ‘KũRUGA <SUBJ, OBJ>’
 SUBJ [PRED ‘PRO’]
 OBJ [PRED ‘MũCERE]]

This complement F-Structure 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.

Another condition which license PRO is the subject condition which states that ‘every verb must have a SUBJ,’ Falk (2001:104). Thus, the verb in an infinitival verb complement would be illicit as it would lack its subject argument. PRO fills this void by acting as a ‘semantic place holder’ Boeckx (2006:6).

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 predicates arguments then appears only once in the predicates local F-Structure.

From the foregoing, this paper argues that PRO in LFG is not a lexical item but rather a product of interacting modules of the theory. Specifically, we found that PRO does not function in the same syntactic positions as overt pronominals, PRO lacks enough features to

characterize it as lexical and that PRO is created to satisfy the completeness condition, the subject condition and avoid the violation of the uniqueness condition.

5. Conclusion

This paper concerned itself with Control theory as handled in Lexical Functional Grammar. The work concentrated on identifying the mechanism through which LFG accounts for control in Kikuyu. The endeavour was to re-examine the major claims of the theory regarding the null pronominal in the subject position of embedded clauses mainly functioning as verbal complements. The paper did not aim at exploring the strengths of control theory in LFG but rather at highlighting some of the challenges control in Kikuyu poses to the theory. However, it was not an aim of this paper to propose solutions to the highlighted challenges but rather to act as an impetus to stimulate further research in the area thereby refining the theory.

It was found out that PRO the null pronoun in a non-sharing account of control within LFG is not equal to overt pronominals. It was established that PRO is restricted to the subject position of non-finite verbs unlike other pronominals which may as well function as objects in clauses. Using PRO as an object would not only lead to ungrammatically but would also contradict one of the rules that license PRO namely, PRO attaches to a verb which lacks the feature tense. Moreover, LFG argues that PRO lacks anaphoric properties. This claim was found inaccurate as some constructions enforce an anaphoric interpretation of PRO. More importantly, this work confirmed that PRO is not a lexical item as it fails to appear in the C-structure. The paper further found out that PRO is a product of interacting conditions and principles of the theory. Such conditions include the completeness condition, subject condition and the uniqueness condition. This work therefore recommends a refinement of the theory of control in LFG.

6. References

- i. Asude, A. and Toivonen, I. (2009). Lexical Functional Grammar. In Bernd H. et al. The Oxford Handbook of Linguistics. Oxford: Oxford University Press.
- ii. Boeckx, Cedric (2006). Linguistic Minimalism: Origins, Concepts, Methods and Aims. New York: Oxford University Press.
- iii. Bresnan, Joan (1982). The Mental Representations of Grammatical Relations. Cambridge, Massachusetts: MIT Press.
- iv. Carnie, Andrew (2006). Syntax A Generative Introduction (2nd ed). Oxford University Press: Blackwell Publishing.
- v. Culicover, P. W. and Jackendoff, R. (2005). Simpler Syntax. New York: Oxford University Press.
- vi. Darlymple, Mary (2001). Syntax and Semantics: Lexical Functional Grammar. San Diego: Academic Press.
- vii. Falk, Yehuda (2001). Lexical Functional Grammar: An Introduction to Parallel Constraint Based Syntax. Stanford : CLSI Publications.
- viii. Gatende, A. (1991). NP Movement and WH Movement in Kikuyu. Unpublished MA Thesis. University of Nairobi.
- ix. Haegeman, Liliane (1994). Introduction to Government and Binding Theory, 2nd edition. . Oxford: Blackwell.
- x. Hudson, R. (1998). Functional Control with and without Structure-Sharing. In: Case Typology and Grammar, Siewierska, A and Song, J.J. (eds.), pp. 151-169. Amsterdam: John Benjamins.
- xi. Postal, P. (1974). On Raising One Rule of English Grammar and Its Theoretical Implications. Cambridge: Massachusetts Institute of Technology.
- xii. Sells, Peter (1985). Lectures on Contemporary Syntactic Theories. Stanford: CSLI.