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## A MINIMALIST ANALYSIS OF THE SYNTACTIC STRUCTURE OF THE PREPOSITIONAL PHRASE IN KIIGEMBE

Gitonga Jackline<sup>1</sup> & Henry S. Nandelenga<sup>2</sup>

<sup>1</sup>Department of Literature, Linguistics & Foreign Languages, Kenyatta University,

<sup>2</sup>Department of English, Literature & Journalism, Kibabii University.

Corresponding author: \*Gitonga Jackline  
Email: [kananajackline20@gmail.com](mailto:kananajackline20@gmail.com)

### ABSTRACT

*The Minimalist Program by Chomsky (1995) was a reaction to the excessive complexity of structures and principles in previous generative approaches. It is, therefore, geared towards achieving syntactic operations in the simplest manner possible. It also maintains the idea of X-bar theory that all phrases in all languages have the same structure. In this study, data from Kiigembe, a dialect of Kimeru (a Bantu language), is used to assess the truthfulness of this assumption. The findings of this study reveal that the Prepositional Phrase (PP) in Kiigembe can truly be accounted for using the Minimalist Program.*

### KEY WORDS

*Preposition phrase, syntactic structures, Bantu, Kiigembe, minimalism.*

## I. Introduction

Kĩĩgembe is a dialect of Kimeru, a Bantu language spoken by the Ameru people of upper Eastern Kenya. Kĩĩgembe and Gĩtigania have often been viewed as the same dialect. This owes to their high degree of mutual intelligibility because they are spoken in a close geographical continuum. Kanana (2011) posits that even though dialects belong to the same language, it is observed that those that are spoken within a certain geographical area are more intelligible as compared to those that are distant.

The study falls in the domain of morphosyntax, which is concerned with how words are brought together to form phrases. A phrase does not have both subject and predicate. A phrase acquires its name from the headword. For instance, an NP is named so because its headword is a noun. The head is obligatory, and it may occur on its own or have other optional dependents. This is the same case with the verb, adverb, and adjective phrases.

The PP, however, exhibits different characteristics from the other phrases. It indeed acquires its name from its headword, the preposition. However, unlike the other headwords in other phrases, the preposition alone cannot have complete meaning on its own. It is, therefore, the only headword that requires an obligatory complement. According to Setiawan and Rosa (2013), prepositional phrases show the grammatical relationship that exists between one constituent and another within a sentence. They argue that the syntactic function of a prepositional phrase is integral in expressing the role of defining the meaning conveyed by adverbs and adjectives: where, when, how, and what kind. It can also express a sense of why or who. They further mention the adjunct, post modifier, disjunct, conjunct, complementation of verb, and complementation of the adjective as the six syntactic functions of prepositional phrases (Setiawan & Rosa, 2013, p. 26).

Littlefield (2005) states that prepositions are a problematic and contradictory category for theories of syntax. On the one hand, they are regarded as one of the four major lexical categories and are contrasted with the functional categories such as determiners (Littlefield, 2005:1). For instance, Radford (2009) claims that nouns, verbs, adjectives, adverbs, and prepositions carry meaning and, therefore, are often called content words. van Valin (2004) and Huddleston and Pullum (2005) also support this sentiment.

Contradictorily, prepositions are a closed category, a characteristic associated with functional categories and not lexical ones, as Saint-Dizier (2006) observes. Littlefield (2005) further affirms that despite prepositions being one of the significant lexical categories, only a few proposals have been advanced to solve the indeterminacy with this category by positing the existence of two or more types of prepositions. While this study may not directly contribute to the ongoing debate for the existence of lexical and functional categories, the researcher hopes that the findings will be resourceful in terms of how prepositional phrases are formed in Kĩĩgembe and the semantic roles they play in Kĩĩgembe sentences. According to Radford (2004), the Minimalist Program is a theory that accounts for syntactic phenomena in all human languages. He further argues that phrases are built up by a series of combined operations, each incorporating a pair of elements together, forming a larger and more elaborate constituent. It is essentially a theory of phrase structure. This study attempted to evaluate the truthfulness of this assumption with focus on the PP constituent structure in Kĩĩgembe.

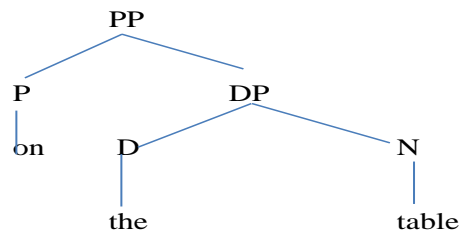
## II. Literature Review

Adger (2003) introduces the idea of syntactic structures having a hierarchy, with smaller structures coming together to make larger structures, which can also be part of other larger structures. He also indicates that the primary function of the merge is to form larger structures out of smaller ones, with the smallest elements being words. (Adger 2003, p. 49). Further, Radford (2004) explains that the syntactic structure of phrases refers to how words can be combined to come up with phrases and sentences. He argues that a pair of constituents can be combined through merger operations to build up a larger constituent.

For example:

Speaker A: Where did you put the oranges?

Speaker B: On the table



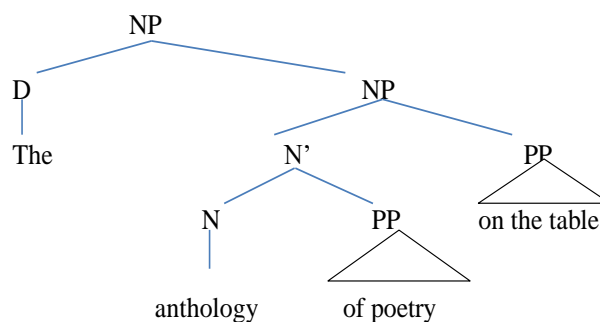
The determiner 'the' merges with the noun 'table,' forming a Determiner Phrase, which merges with a preposition to create the Prepositional Phrase 'on the table.' Our study sought to determine if the Kĩgĩembe phrases, focusing on the PP, are analyzable in the same manner. Radford (2009) reveals that the head is the sole determinant of the grammatical properties of a phrase. Other elements within it are only modifiers. The elements that come after the head are said to be its projection.

Adger (2003) sheds light on Minimalist syntax using English data. He analyzes the phrase structures and theta roles, focusing on selection features and lexical representation. He, in particular, states that a PP shows the location of something expressed by a noun. That is to say, and prepositional phrases add more information regarding time and place. This study is crucial to our research as it highlights the fundamental notions of predicting semantic roles. In her study on the DP in Ekegusii, with focus on its structure and role, Gesare (2012) agrees with Adger (2003) that the semantic connection between the noun and PP is essential. She reveals that the PP takes the complement position in the case that it is the argument of the noun. If it is not the argument of the noun, then it must be adjoined (adjunct) (Gesare, 2012:57).

For example:

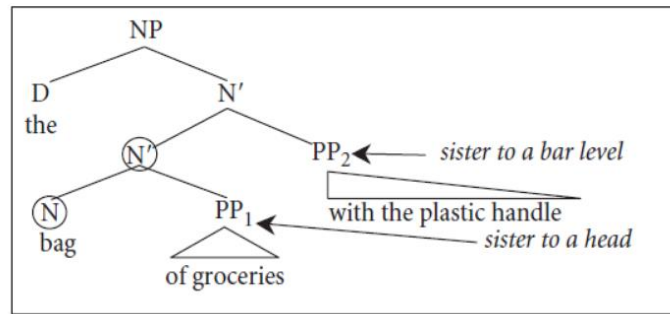
The anthology (of poetry) (on the table)  
 (complement) (adjunct)

Diagrammatically, this would appear as follows:



This study is similar to ours on the choice of theory. It informs our analysis on how some Minimalist principles apply to Bantu languages. It, however, differs from ours on the choice of phrases. While her focus is on the determiner phrase, ours is on the PP. Further, her study was based on Ekegusii, ours focuses on Kĩgĩembe. Carnie (2008) summarizes the notion of complements and adjuncts as presented in Figure 1 below:

**Figure 1: Complements versus Adjuncts**



Source: Carnie (2008, p. 121)

As illustrated above, tree-like structures are built by the merger operation. Adger (2003) states that in any tree, sisterhood is the most important relation that holds between two nodes. Sisterhood is built up by the fundamental operation, merge. From the above tree diagram, it can be concluded that:

- Adjuncts are sisters to N'
- Complements are sisters to N

Apart from sisterhood, Adger (2003) introduces another grammatical relation between nodes in a tree. This is the constituent-command relation, often abbreviated as c-command. He defines c-command as follows:

A node A c-commands a node B if, and only if:

- either B is A's sister or
- A's sister contains B.

(Adger 2003, p. 93)

The above definition means that one of the two conditions has to hold for any node to be said it c-commands another. From our tree diagram above, D c-commands NP because they have a sister relationship, and the said NP contains all other nodes. D c-commands NP, N', PP, N and PP. The node PP c-commands N' and the nodes (N and PP). The mother node NP does not c-command anything; and it is not c-commanded by anything because it has no sister.

According to Bearth (2003), adjuncts can be distinguished from arguments in the following ways;

- The occurrence of adjuncts is not dependent on the valence of the verb
- They are often not represented in the verb morphology
- Their internal order tends to be flexible and mobile

(Bearth 2003, p. 9)

Biber, Johansson, Leech, and Finegan (2007) posit that prepositions are words used in introducing prepositional phrases. Quirk, Greenbaum, Leech, and Svartvik (2005), on the other hand, claim that prepositions in English can be defined negatively with three criteria. They cannot have a complement which is:

- a that-clause
- an infinitive clause
- a subjective case form of a personal pronoun

(Quirk et al., 2005, p. 658)

Koffi (2010) states that English has sixty to seventy prepositions, which is higher than most other languages. Of these, the most frequently used are: with, to, from, at, in, of, by, for, and on. Further, he observes that prepositions are generally polysemous. This means that they realize multiple meanings depending on the

context. Lam (2009) observes that prepositions can be challenging to recognize, particularly in oral speech. This, he attributes to the fact that they contain few syllables. Many English prepositions are monosyllabic. For instance: on, for, and to. As a result, it may not be easy to recognize them in rapid, naturally-occurring speech. He further argues that the use of prepositions in a particular setting varies significantly from one language to another, which in most cases causes negative syntactic transfer. He adds that the same prepositions can carry significantly different meanings in various languages. For example, a Spanish native speaker would find it difficult translating the preposition *por* into English. This is because it can be expressed in English by the preposition for, though, by, and during (Lam, 2002)

Kuria (2007), in his study on the acquisition of the English PP by Kenya school children, states that the English PP is composed of two components: the preposition and the corresponding complement of the preposition. He notes that a preposition can be simple, consisting of one word (such as on, above, over, and by), or complex, consisting of more than one word. Further, he highlights eight syntactic forms that can come after a preposition. He maintains that a prepositional complement is characteristically:

A Noun Phrase, for example:

The cat is *under the table*

The students are *in the field*

He jumped *over the fence*

A wh-clause, for example:

I will deliver the goods *to whoever wants them*

We could guess the outcome *from what he said*

An -ing clause, for example:

She was congratulated *for winning the election*

We shall begin the meeting *by saying a prayer*

They concluded the meeting *by singing a song*

A verbless clause usually introduced by 'with' or 'without'. For example:

*With the teacher ready*, the lesson was set to start

*Without a new Chairperson*, the meeting is bound to be chaotic

An -ed participle clause also usually introduced by 'with' or 'without'. For example:

*With the classrooms cleaned*, the pupils were allowed to leave

*With a new teacher posted*, learning picked up immediately

An adverb, for example:

He has not come *until now*

The visitors will be here *before long*

An adjective, for example:

Please let us talk *in private*

If you work *in earnest*, you will succeed

A Prepositional Phrase, in which, two prepositions occur together in a sequence. For example:

He watched *from under the table*

They jumped *right over the fence*

Complex prepositions may be further divided into two- or three-word sequences. In two-word sequences, also known as compound prepositions, the first word, which acts as a pre-modifier, is usually an adverb, adjective, or conjunction. The second word is a simple preposition. For example: up against, next to, far from. In three-word sequences, the complex preposition usually has the pattern Prep 1+N+Prep 2. For example: in case of, in front of, in addition to and on account of. Different syntactic forms can appear as a complement of a preposition.

To start with, a complement is realized by a noun phrase in most cases (Halliday & Matthiessen, 2004). There are, however, other constituents that can function as prepositional complements. Downing and Locke (2006) reveal seven possible complements for a preposition.

NP: at home, after which, on account of his age.

Adj P: in private, at last, for good

Adv P: since when, until quite recently

PPs: except in here, from out of the forest

Finite Wh-clause: have you decided about when you are leaving?

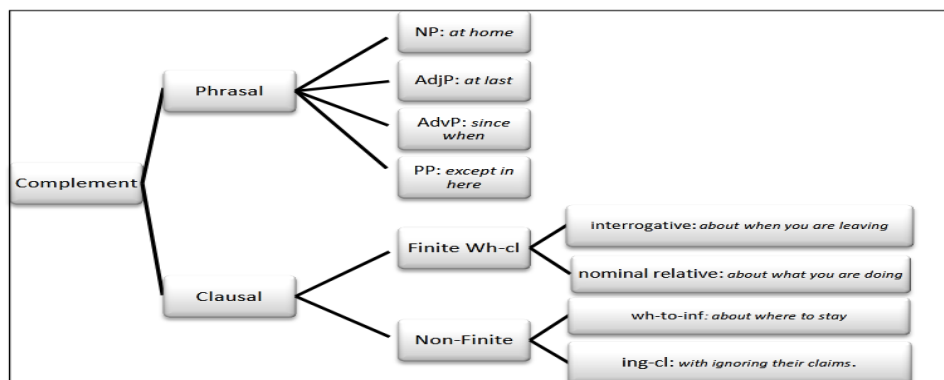
Wh + to-inf. Clause: have you any problem apart from where to stay?

-ing clause: the miners charge the employers with ignoring their claims.

(Downing & Locke, 2006, p. 536)

Both Downing and Locke's (2006) and Kuria's (2007) analysis of PP complements were beneficial to our study. While the former focuses on English grammar generally, Kuria (2007) focuses on getting the English prepositional phrases used by Kenyan school children. These studies are relevant to us as they highlight the structure of the English PP and the various components that can be used as its complements. However, Kuria's (2007) study differs from ours in theory and methodology. While his focus is on language acquisition theories, ours is guided by the Chomskian Minimalist Program. Benelhadj (2015) observes that the PP-complements are phrasal and clausal structures. She summarizes the design of the PP as presented in Figure 2 below:

**Figure 2: Structure of a PP**



Source: Benelhadj (2015, p. 30)

This study lent insight to our study on the categorization of the possible PP complements. It, however, differs from ours because her analysis takes a semantic approach.

#### IV. Data and Analysis

This research aimed at obtaining one hundred prepositional phrases for analysis. However, due to similar PPs, we settled on sixty-four PPs, which we grouped according to their structures. We later analyzed them to meet the objectives of this study. Data was collected through informal conversational interviews and a tape-recorder was used to do this. The recording was done in the relaxed atmosphere of a respondent's home. A relaxed atmosphere ensured a respondent used his natural speech patterns. To ensure clarity of the tape-recorded data, a quiet spot was chosen.

Data was also obtained using introspection method, which involved utilizing our native speaker intuition on the structure of the language under study. Introspection was used as a complementary method in cases where some PP structures were not captured in the data collected using informal conversational interviews. This relied solely on the researcher's native speaker competence of the target dialect.

To elicit many PPs from the respondents, the researcher sought information regarding directions or the location of various places known to the respondent.

Qualitative data analysis approaches were employed in this research. Tape-recorded data generated through introspection were transcribed on paper. All PPs were extracted, categorized, and coded based on their structure. In that regard, for every structure identified, there was a code. The codes ran from '01' for the structure P+NP, which is the basic structure of a PP and thus the simplest to code '05' in the order of their complexity. The structures of different PPs were then analyzed based on the tenets of the minimalist program. We identified seven other structures of the PP. A minimalist tree diagram was drawn for each distinct PP structure identified. A tree diagram (phrase marker) was necessary to determine whether the PP in Kiigembe can be accounted for using the MP.

#### V. Results and Discussion

We made several observations regarding the PP structure in Kiigembe. First, similar to other studies mentioned earlier in this research, we observed that the preposition in Kiigembe is a problematic category; it is difficult to categorize and highly polysemous. For example, in these words, *yũũrũ* (above, up), *rũteere* (besides, at the side), *ngalũko* (behind, at the back), *nthĩ* (below, down), the same word can be both a preposition and an adverb. Just like in English, the PP in Kiigembe requires an obligatory complement. We also noted that the PP does not contain the subject of the sentence. Further, we observed that it appeared as an adverbial in most of the sentential constructions we analyzed. Table 1 presents the structural variations and frequency distributions of the PPs among the male and female respondents respectively.

**Table 1 PP Structures and frequency distribution**

Number	PP Structure	Example/Gloss	Frequency Distribution	
			Male	Female
01	P+NP	<i>Rwamwera</i> (of river)	11	17
02	P+P+NP	<i>Rũteererwanyumba</i> (*beside of house)	8	12
03	P+Gerund	<i>Bwakũnyua</i> (of drinking)	3	6
04	P+ AP	<i>Kuumathaa ii</i> (*from time this)	2	3
05	P+P+Clause	<i>Mbere e tũũria</i> (*before of we eat)	1	1

We noted that generally, sentences elicited from female respondents had more PPs than those from male respondents.

**Elements within the PP in Kiĩgembe**

This sub-section presents the elements we identified within the PP in Kiĩgembe. They include the preposition (head) and its complements.

*Preposition*

Cross-linguistically, the preposition heads the PP. In the Kiĩgembe PP phrases we analyzed, the head occurred as the first element in the phrase. There are no pre-modifiers. This is unlike the PP in English which can be pre-modified by an intensifier.

For example:

He spoke *almost in a fading voice*

The woman had scars *all over her face* (Kuria, 2007, p. 46)

There are, however, instances in English language, in similarity with Kiĩgembe, where compound (two- word sequence) prepositions occur in succession without one being a modifier of the other.

For example:

I got *out of the house* in a hurry and said goodbye to my mother

The headmaster rewarded me *because of my courage*

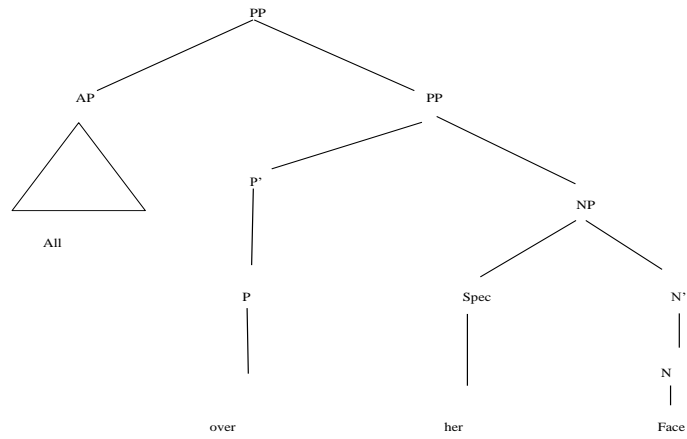
(Kuria, 2007, p. 45)

Diagrammatically, the structures would appear as follows:

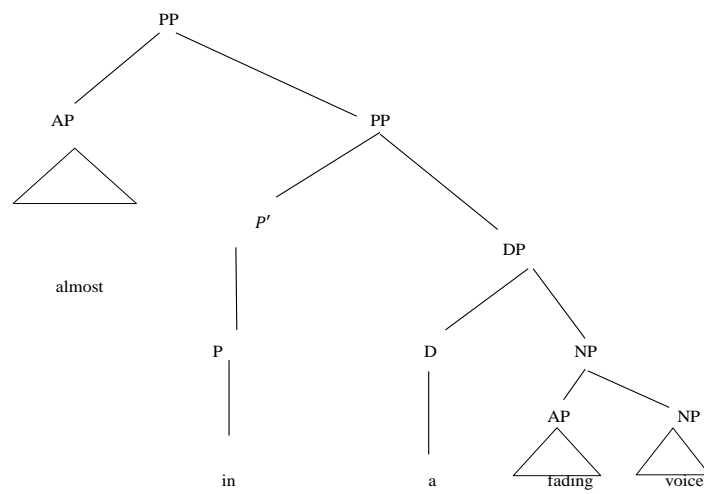
*A. With a premodifier*

i. All over her face



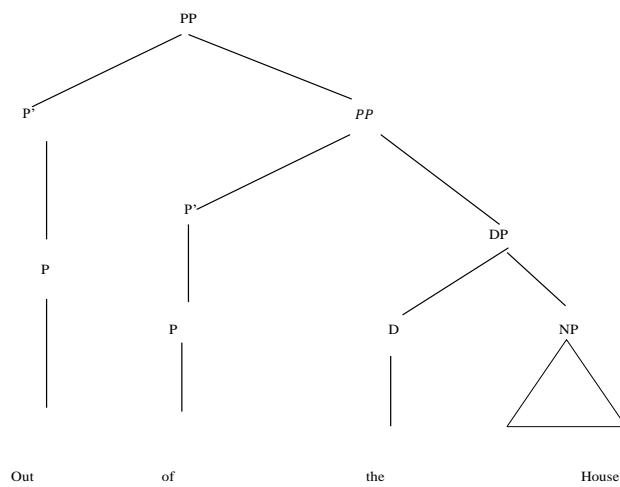


ii. Almost in a fading voice

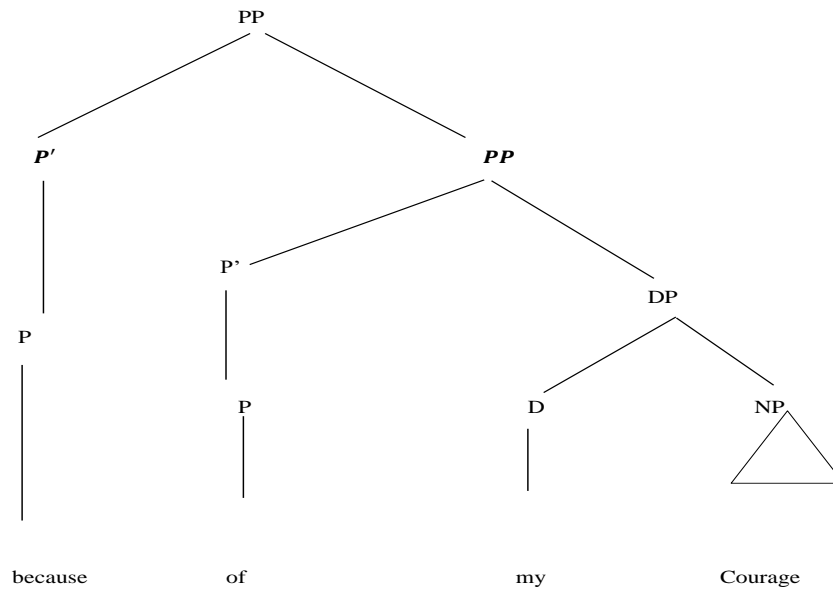


*B. Compound prepositional phrase*

i. Out of the house

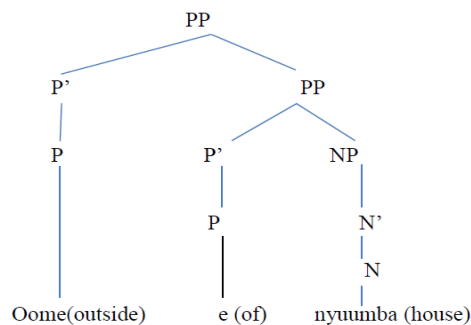


ii. Because of my courage



In some Kĩĩgembe sentences, there was the occurrence of compound prepositional phrases. For instance:

4.2 Oome e nyumba



We observed that Kĩĩgembe is primarily a head-initial language. The preposition precedes every other element in the phrase. Further, it can take a wide range of complements which we are going to present in subsequent sub-sections. In all the PPs we extracted, the NP/DP was the most common complement. NP and DP are largely interchangeable (Gesare, 2012, p. 11). This, therefore, implies that most of the PPs in Kĩĩgembe are transitive because there is a traditional assumption that a preposition or verb that takes a noun or pronoun as its complement is transitive (Radford, 2009, p. 49). In some instances, the NP was modified while in other cases it was not. The NP as a complement included both nouns and pronouns. We noted that the pronouns in Kĩĩgembe do not mark gender. Generally, the noun phrase precedes its modifier in Kĩĩgembe. The post-modification can have very few or as many words as the speaker deems enough to qualify the noun in subject. The order of elements in a Kĩĩgembe PP with a NP as its complement is as follows:

**Table 2 Order of elements with NP as a PP complement**

Preposition (Head)	Pronoun/ Noun	Post-modification	Gloss
Ya	We		of him/her
E	Mwenda		of Mwenda
Ywa	Rũũĩ	Rũũtheru	‘of water clean’ of clean water
Na	Njĩra	ĩrandayapiũ	‘along road that long very’ along that very long road
Sia	Aritwa	barabeerũ	‘of students those new’ of those new students

The preposition head in Kiigembe also takes a gerund as its complement. A gerund is a deverbalized noun. For ease of presentation, however, we described it as a VP in the tree diagram. The gerund expresses the purpose role when it occurs as a PP complement in Kiigembe sentences.

**Table 3 Order of elements with a gerund as PP complement**

Preposition	Gerund	Gloss
Bwa	Kũnywa	of drinking
Kia	ũtaarũũĩ	of fetching water

In addition to the above complements, the preposition head in Kiigembe also takes an adverb as its complement. Besides being complemented by adverbs, the PPs we analyzed also functioned as adverbs. For instance:

*Tũkarombambere e tũũria*

We will pray before we eat

The above example is an illustration of a PP functioning as an adverb of time. The following example illustrates a PP functioning as an adverb of place:

*Bawitakũrimamuundayũraywirũteererwamwithũ*

They have gone to dig the farm that is beside the forest

In the sentences we analyzed, an adverb as a PP complement expressed the temporal role.

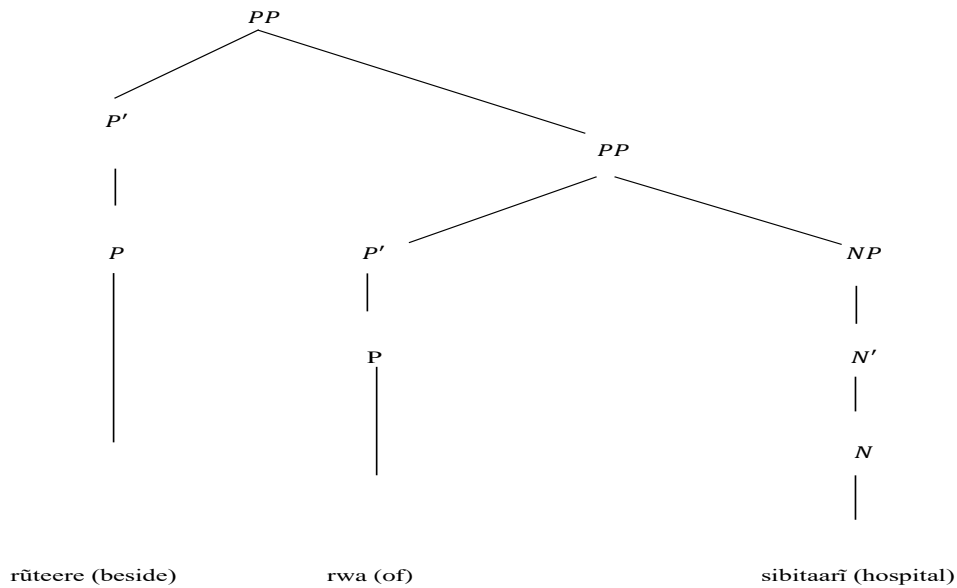
**Table 4 Order of elements with AdvP as PP complement**

Preposition	AdvP	Gloss
Kuuma	thaa ii	‘from time this’
Mwanka	Rũũyũ	until tomorrow

A PP occurred as a complement of the prepositional head in instances of compound prepositional phrase. There were, therefore, two prepositions occurring in succession. This implies that a PP occurred within another. For instance, *rũteererwasibitari*(\*beside of hospital-beside the hospital). This can syntactically be demonstrated as follows:

[PP [P rŭteere] [ PP[P rwa] N [sibitaarĩ] ] ]

i.Rŭteererwasibitari



Finally, in the sentences we analyzed, a subordinate clause expressed the temporal semantic role when it occurred as a PP complement.

For example:

*tũkaromba mbere e tũũria*

We will pray before we eat

## VI. Conclusion

This study was able to establish several things. The preposition in Kĩgembe, similar to English and other Bantu languages such as Ekegusii, is highly polysemous. We also noted that the PP in Kĩgembe has a definite structure, and the obligatory head can take several elements as its complement. These include the noun phrase, verb phrase, adverb phrase, complement clause, and other PPs. In some instances, the noun phrase as a complement was post-modified by an adjective or a PP.

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