KISWAHILI MORPHOSYNTAX: A GENERATIVE APPROACH

By

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DECLARATION

This Thesis is my original work and has not been presented for examination in any other University. Appropriate credit has been given where reference has been made to other scholar's work.

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RECOMMENDATION

This work has been presented with our approval as University Supervisors.

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DEDICATION

Dedicated to my family; my husband, John and my daughters; Esther, Ruth, Neema and Abby. Thanks for bearing with me, the many times I failed to give you due attention because I had to work through this piece.

Great is the LORD, and most worthy of praise. Psalm 48: 1

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ABSTRACT

The autonomous principle maintains that each grammatical level is independent. However, this assumption only holds to a certain degree; there is interplay of levels, which constitutes a more valid description of language rather than the various levels being considered as independent of each other. This is the case in Kiswahili: there is interface between morphology and syntax that this study sought to address. Quite a number of writers have pointed out the existence of interface between morphology and syntax in Kiswahili. Most of them have only given examples from inflectional and derivational morphology to illustrate this. No analysis or account for morphosyntactic processes has been given. Consequently, this was the problem under investigation in the study. The study sought to achieve the following objectives: to establish the morphosyntactic processes that occur in Kiswahili, to account for such morphosyntactic processes and finally, to establish morphosyntactic rules in Kiswahili.

In carrying out the study, the transformational generative theory of grammar was applied. This is the theory that goes beyond language description as it was with traditional approaches; it gives analyses and an account of each one of them. It thus makes explicit the competence of the speaker of a given language.

The primary data were obtained from 30 respondents drawn from different categories of students. They provided some words and sentences that were used to illustrate morphology-syntax interface in Kiswahili. Secondary data were obtained from ten specific Kiswahili textbooks. From the data, five different morphosyntactic processes were established; namely, those that involve inflectional morphology, class-changing word formation processes, class non-changing word formation processes, lexical information and finally, anaphoric relations. The study has shown that there are categories that trigger these processes and that there are underlying rules that describe such processes.

The study intended to make an improvement on the learning and teaching of Kiswahili by students and teachers respectively. This is because most of the errors that are made in Kiswahili result from lack of understanding of the morphosyntactic effect of different categories in the language.

The study serves as a basis for further research in the area of morphology-syntax interface based on other theories.

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KEY TO ABBREVIATIONS AND SYMBOLS

Af	Affix
Af_n	Morphosyntactic feature on the noun
Af_{ni}	Morphosyntactic feature marked on the other elements whose occurrence dependents on the head noun.
Af_{1D}	Derivational affix
$Af_{\varnothing}$	Zero affix
ADJP	Adjectival phrase
ADV	Adverb
AGR	Agreement
AGRo	Object agreement marker
AGRs	Subject agreement marker
APPL	Applicative
ASP	Aspect
AUX	Auxiliary
BT	Binding theory
C	Complementizer
CAUS	Causative
COND	Conditional
CON	Conjunction
CONT	Contingent
COP	Copular
CP	Complementizer phrase, a functional projection
DEM	Demonstrative pronoun
DER	Derivative
DET	Determiner
D-S	Deep/ Underlying structure
ECP	Empty category principle
EPP	Extended projection principle
EST	Extended Standard Theory
FUT	Future tense
GC	Governing category
GEND	Gender

GER	Gerund
GT	Generative Theory
HAB	Habitual
I′	Inflectional bar
IMPERF	Imperfective Aspect
INDEF	Indefinite pronoun
INF	Infinitive
INFL	Inflection
INT	Intensifier
INTER	Interrogative
IP	Inflectional phrase
KMS1	First Year Kiswahili Masters students
KMS2	Second Year Kiswahili Masters students
KUS4	Fourth Year Kiswahili Undergraduate students
L1	Level of word
L2	Level of sentence
L3	Level of rules
L4	Representational level
LD	Local domain
LG	Logical form
N	Noun
N_1	First noun
N_2	Second noun
N_{ACC}	Noun marked for Accusative case
N_C	Compound noun
N_{CONCR}	Concrete noun
N_{INTER}	Interrogative pronoun
N_N	New noun
N_{NI}	First new NP
N_{N2}	Second new NP
N_{NOM}	Noun marked for Nominative case

NEG	Negation
NOM	Nominative case
NP	Noun phrase
NUM	Numeral
OBJ	Object
P	Preposition
PASS	Passive
PAST	Past tense
PERFT	Perfective Aspect (denotes an action that is complete)
PL	Plural
POSTP	Post positional phrase
PP	Prepositional phrase
PRES	Present tense
Pro	Non-overt NP, whose interpretation is like that of an overt pronoun
PRO	Non-overt subject of infinitival clauses.
PRON	Pronoun
PSR	Phrase Structure Rule
Q	Quantifier
R	Root
$(R_1+ R_2)_C$	Compound word
$(R_1+ R_2)_{IDM}$	Idiom word
REC	Reciprocal pronoun
REFL	Reflexive pronoun
REL	Relative pronoun
S	Sentence
SG	Singular
SPEC	Specifier
STAT	Stative
S-S	Surface structure
T	Tense
TG	Transformational Grammar
T.G.G	Transformational Generative Grammar

TR	Transformational rule
TUKI	Taasisi ya Uchunguzi wa Kiswahili
t_i	First trace
t_j	Second trace
t_k	Third trace
UG	Universal Grammar
V	Verb
VP	Verb Phrase
V_{APPL}	Applied verb
V_{CAUS}	Causative verb
V_{STST}	Stative verb
VP_{IDM}	Idiomized verb
VS	Verbal suffix
V_{DTR}	Ditransitive verb, takes two complements
V_{INTR}	Intransitive verb, takes no complement
V_{MTR}	Monotransitive verb, takes one complements
V_{TRIT}	Tritransitive verb, takes three complements
1	First person
2	Second person
3	Third person
Θ	Theta role
*	Ill-formed
!	Semantically anomalous

CHAPTER ONE

INTRODUCTION

1. 1 Background to the Problem.

Most of the work that has been done by linguists on the subject of Morphology-syntax interface has been based mainly on the Indo-European languages (Grim Shaw, 1986; Corbet, 1987 and Baker, 1985a & 1985b). Likewise, the transformational generative approach to the study of Kiswahili morphosyntax has not been extensively applied. However, it is important to appreciate the fact that there is a lot that has been done by linguists on aspects discussed in this thesis. This is especially so with regard to studies carried out on other Bantu languages, which are related to Kiswahili (see Abdulaziz, 1970; Christe, 1973; Wald 1973; Vitale, 1981; Baya, 1993; Mukuthuria 1997; Wambua, 1999; Mgullu, 1999; Mwangi, 2001 and Kioko, 2005).

The transformational generative model is the theory of grammar that was developed by Noam Chomsky. In his publication of (1965), '*Aspect of the theory of Syntax*' (or simply *Aspect*), his aim was to make an improvement on the Syntactic theory whose emphasis had been on making explicit formal statements of rules , specifically, the phrase structure rules or the re-write rules. The main purpose of the syntactic theory had been to formulate a grammar that would allow an infinite number of well-formed constructions and not the ill-formed ones. This was in the early version of the transformational generative grammar presented in Chomsky's (1957) book '*The Syntactic Structures'*.

Before its development, most linguists used the traditional approach in the study of language. Unlike the transformational generative grammarians, traditional grammarians' emphasis was on making grammatical analysis without giving an account. The development of the Chomskian generative approach in the field of linguistics became one of the most influential theories of the 20th Century. Despite the fact that the theory has had reactions from different authorities, it remains to be an influential theory that has been widely adapted by linguists in the study of different languages, especially those of Indo-European origin. Likewise, this theory has been widely used in the study of human language as a whole, especially in the search for the Universal Grammar (UG) (Chomsky, 1957; Radford, 1988; Haegeman, 1991 & 1992; and Culicover, 1997).

Contrary to the above, the study of the Kiswahili structure has in most cases been based on the traditional approach. This is the approach that was mainly used by missionaries, anthropologists, explorers as well as some linguists. The traditional approach is seen in the grammar of the eighteenth, nineteenth and early twentieth centuries, which were mainly descriptive in methodology, with emphasis on the phonological and morphological aspects of language and much less on the syntax or its interaction with other language levels. Furthermore, the traditional approach does not make use of linguistic research into actual usage of language, neither is a systematic analyses of data made. Instead emphasis is on making grammatical analysis. The Chomskian transformational generative theory, on the contrary, goes beyond grammatical analysis. This study has used this model in analysing morphology- syntax interface in Kiswahili. Based on this model, both descriptive and explanatory adequacy has been achieved.

The study therefore aimed at establishing the morphosyntactic processes that occur in Kiswahili. In order to do this, we analysed data at the morphological and syntactic level. The established morphosyntactic processes were then accounted for using morphosyntactic categories that trigger their occurrence and finally, specific morphosyntactic statements and rules were established based on these processes. We then represented the established morphosyntactic structures on phrase markers. This approach to the study of morphology-syntax interface has made it possible to reveal the internalized linguistic knowledge (competence) of the speaker of the language (in this case Kiswahili). In this study, our emphasis is directed towards Kiswahili since not so much work has been done on the area of morphology-syntax interface, based on the transformational generative theory; and yet Kiswahili is an important language to its native speakers, learners and even teachers.

So, basically, the study has shown the morphosyntactic processes that occur in Kiswahili. The processes that we have established are those that involve inflectional morphology, class-changing word formation processes, non-class-changing word formation processes, lexical information and those that involve anaphoric relations. The study has shown that these processes are triggered by grammatical categories, class-changing derivational affixes as well as conversion, compounding and idiomization processes; class non-changing derivational affixes, lexical information and specific morphosyntactic features or properties of overt and non-overt NPs. In the study, we have shown that these categories have morphological and syntactic relevance in Kiswahili.

Before we proceed, it is important that we analyse the Kiswahili verbal structure because it is a very significant linguistic element; it is the one that carries a vast amount of information within a given structure. In Kiswahili, every verb (with the exception of the verb ***njoo*** 'come') can occur with a number of prefixes and suffixes, although no one construction can occur with all of them. Given that almost all the morphosyntactic categories that we have analysed in this study act on the verb at the morphological level (with a few exceptions), which in turn influences the entire sentence structure, it is important to give an analysis of the Kiswahili verbal structure.

Like many Bantu languages, Kiswahili is a right-branching language with the basic sentence structure being SVO. However, deviation from the norm can occur where there is topicalisation or some other form of emphasis in the structure. The word structure of Kiswahili follows the CVCV pattern. Being an agglutinating language (with a few exception), each morpheme is used to express a particular grammatical meaning in a one-to one way. Consequently, the Kiswahili verbal structure takes the following pattern:

(i) The negation marker is the element that occupies the left- most position within the verb structure. In the Universal grammar, negation is regarded as an element within IP. Specifically, in Kiswahili it combines with the AGRs, and the tense maker (T) to form INFL. No other element can occur before the negative marker in Kiswahili as shown below:

C2 (84) ***Ha-*** ø- ø− lal- i.
NEG- AGRs- PRES- sleep- VS
'He/ she is not asleep'

C2 (84) (i) ***Si*** - ø- ø− lal- i.
NEG- ARGs- PRES- sleep- VS
'I am not asleep.'

C2 (84) (ii) ***Ha-*** tu- ta- lal- a.
NEG- AGRs- FUT- sleep- VS
'We won't sleep."

The occurrence of the negation markers ***ha-*** and ***si-*** is dependant on the implied subject (either a noun or a pronoun). In the study, we have shown that the person feature of the implied subject has relevance to morphology and syntax. (***See section 4. 3.1. 1. 3***). Likewise, we have shown that the grammatical category of negation has morphological and syntactic consequences in Kiswahili. This is because, at the morphological level, the negation marker determines the structure and the meaning of the verb. When the negated word (verb) functions syntactically, the entire sentence is determined with regard to its syntactic structure as well as its meaning.

Within the verb structure, the subject pronominal marker (AGRs) occurs after the negation

marker in Kiswahili. In the study, we have shown that the occurrence of AGRs is dependant on the nature of the grammatical feature that is marked on the noun or the pronoun in the subject position. Specifically, it has been shown that the gender, number (and person) feature that is marked on the noun in the subject position percolates onto the verb and thereby it influences its structure with regard to the type of the pronominal marker to take. This verb feature (gender and number morpheme) has syntactic consequences (see ***sections 4. 3. 1. 1. 1*** and ***4. 3. 1. 1. 3***). This is illustrated below:

C2 (10) ***Mimi ni-*** na- som- a.

1SG- POS (SG)- PROG- read- VS

'I am reading.'

C2 (4) ***Ji-*** no ***li-*** me- vunj- ik- a.

GEND/SG- tooth GEND/SG- PERFT- break STAT- VS

'The tooth is broken.'

The two examples, that is, C2 (10) & C2 (4) show the morphosyntactic effect of the person, gender and number feature on the verb. The structure of AGRs that is marked on the verb is determined by the features of gender, number and person that are marked on the noun or pronoun in the subject position. At the syntactic level, the influenced verb determines the entire sentence structure with regard to its form and the meaning.

After the subject agreement marker (AGRs), follows the tense marker (T) within the verb structure in Kiswahili. We have shown in the study that the grammatical category of tense (T) is morphosyntactic. This is because the tense feature is pertinent to both morphology and syntax. Specifically, this feature is shown to determine the tense, the morphological structure and the meaning of the verb; and at the syntactic level, it is shown to influence the whole sentence with regard to its syntactic structure as well as its tense (***see section 4. 3. 1. 1. 2***). Below is an illustration:

C2 (7) Ki- ti ki- ***li-*** cho- vunj- ik- a jana ni ch- angu.

GEND/ SG- chair AGRs- PAST- REL- break- STAT- VS yesterday is AGR- POSS

'The chair that broke yesterday is mine.'

The relative pronoun comes after the tense marker within the verb structure in Kiswahili. This is observed in C2 (7), where the relative marker *cho-* occurs after the tense marker *li-*. We have shown in the study (under gender and number as morphosyntactic categories (***see 4. 3. 1. 1. 1***)

that the gender and number feature determines the form of the relative marker that is to occur on the verb, and by so doing, the whole syntactic structure is affected. Specifically, the relative attachment rule copies the gender and number feature of the noun in the subject position onto the verb. Consequently, the relative marker tends to change in its form depending on the gender and the number properties that are marked on the noun in the subject position. This interdependence relationship is explained in terms of morphology-syntax interface that is triggered by the gender and number morpheme.

After the relative pronoun come both the object agreement marker (AGRo) and the reflexive marker (REFL). The two occupy the same morphological position within the verb structure; that is, each one of them occurs between the relative marker and the verb stem. Object markers are obligatorily marked on verbs that occur with objects that denote animates. In the study, we have shown that it is the gender and number category of the noun in the object position that motivates the occurrence of AGRo. In other words, its features (those of AGRo) are based on those of the noun or pronoun in the object position and the same features are born by PRO in object controlled structures (see ***section 4. 3. 1. 5. 4***) as below:

C2 (95) Mama a- li- ***ye-*** ***m-*** zuia ***m-*** ***toto***$_i$ [***PRO***$_i$ ***ku-*** lala ni huyu].

Mother AGRs- PAST- REL- AGRo- forbid SG- child INF- sleep AUX DEM

'This is the mother who forbade the child to sleep.'

Apart from the AGRo, the reflexive marker also occurs in this same morphological position in Kiswahili. In the study, we have analysed the reflexive marker as a morphosyntactic feature that has morphological and syntactic consequences (see ***section 4. 3. 1. 5.1. 1*** for the discussion). Below is an illustration:

C2 (105) S-S Yohana$_i$ a- na- ***ji***$_i$***-*** pend- a.

John AGRs- PROG- REFL- love- VS

'John loves himself.'

After the AGRo / REFL, is the verbal root. In Kiswahili, it either occurs between the object agreement marker and the verbal suffix, between the reflexive marker and the verbal suffix or in any other position between the negation marker and the verbal suffix. This is because most of the affixes are optional. Kiswahili has a few monosyllabic verbs like ***kula*** 'to eat' which consists of only one consonant ***-l-,*** though most of the time the infinitival marker ***ku-*** is retained as part of the verb construction. In the study, we have shown that the verbal root is the element that is

affected by morphosyntactic categories at the morphological level, especially those that act on the verb (since we are considering the verbal structure). At the syntactic level, the affected root is shown to influence the entire syntactic structure with regard to the type of linguistic elements that are to occur in the syntactic structure and their distribution. This brings about morphology-syntax interface. Below are examples of verbal roots:

A2 (75) ***gong-*** a.
knock- VS
'Knock.'

A2 (74) ***lal-*** a
sleep- VS
'Sleep.'

After the verbal root, which is the point of reference, are other morphological positions. According to (Chai 2002: 92), these positions are occupied by extensions or other suffixes. Verbal extensions are optional suffixes that give different shades of the meaning. Some of them can co-occur within the verb structure. In Kiswahili, six different morphological elements occur after the verbal root. All these have been analysed in the study, especially under the class non-changing word formation processes and also under anaphoric relations (see ***sections (4. 3. 1. 3)*** and ***(4. 3. 1. 5)***; they include the passive, the causative, the applicative, the stative and the reciprocal marker.

All the morphosyntactic morphemes that trigger morphology-syntax interface in the structures that involve class non-changing word formation processes (with the exception of the interrogative pronoun) occur after the verbal root and all of them have been analysed in the study. Likewise, the reciprocal morpheme that has been analysed in the study under anaphoric relations occurs after the verbal root. We give a brief explanation of each below:

(a) ***The applicative morphemes -i/e-, -li/le-***. These morphemes are inserted between the verbal root and the other suffixes. In the study, these class non-changing derivational morphemes are shown to have relevance to morphology and syntax (***see section 4. 3. 1. 3. 3.*** for the discussion). It is the structure of the penultimate vowel on the base form of the verb that determines the form of the applicative morpheme to occur. This ensures vowel harmony within the verbal structure.

The applicative marker ***-i-*** or ***-li-*** is used if the penultimate vowel on the base form of the verb is either ***-i-, -u-,*** or ***-a-*** as in:

A2 (106) (i) k***a***t- a
cut- VS

A2 (106) kat- ***i***- a
cut- APPL- VS

'cut ' 'cut for'

On the other hand, the applicative marker ***-e-*** or ***-le-*** occurs if the penultimate vowel on the base form of the verb is either ***-e-*** or ***-o-*** as in:

A2 (107) (i) s***o***m- a. A2 (107) s***o***m- ***e-*** a

read- VS read- APPL- VS

'read.' 'read for.'

(b)***The passive marker -w-*** also occurs after the verbal root. In the study, the passive marker is shown to be morphosyntactic; it triggers morphology-syntax interface in Kiswahili (***see section 4. 3. 1. 30. 1***). It occurs between the verbal root and the verbal suffix as in:

A2 (92) (i) on- a A2 (92) on- ***w-*** a

see- VS see- PASS- VS

'see' 'be seen'

(c) ***The causative markers -ish/esh-, -iz/ez-*** also occur between the verbal root and the verbal suffix. The morpheme ***-ish-*** or -iz- occurs if the penultimate vowel on the base form is either *-a-,* ***-i-,*** or ***-u-;*** while the morpheme ***-esh-*** or ***-ez-*** occur when the penultimate vowel is either ***-e-*** or ***-o-.*** In the study, we have shown that the causative marker functions as a morphosyntactic morpheme that has morphological and syntactic relevance in Kiswahili (see ***section 4. 3. 1. 3. 2*** for the discussion). Below are illustrations:

A2 (97) (i) p***a***nd- a A2 (97) pand- ***ish-*** a

climb- VS climb-CAUS- VS

'climb.' 'cause/ make to climb'

A2 (100) (i) ch***e***z- a A2 (100) chez- ***esh-*** a

Play- VS play- CAUS- VS

'play' 'cause/ make to play'

(d) ***The stative marker -ik/ ek-*** also occur between the verbal root and the verbal suffix. The morpheme ***-ik-*** or ***-lik-*** occurs if the penultimate vowel on the base form of the verb is ***-i-, -u-,*** or ***-a-;*** while the morphemes ***-ek-*** or ***-lek-*** occurs if the penultimate vowel on the base form is ***-o-*** or ***-e-.*** In the study, we have shown that the stative marker has relevance to morphology and syntax in Kiswahili (see ***section 4. 3. 1. 3.4***); below are examples of the stative marking:

A2 (103) (i) ch***e***k- a A2 (103) ch***e***k- ***ek-*** a

laugh- VS laugh- STAT- VS

'laugh.' 'laughable.'

A2 (105) (i) k***u***l- a A2 (105) l- ***ik***- a

eat- VS eat- STAT- VS

'eat.' 'edible'

The morphosyntactic category of the reciprocal also occurs in the same morphological position; that is, between the verbal root and the verbal suffix. In the study, the ***reciprocal marker -an-*** has been shown to trigger morphology-syntax interface in Kiswahili (***see section 4. 3. 1. 5. 1. 2***). The following is an example of reciprocation:

A2 (122) (i) pend- a A2 (122) pend- ***an-*** a

love- VS love- REC- VS

'love' 'love each other'

The element that occurs after all the verbal extensions is the verbal suffix (VS), also referred to as the verbal ending. This is the suffix ending that occurs on all verbs in Kiswahili. Three types of verbal endings occur on the verb in Kiswahili, these are:

(i) ***-a*** ending, which occurs on most verb forms in their indicative mood; including the infinitive as in imb***a*** 'sing', kuimb***a*** 'singing'

(ii) ***-i*** ending is used on the negative present verb as in ***siimbi*** 'I am not singing'

(iii) -e ending is used for the subjunctive constructions as well as for the imperative, which have an object marker as in ***uimbe*** 'you sing'

Below are examples:

A2 (75) gong- ***a.*** A2 (74) lal- ***a***

knock- VS sleep- VS

'knock' 'sleep'

C2 (84) Ha- ø− ø- lal- ***i***.

NEG- 3SG- PRES- sleep- VS

'He/ she is not asleep.'

According to the transformational theory of grammar that we are using, when the transformational rule is applied on the verbal stem, the verbal suffix tends to move to the verbal final position, creating room for the derivational affix in question. Consequently, the verbal suffix ends up occurring last in almost all verbal structures.

As earlier mentioned, the verbal structure has been widely used to illustrate morphology-

syntax interface in this study. From the analysis given above, the Kiswahili verbal structure takes the following form:

NEG + AGRs + T/ ASP + REL + AGRo/ REFL+ Root + Vexts+ VS

The verbal pattern given shows that the AGRo and the reflexive morpheme occur in the same morphological position in Kiswahili, so none precedes the other. Likewise, the tense and aspectual marker occupies the same morphological position. We also see that as much as all verbal extensions occur between the verbal root and the verbal suffix, there are those that co-occur within the verbal structure. For instance, when the Applicative and the reciprocal marker co-occur within the verbal structure, the former always precede the later as in ***to-le-an***-a 'remove for each other'. On the other hand, the causative marker precedes the passive marker when the two co-occur within the verbal structure as in ***a-msh-i-w-a*** 'be woken up for'. The applicative can as well co-occur with the causative; in such a case, the former precedes the later as in ***pig-i-sh-a*** 'cause one to cook'. Likewise, the applicative precedes the stative when they co-occur within the verbal structure as in ***poke-le-k-a*** 'receivable'. Finally, the applicative morpheme precedes the passive marker as in ***tolewa*** 'be removed for'. From these examples it seems the applicative morpheme always precedes all the other verbal extensions in Kiswahili. This therefore means that during the verbal derivation, the applicative rule will always apply first before any other derivational rule applies.

Apart from the analysis of the Kiswahili verbal structure, it is also important that we briefly mention the classification of nouns in Kiswahili. There is controversy over the classification of nouns in this language. Different authors have come up with different classification systems. Consequently, there is none that has been agreed upon. However, for purposes of this study, I have adapted Waihiga's (1999) classification, which uses the syntactic criterion of agreement to classify nouns into genders. This classification is based on the subject pronominal marker (AGRs) that occurs on the verb. They occur as below:

1 & 2[1] a- wa- gender: All animates belong to this gender; nouns take the pronominal marker ***a-*** in the singular and ***wa-*** in the plural.

[1.] *Numbers (used for referential purposes) and the translation is mine, not the author's.*

3 & 4 li- ya- gender: They include a variety of nouns; those referring to the inanimate in general, those denoting fruits, body parts and plants. Such nouns take the pronominal marker ***li-*** in singular and ***ya-*** in plural.

5 & 6 u- ya- gender: They include nouns that denote abstract things, whose subject agreement features are ***u-*** in singular and ***ya-*** in plural.

7 & 8 ki- vi- gender: Most non-living things are found in this gender. The nouns take the pronominal marker ***ki-*** in singular and ***vi-*** in plural.

9 & 10 u- i- gender: All nouns that are found in this gender refer to the inanimate. These include; nouns referring to parts of the body, those referring to things made from plants, those nouns that are derived from verbs and most abstract nouns are found in this gender. They take the pronominal marker ***u-*** in singular and ***i-*** in plural.

11 & 12 i- zi-gender: Most non-indigenous nouns are found in this gender. Kiswahili nouns that do not change their form in singular and plural are also found in this gender. All nouns that take the pronominal marker ***i-*** in singular and ***zi-*** in plural are in this gender.

13 u- gender: Abstract nouns that cannot be counted and that do not change form in plural and singular are found in this gender. These nouns take the pronominal marker ***u-.***

14 & 15 u- zi- gender: Most nouns in this gender refer to non-living things; with a few referring to body parts. They take the pronominal marker ***u***- and ***zi-*** in singular and plural respectively.

16 ku- gender: Verbal nouns are classified here. These are nouns derived from verbs by the affixation of the derivational affix ***ku-.***

17, 18 & 19 pa-/ ku-/ mu- gender*:* This is the locative class. The only noun that is found in this gender is ***mahali/ pahalii*** 'place'. The pronominal taken by this noun is either ***pa-, ku-*** or ***mu-*** **.**Whereas the affix ***pa-*** is used for specification, ***ku-*** is used for non-specification, while ***mu-*** is used for 'inside of'.

1. 2 The Statement of the Problem

It is a fact that quite a number of linguists have carried out studies on the Kiswahili grammar based on the transformational generative grammar. However, most of the studies have handled morphology and syntax independently[2], with the exception of Vitale (1981).

[2.] *Christe, 1973; Wald 1973; Kapinga, 1983, Baya 1993.*

Likewise, there are a number of linguists that have carried out studies on other African languages and especially, on Bantu languages that are related to Kiswahili, using the transformational generative approach. This study focuses on those areas of morphology-syntax interface in Kiswahili that have not been dealt with in the previous studies using the transformational generative theory.

In applying the transformational generative theory, we intent to establish whether this theory effectively handles the morphosyntactic processes that occur in Kiswahili. Consequently, we have applied the theory in the analysis of the grammatical categories of inflectional morphology, the class-changing word formation processes, the class non- changing word formation processes, lexical information and structures that involve anaphoric relations.

1. 3 Objectives

The study objectives were:

1. To establish the morphosyntactic processes that occur in Kiswahili.
2. To account for the morphosyntactic processes established in (1) in terms of the morphosyntactic categories that trigger their occurrence.
3. To establish the morphosyntactic rules in Kiswahili based on the transformational generative theory.

1. 4 Research Questions

1. What are the morphosyntactic processes that occur in Kiswahili?
2. What triggers the processes in (1) above?
3. What are the morphosyntactic rules in Kiswahili?

1. 5 Justification of the Study

The study was undertaken in order to reach a better understanding of the morphosyntactic processes that occur in Kiswahili, the elements that trigger their occurrence and rules that describe them. Such an understanding is significant since morphology and syntax are part of what constitutes the core of the grammar of every human language. Based on the transformational generative theory, which has not been extensively applied in the study of Kiswahili (Cf. Maw, 1969; Mbaabu, 1985; and Mohammed, 1986), we have analysed data at the

morphological and the syntactic level in order to establish the morphosyntactic processes that occur in Kiswahili and the morphosyntactic categories that trigger such processes. Likewise, specific morphosyntactic rules have been formulated; and finally, representations of the same on phrase markers have been done.

It is important to mention that the transformational theory of grammar is not one of the recent theories developed by linguists; instead it is among the earliest theories that were advanced by Chomsky in (1965) after the Syntactic structures theory of (1957). In any case, this is a theory that has been superseded by some three decades. However, the choice of this theory was motivated by the fact that it has not been extensively applied in the study of Kiswahili morphosyntax. This is despite the fact that the theory has been widely applied in the study of other languages, especially those of Indo-European origin. We intent to find out to what extent the transformational generative theory can effectively be applied in the analysis of morphology-syntax interface in Kiswahili. The choice of the theory was also motivated by the fact that the approach goes beyond grammatical analysis; which is the emphasis of the traditional grammarians. Unlike the former, the transformational generative theory conceives language as a cognitive system of rules internalised within the human mind. By applying the theory in the study of Kiswahili morphosyntax, we hope to make explicit the nature of the internalised linguistic knowledge (competence) that users of Kiswahili have with regard to morphology-syntax interface. This study is relevant to the learners, teachers and linguists since the understanding of linguistic processes in a language emanate from the understanding of morphology and syntax as separate levels as well as their understanding as levels that have interface.

Moreover, quite a number of aspects of morphology-syntax interface in Kiswahili that we have discussed in this study have not been previously studied at length, especially based on the transformational generative theory. Consequently, we hope that this study has made a positive contribution to the already existing knowledge in the area. This work is also intended to serve as a basis for future work especially in other Bantu languages that are related to Kiswahili. Likewise, researchers studying other areas of interface in Kiswahili could benefit from this study as well as those interested in morphology-syntax interface in Kiswahili based on the more recent theories. The study has drawn from and built on the already existing work in the language as well as on other languages.

1. 6 Scope and Limitations

The study area is Moi and Egerton University, both found in Rift Valley, Kenya. The author acknowledges that this is not a native Kiswahili setting but rather a multilingual setting comprising of speakers of different ethnic backgrounds but with a near-native competence in Kiswahili. Choice of the study area was motivated by the fact that most of the Kiswahili speakers within this setting use the standard variety as opposed to the native speakers at the Coast of East Africa who use several non-standard varieties of Kiswahili. Choice from the later could have proved challenging and the findings, non-representative.

The target population were the University students especially those that major in Kiswahili at the higher level of their academics. This is the group that uses the standard variety especially in writing, though in informal settings, they tend to resort to non-standard varieties, code-switching and code- mixing.

The study sought to establish the morphosyntactic processes that occur in Kiswahili. In order to do this, data on words and sentences were used. From the words, several morphosyntactic categories were identified and from the sentence, the relevance of the morphosyntactic categories at the syntactic level was demonstrated. From the analysis, the following processes were established; those that result from inflectional morphology, class-changing word formation processes, class non- changing word formation processes, lexical information, and those that involve anaphoric relations. It was observed in the study that each of the morphosyntactic process identified is triggered by specific morphosyntactic categories. Each morphosyntactic category has been analysed in order to find out its relevance to the word as well as to the entire syntactic structure.

In carrying out the study, the transformational generative approach was applied. This theory as mentioned earlier was adapted because it goes beyond language description and instead it emphasises on giving of account for structures. Consequently, specific morphosyntactic rules, either PSRs or TRs have been formulated in order to describe the morphosyntactic processes that had been established. Likewise, the morphosyntactic processes established have been represented on phrase markers. The phrase marker is Chomsky's representation of the syntax of a sentence; a method of showing the syntactic linear structure of a sentence. Such representations have been given in order to make explicit the morphosyntactic processes that occur in Kiswahili.

The main limitation to the study was the scarcity of literature on the interaction between

morphology and syntax in Kiswahili. Though much work has been done in this area of morphosyntax, not so much has been on Kiswahili and especially so, based on the transformational generative theory. In order to effectively carry out this research, we relied heavily on the literature from other languages.

1.7 Definition of Terms

***Agglutinating*:** Languages in which, words are built up out of a long sequence of units, with each unit expressing a particular grammatical meaning in a clear one-to-one way.

Argument: A major element in a proposition; an argument can be a person, other animate beings, or an inanimate entity involved in an action of the verb (cf.: Chalker et al: 1994:33). For instance in the sentence, ***Mama alinunua chakula*** 'Mother bought food', the verb ***nunua*** 'buy', takes two arguments and the arguments in this sentence are the nouns ***mama*** 'mother' and ***chakula*** 'food'.

Autonomous: Functioning independently; for instance, syntax functioning independently of morphology; that is, no interface between them.

Autonomous syntax principle: No syntactic rule can make reference to pragmatic, phonological or semantic information.

Binding Theory: It is the module of grammar that regulates the interpretation of NPs. Haegeman (1994).

Competence: The internalized knowledge of the rules of a language that native speakers have, contrasted with their actual performance.

Deep structure: The abstract underlying organization of a language (the basic form); the term is used in Transformational Generative Grammar.

Empty category principle: An empty category must be properly governed. Proper government is either by a lexical head, INFL or by an antecedent.

Extended Projection Principle: According to this principle, sentences must have a subject; an overt NP, a non-overt NP or an expletive.

Generative: Able to produce grammatical utterances by the application of rules that can be precisely formulated.

Generative Theory: A theory of grammar that perceives language as being rule-governed. In this theory it is assumed that a finite set of rules are used to generate an infinite number of sentences.

Government: A syntactic relationship between a governor and an element that is governed e.g. a verb is said to govern its object.

Indo- European: The family of cognate languages spoken over the greater part of Europe and extending into Asia as far as Northern India, e.g., English, French, German, Chinese, Japanese, etc.

Innate: that which is inborn, that which is natural.

Morphosyntax: Combining morphological and syntactic properties e.g. those of tense, person, number etc.

Performance: One's actual linguistic behaviour/ actual production by a speaker.

Principles: (i) In the most general sense, principles are rules, for instance a sentence in Kiswahili can be generated from a noun phrase and a verb phrase, that is, S→NP + VP. This is a rule; where, ***S*** refers to the sentence; ***NP*** is the noun phrase, while ***VP*** is the verb phrase.

(ii) Refers to the universal rules. Absolute universal principles are rigidly fixed; they are not learnt. Principles contrast with parameters. For instance, the property of embedment is true to all languages; that is, every language has a way of embedding a clause into another and another until a sentence of an unlimited length is produced. The property of word order is language specific, while some languages are SVO like Kiswahili, others are OVS, etc.

Subjacency Principle: No movement can move an element over more than one bounding node. Bounding nodes are NPs and IPs.

Structuralism: A theory in which language is considered primarily as a system of structures. (also referred to as ***structural linguistics***).

Structure Dependency Principle: All known formal operations in the grammar of any language are structure-dependent. (Chomsky, 1971: 30).

Structure preserving Principle: Structures established at the D-S must be preserved at S-S; that is, transformations must be structure preserving.

Surface structure: The actual utterance, that is, the structural representation of an utterance.

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

Transformation: A rule- governed operation that converts a basic structure into an acceptable but less elementary one. The surface structures (S-S) are derived from deep structures (D-S), using transformational rules.

Universal Grammar: Properties which are common to all languages, for instance, 'all languages are structured'; that is, in all languages, there are smaller constituents that pattern up in a very specific way to form larger constituents. This is a principle of Universal Grammar.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

In this chapter, work done by linguists on the two levels of grammar has been considered. First, an overview of the pre-generative view with regard to morphology and syntax has been given. Then work done by the early generativists has also been given. Focus was on whether they separated the two levels of grammar or not. As it shall be observed, to the early generativists, morphology was either seen as part of syntax or phonology; and as such, syntactic and phonological rules were used to analyse morphological aspects.

The approach of later generativists has also been considered in this chapter. To them, the two levels are separate and need to have independent rules that can be used to analyse the two components. Interface between morphology and syntax was also considered. With regard to the interface, it has been demonstrated in the study that as much as the two levels are distinct and observe different principles, they indeed have coordinate interdependency.

Finally, in this chapter, the theoretical framework was also considered. The transformational generative theory of grammar is the one that has been applied in the study. Consequently, it has been made explicit in this chapter: what the theory is all about, why it was adopted, and how it was used to answer the research questions. In particular, its relevance to the study of Kiswahili morphosyntax has been demonstrated.

2. 2 Morphology and Syntax in Generative Grammar

Over the years, the grammatical levels of morphology and syntax have had varying definitions in terms of their distinctiveness and role in the grammar of language. However, in spite of the varying working views, Anderson (1992) posits that, traditional grammars saw the study of words and their relations as absolutely central to an understanding of the working of language. Anderson (op cit.) further says that the analysis of word structure was, in fact, the context in which most of the problems we now call “syntax” and “phonology” arose and as such, it is probably no exaggeration to treat morphology as the foundation of traditional linguistics. Anderson’s (Op. cit) assertion is quite true because the understanding of syntactic structures derives from an understanding of individual morphological elements, which are the building

blocks of syntax. Likewise, the relevance of individual phonological elements is only captured when they function within the word.

The synchronic structural theory, especially in the United States, which had began by dropping the question of word structure, and denying that there was anything of interest to study there (Anderson (Op. cit.)), had later to study morphology as a separate level of grammar. Katamba (1993: 4) asserts that, "When structuralism was in its prime, especially between 1940 and 1960, the study of morphology occupied centre stage."

There are many structural linguists who investigated issues in the theory of word structure. Nida's course work entitled 'Morphology', which was published in 1949, codified structuralism theory and practice. One of the structuralist contributions was the recognition of the fact that words have intricate internal structures. Nida (op cit.) argues that structuralism introduced morphology as a separate sub- branch of linguistics and that its purpose was to study morphemes and their arrangements in forming words. Indeed as postulated by structuralism, words have an intricate internal structure that is worth being studied. For instance in Kiswahili, the study has shown that words, especially verbs, are made up of morphemes that pattern together in a very specific way and that each of the morpheme bears very specific semantics. Likewise, the study has shown that there are morphemes that not only have relevance to the word but also to the entire sentence structure.

Unlike the traditional grammarians (pre-generativists) and the structuralists, the early generativists never handled morphology and syntax as separate levels of grammar. Spencer (1991) points out that:

> *In the earliest models of generative grammar, morphology as such scarcely existed. What happened is that allomorphic variation was regarded as primarily the result of the operation of phonological rules; and other aspects of word formation, including compounding, derivation and inflection were handled by rules of syntax.*

Spencer (op cit.) further notes that, the model was crystallised in the form of Chomsky's 'Aspects of the Theory of Syntax' (1965). According to this model, inflectional morphology was regarded as part of the phonological component, which served to spell out the phonological realisation of syntactic features, which in turn were distributed by syntactic rules. On the other hand, derivational morphology was considered to be as a result of transformations operating over deep structures, in which, for instance, a nominalization was represented as an underlying sentence. This assertion is true following Chomsky (1957), who viewed syntax as "the

grammatical sequence of morphemes of a language" (Chomsky, 1957: 32). The same is true based on (Lees 1960); who derived compounds transformationally from underlying sentences and assigned the internal arrangement of all linguistic elements within larger structures to the syntax. This was done regardless of whether the structures involved were above or below the word level. This implies that early generative linguists worked as either syntacticians or phonologists. Consequently, apart of the grammar (in this case morphology) that traditionally had its own rules and structures was eaten up completely by transformational syntax on the one hand and by the generative phonology on the other.

The analysis of inflectional morphology as part of the phonological component was in contradiction to the supposed morphological rules that are used in such analyses. The fact is that inflectional morphology is part of the morphological component and not part of the phonological component as it were. This is because inflectional morphemes combine with other morphemes using morphological rules to form words. In the study, these morphemes have been analysed as being morphosyntactic categories that affect the word and it is only when the affected word functions at the syntactic level that the relevance of the inflectional morpheme to syntax is realised, otherwise, it is a property of the word. In other words, phonological as well as syntactic rules cannot be used to analyse inflectional morphology.

The derivation of nominalised derivatives as well as compounds transformationally violates the morphological theory that demands that such elements be analysed using a morphological rule. In the study, nominalised derivatives are shown to be derived from words that belong to other word classes using nominalization derivational affixes. Compounding is also analysed in the study as a morphological process that involves the use of two base forms to create a compound word.

Similarly, the early formulation of the theory of 'Auto lexical Syntax' presented by Sadock (1985) proposed to treat the organisation of morphological units by a single homogeneous set of syntactic rules, regardless of whether significant relations occur within or across the boundaries of the word. His view in this paper is that the minimal elements, which make up syntactic structures, are generally morphemes, not words. This assumption goes against the morphological theory that views morphemes as minimal elements that make up the word. It also violates the syntactic theory that views words as minimal elements that make up syntactic structures. This is captured in the study where morphological rules act on the morphemes at the word level, while

syntactic rules act on words at the sentence level and not on individual morphemes.

Failure by the early generativists to give autonomy to each level of grammar had several consequences as exemplified by Hammond & Noonan (1988). The authors point out that, by incorporating morphology into syntax, first, syntax became more complicated because even simple lexical items were handled by transformations. Secondly, this led to complex and powerful theories of phonology; it necessitated a theory in which information about morphological conditioning could be formalised in a purely phonological manner. This caused a problem in terms of drawing the boundary in the two, since phonology took as input the product of word-formation; and using rules of transformational component, abstract analyses were made. Thirdly, morphologically conditioned alternates were handled as though they were phonologically conditioned alternates. Finally, the fact that affixation and compounding was handled using syntactic rules meant that, there was violation of the principle of "syntactic rules not handling the internal structure of words" (Hammond and Noonan op cit. pg. 3- 4).

It is apparent that early generativists never gave morphology and syntax their rightful place; instead morphological aspects were either handled using syntactic or phonological rules. On the contrary, later Generative linguists realised that it was not appropriate to take such an approach; they saw the need for a separate level of morphology that could deal with morphological issues. Anderson (1992: 81) points out this when he says that:

> *By the early 1970's, reductive attacks on morphology were in retreat. The programme of generative semantics, within the 'syntactic' operations brought forth a reaction which largely focused on the 'lexicalist hypothesis', according to which words were to be treated as minimal, indivisible entities from the point of view of the syntax. The acceptance of the lexicalist hypothesis, however, brought with it a realisation that if the syntax cannot combine morphemes into words, then some other mechanism had to be used.*

2. 3 Morphology and Syntax as Separate Levels

Indeed it is true that morphology and syntax are separate levels of grammatical analysis. Whereas morphology is the study of word formation, syntax is the study of sentence formation. This follows from the autonomous search model (Forster 1976: 60) which states that:

> *The perceptual attribute of the word calls up the phonetic or orthographic access file, from which a set of lexical items is selected for comparison with the input word. The items are then examined in the order of their frequency of occurrence in the language, so the general sentence context in which the input word occurred has no influence on the word recognition in this model.*

This is also in line with the autonomous syntax principle (Radford, 1998: 31), which states that, "No syntactic rule can make reference to pragmatic, phonological or semantic information."

Anderson (op cit. Pg. 38) argues that, morphology and syntax represent distinguishable domains of grammar for which distinct theories may be required and not just two parts of the grammar, which happen in some languages to be separable. Spencer (1991: 69) points out that it is Chomsky (1970) who was the first one to realise this when he said that:

> *The primary importance of this paper for morphology was that it pointed to the need for a separate theory of derivational morphology; distinct from the theory of syntactic transformation*[3]*. Transformations should capture regular correspondences between linguistic forms; and that idiosyncratic information belonged to the lexicon.*

Chomsky's argument is an indication of the departure from the use of syntactic rules in handling morphological aspects. It is an admission to the fact that rules distinct from those of syntax operate in the lexicon to describe words. Lexical rules had to be formulated to handle constructions that were initially described by either phonological or syntactic rules. By so doing, morphology ceased to be part of either syntax or phonology; it now existed in its own right as an independent level of grammar, worth being studied.

Anderson (op cit.) gives the example of passivisation, where on the one hand, transformational rules (TRs) derive the passive sentences from the underlying active sentence, while on the other hand, the passive participle counterpart is derived using morphological rules. (Anderson, op cit. Pg. 38). This implies that when two elements form part of the same word, it is the morphological rules that account for their interrelations, but when distinct words are involved, their relative positioning is governed by syntactic rules. The conclusion drawn here is that on the one hand, morphology and syntax are two independent levels, and on the other, they have interface.

Most of the research carried out after 1970 focused on the separation of levels as it had been realised that it was not possible to explain everything about language using one or two types of rules. Jackendoff (1972) followed in the footsteps of his predecessor by proposing his extended lexical hypothesis. Jackendoff's hypothesis was based on the premise that transformations should only be permitted to operate on syntactic constituents and not on words. This ensured that transformations were prevented from operating on purely morphological material, which instead

[3.] *See Hoekstra et al. (1980), Newmeyer (1988) and Scalise (1984).*

came under the domain of the morphological theory. This gave morphology its own place.

The two linguists, that is, Chomsky and Jackendoff laid the groundwork for the elaboration of a uniquely morphological component, a task that was taken up by Halle (1973). Halle, (op cit.) saw the re-emergence of morphology as a separate level of grammar. This is the linguist who first proposed that, the model should include an autonomous morphological component that could be given complete responsibility for the creation of words, thus removing syntax from word-formation entirely. The new component would consist of a dictionary, with all and only the words of a language, a list of morphemes, a list of word-formation rules and a filter; which specifies exceptions and adds idiosyncratic information. With this, morphology would be studied on its own as a separate level of grammar and this is what has been happening to date.

Aronoff (1976) also concurs with Halle (1973) on some of the ideas; he assumes the existence of a separate component in grammar, which houses word-formation rules. However, unlike Halle (op cit.), who regards the morpheme as the basic unit of the lexicon; Aronoff adopted a theory of word-based morphology. According to Aronoff, word formation rules operated on words and not morphemes. He also differs with Halle (op. cit) in the sense that he restricts himself to derivational morphology, regarding all other aspects of morphology e.g. cliticisation, compounding and inflection, as syntactic (Spencer, op cit.).

Though for long time research evidence pointed to the fact that morphology and syntax were separate levels of grammar, some linguists in the 1980's still could not fully subscribe to the idea. Spencer (op. cit.) for instance mentions Baker (1988a), who, on the one hand, accepts the claim for a separate component but on the other, maintains that word-formation may as well take place in syntax and phonology respectively. Likewise, Borer (1988) and Shibatani & Kageyama (1988) rejected the idea that morphology and syntax are two separate levels of grammar; to them, the former is part of the later. However, in spite of the controversy, there is enough evidence to show that the two are distinct levels of grammar in that while morphology deals with word formation, syntax deals with sentence formation.

Despite the fact that the question of the autonomy of the two levels of grammar is quite controversial, there is enough evidence to show that the two levels of grammar obey different rules as exemplified by Anderson (1992). The author says, lexical rules, but not syntactic rules are structure preserving. Likewise, lexical rules may relate items from distinct lexical categories and as such there is no reason to give syntactic rules the power to change category. On the same

note, Spencer (op cit. Pg. 39- 41) says that:

> *Lexical rules are local in the sense that they can only refer to the material within the subcategorisation frame of a single item. Syntactic rules on the other hand can relate positions not within a single item's subcategorisation frame. Syntactic rules operate over domains characterised by the principles, which are not in general to the immediate subcategorisation domain of a single item. Finally, lexical rules may have access to thematic relations associated with particular arguments, but not syntactic rules. Information about the theta role associated with a given argument position is in general a lexical characteristic of individual items. Such information is not accessible to syntactic rules.*

The foregoing gives evidence to the fact that rules for the internal structures of words are distinct from rules that organise words into phrases and larger constituents. If this is the case; then the conclusion drawn here is that, morphological processes are distinct from syntactic ones and as such, both components are objects of inquiry.

2. 4 Morphology-Syntax Interface

As much as morphology and syntax are separate levels of grammar, recent findings by linguists have also demonstrated that there is interface between the two levels of grammar.

Morphosyntax is the study of properties of a linguistic unit that have effect on both morphology and syntax. Following the research done by linguists like Morton and Long (1976), Schubert and Elimas (1977), Fischler and Bloom (1979), there is enough evidence to show that sentence context has effect on the word. This implies that as much as the two levels of grammar are independent of each other, there is interface between them. In his preface, Spencer (1991: xii-xiii) acknowledges this:

> *Morphology is an unusual amongst the sub-disciplines of linguistics. This is because much of the interest of the subject derives not so much from the facts of morphology themselves, but from the way that morphology interacts with and relates to other branches of linguistics such as phonology and syntax. The importance of the interface between morphology and the rest of linguistics has been responsible in large part for the revival of interest in morphology over the past fifteen years. Nowadays, it is simply not possible to do certain types of phonology or syntax without an appreciation of the implications of morphology. It is impossible to understand the full implication of contemporary research in morphology without a basic background in phonology and syntax.*

Spencer (op cit. Pg. 23) gives the example of the passive morphology, which has an effect on the syntax. He says that:

> *Languages have ways of altering the relationship between the verb and its argument. Such relationships are signalled by inflections born by the verb. The passive in English is expressed by a mixture of syntax and morphology. In syntax, the assumption of a common*

underlying source for related structures meant that an active sentence had the same deep structure.

Spencer (op cit.) argues that, this is the way that an important piece of English morphology, namely, the passive participle form of the verb, is the responsibility of a syntactic rule in the standard theory; since it has repercussions for the syntactic organisation of the sentence as a whole. In other words, the passive verb affects the entire syntactic structure. This is also the case in Kiswahili. The study has shown that the passive morphology, which affects the word structure and meaning, also has syntactic consequences in Kiswahili.

Anderson (1992: 99) has also contributed enormously to the field of morphosyntax. Anderson says:

> *Words have a morphosyntactic representation, which characterise all (and only) those properties that are relevant to the principles of both word formation and of syntax. Only that information about a word that is encoded in this representation is available to the syntax, and only that information about syntax that is provided there is available to morphology. The morphosyntactic representation of a word is the only aspect of it that is visible to syntax, and the only way the syntax can affect the form of a word is by manipulating its morphosyntactic representation.*

Anderson (op. cit) further gives the example of inflectional morphology, which has the property involving an interaction between word formation and syntactic principles, contrary to the strongest form of the lexicalist hypothesis. In his argument, Anderson (op cit. Pg. 102) asserts that, "Morphological properties of words appear to be determined by an interaction with the syntactic environment in which they appear, or of properties that must be visible to syntactic principles for these to perform their intended function."

Anderson's argument concurs with the one put forth by Katamba (1993). In his argument, Katamba says that, the inflectional morphology of words is assigned by the syntax and depends on how a word interacts with other words hence, inflection is syntactically motivated. This argument is true because as observed in the study, whatever affix that is attached to a given root, depends on the occurrence of the word in the construction; that is, its position in relation to the other elements in the syntactic construction. For instance, in English, the choice between the use of verbal suffixes ***-ed, -s*** or ***ø*** (zero morpheme) depends on whether the noun/ subject is in singular or plural, and whether it refers to first, second or third person; the choice is not random. The same is the case in Kiswahili. It has been illustrated in the study that the structure of some linguistic items in the syntax is motivated by the grammatical categories that are marked on the

noun or pronoun in the subject position. Katamba (op cit.) has based his evidence mainly on European and a few African languages and not necessarily on Kiswahili; though he does mention about the existence of morphology-syntax interface in Kiswahili. This study gives concrete evidence on the existence of interface between morphology and syntax; based on data from Kiswahili.

With regard to other morphosyntactic features, Anderson (op cit.) argues that when morphosyntactic features are introduced, they affect the structure in which they appear. They also determine the range of lexical items that may be inserted in various positions in the syntactic structure; that is, the type of morphosyntactic feature determines what else occurs in the structure and how it occurs.

Another linguist that has contributed in the area of morphosyntax is Tallerman (1998). Tallerman (op cit.) argues that heads influence their dependants by first, selecting dependants of a certain class and not just any and secondly; by requiring that their dependents agree with various grammatical features of the head; such as gender, number and person. For languages that make use of the grammatical feature of gender, this is the property of the noun; hence the dependants of the head noun often display gender agreement with that of the head. This; according to Tallerman is an illustration of the interface between morphology and syntax. Tallerman's illustration features throughout the study. There is an interdependence relationship between heads and their dependents in Kiswahili that demonstrate the interface between morphology and syntax.

Most of the researchers mentioned above, together with many others that have worked in the area of morphosyntax; have carried out studies mainly on Indo-European languages and not necessarily on African languages and in particular, not on Kiswahili. For instance, Spencer (op. cit) has done quite some work on Russian, English, Turkish, Latin, Chukchee and Togalog. On the other hand, Beard (1987) has carried out quite some research on German; while Zwicky (1985) has as well worked on German. This are just few examples. Even for the linguists who have carried out research on Kiswahili, most of them have dealt with the analysis of Kiswahili structure but not so much of Kiswahili morphosyntax.

However, closer home is the research done by Mwangi (2001), who looked at morphology-syntax interface in Gikuyu. Specifically, the author looked at the morphological and syntactic implications of four valence-changing morphemes in Gikuyu, namely: the applicative, the

stative, the passive and the causative. The author has shown the syntactic effect of the affixation of these morphemes within the Merger theory (Marantz, 1984) and the incorporation theory (Baker 1988 a & b). We have also analysed these features in the present study. Since both Gikuyu and Kiswahili are Bantu languages, it follows that the morphosyntactic behaviour of these valence-changing affixes in the two languages is close. However, the main difference between Mwangi's (2001) work and the present study is with regard to theory application. While the author applies the Merger (Marantz, 1984) and the Incorporation (Baker, 1988) theories, the transformational generative theory has been applied in this study. The other difference is with regard to individual language parameterised properties that triggers slight differences in the behaviour of the affixes.

While dealing with the syntactic criteria for noun classification in Kiswahili, Mgullu (1999) admits that the aspect of agreement is very important in determining the classification of nouns. He points out that the agreement features taken by the other linguistic elements in the construction, for instance, the verb, adjective etc; depend on the noun in question. The author gives an example from the ***ku***- class, where every linguistic element occurring in the same syntactic construction with the noun from this class, will bear the prefix ***ku***-.

C2 (35) ***Ku***- imb- a ***ku***- na- vutia.

GER[4]- sing VS AGRs- PROG- attract

'Singing is attractive[5].' (Mgullu 1999: 151)

The example given above is an illustration of the interface between morphology and syntax, where the gender feature that is marked on the gerundive motivates the occurrence of the gender marker ***ku-*** on the verb. However, in spite of giving such examples, the author does not give further analysis. He, for instance, does not show how the word affects the entire syntactic structure; neither does he make explicit the interaction between the two levels of grammar; and yet the above example shows that indeed there is interface between morphology and syntax. Likewise, apart from giving the above examples, the author does not give account in terms of what triggers interface or the morphosyntactic rules that describe the above morphosyntactic

[4]. *Gerundive marker is the same as the derivational marker as well as the infinitive marker in this study.*

[5]. *Own translation*

process. The study intended to make explicit the morphosyntactic processes that occur in Kiswahili, account for their occurrence and state the underlying rules that describe the established processes.

The same is true to the writers of TUKI, who admit that morphology interacts with syntax in Kiswahili (TUKI: 1988). This admission is very significant because in itself it is proof of the fact that there exists a point of interface between the two levels of grammar in Kiswahili. However, these researchers do not go further than giving a few examples of derivational and inflectional morphology, no analysis or account is given to that effect. Here is where the study picks up. In contributing to the already existing knowledge in the area, the study gives an explicit account of exactly what happens when the two levels of grammar interact. This is done through analysis, exemplification and the formulation of rules underlying individual morphosyntactic processes. This does not in any way suggest that the work done by the preceding linguists is not valid. On the contrary, in fact the study basically draws from and builds on their work. The only contrast is that, whereas their work laid emphasis on other areas of Kiswahili grammar, this study specifically looked into the morphosyntax of Kiswahili, based on the transformational generative approach.

Another outstanding linguist that has done an enormous amount of work on Kiswahili is Abdulaziz (1996). This linguist has carried out a study on the '*Transitivity in Swahili Clause'* based on the systemic-functional approach. Emphasis in this work was on the contextual, interaction and functional view of language, that is, language in use. In analysing the clauses, he described not only the purely syntactic aspects of the clause structure, but rather also looked at the syntactic-semantic behaviour in syntax. In other words, his investigation was on the relationship that holds between the elements of the clause structure and their semantic features. The linguist gives examples of grammatical structures that would be naturally considered as being unacceptable by native speakers of Kiswahili but which, when considered under specific contexts turn out to be acceptable. He also gives examples of elements, which would be assigned the same syntactic roles, and yet their semantic roles are quite distinct. He argues that the semantic aspect is quite relevant in the description of syntax. Basically, his emphasis was on syntactic-semantic relations of transitivity in clause structure. It is admissible that the linguist has given a detailed analysis of the semantic roles that participants take in clause structure; and how certain processes will either increase or reduce participants in the clause (elements that feature in

section 4. 3. 1. 3 of this study). However, whereas his analysis was based on the syntactic-semantic aspect, this study investigated the morphological-syntactic aspect. Likewise, whereas the linguist Abdulaziz adapted the Systemic-functional theory of grammar, whose emphasis is on meaning and social functions of language; in this study, the transformational generative approach, whose emphasis is on rules, was adapted; language is hereby seen as an aspect of the human mind. Though his approach is different, it is no doubt that his work is of considerable interest to the understanding of syntax- semantic interface, and more so to the understanding of Kiswahili as a whole. His work contrasts sharply with most of the work done on Kiswahili grammar that has concentrated mainly on the description of the structure of Kiswahili. So, emphasis in his work is on the structure and use of Kiswahili; and not on the analysis of Kiswahili morphosyntax; a good enough reason why this study was carried out. This however, does not mean that the work done by other linguists is not important; in fact it is on the basis of the purely morphological and syntactic descriptions that we come to understand how the two levels interact. However, this study goes beyond the description of the structure of Kiswahili as it were. It investigates the interface between morphology and syntax based on empirical evidence; and goes ahead to account for the morphosyntactic processes by identifying the categories that trigger interface as well as establishing specific morphosyntactic rules; this is in line with the theory that is being applied.

Unlike the linguists mentioned above that have either just made mention of the existence of morphology-syntax interface or have dealt with other areas of Kiswahili grammar all together, the linguist Vitale (1981) has done quite some remarkable work on morphology-syntax interface based on the transformational generative theory. Some of the elements analysed by the author include the passive and active constructions, causation, reflexive voice, the reciprocal voice, nominalization and the grammatical categories of gender and number. The author has analysed these elements showing their relevance to morphology and syntax based on the transformational theory of grammar. However, though these elements have also been analysed in the present study, the way the analysis has been done is quite different. In this study, a systematic approach has been adapted where each element has been analysed under four levels (based on the data on words as well as sentences); namely; the morphological, syntactic level, rule level and finally the representational level. This analysis makes explicit exactly what happens when morphology and syntax interact in Kiswahili. With regard to reflexivisation and reciprocation, while the author

has used lexical insertion rules to insert the reflexive and the reciprocal morphemes into their respective positions; in this study, reflexivisation and reciprocation is shown to be as a result of the application of movement rules. Likewise, many other elements that trigger morphology-syntax interface in Kiswahili have been analysed in this study, which Vitale (1981) did not analyse; these include, the grammatical categories of tense, the comparison, person and Aspect; class-changing derivational processes that are triggered by adverbialisation derivational affixes, verbalisation derivational affixes, the conversion processes; compounding and idiomization processes. Likewise, lexical information has been analysed as resulting into morphology-syntax interface in Kiswahili; this was not analysed by Vitale (1981). Specifically, it has been shown that categorial, subcategorial, selectional and thematic information trigger morphology-syntax interface in Kiswahili. Under class non-changing derivational processes, the other elements that we have analysed in the study that do not feature in Vitale (1981) include those of the stative and the applicative morphology. Finally, we have also analysed pronominalisation processes, features of pro and PRO and have demonstrated their relevance to both morphology and syntax; all these have not been analysed by Vitale (1981). In other words, this study has gone beyond what Vitale (1981) did by analysing many more morphosyntactic categories not analysed before. The study has also given a systematic and detailed analysis of morphology-syntax interface that is triggered by different categories in Kiswahili; and under each one of them, morphosyntactic rules and representations have also been given. So, this work builds on and fills in what Vitale (1981) has done, hence, positively contributing to the already existing knowledge on morphology-syntax interface in Kiswahili.

So far, from the research done by linguists[6], there is enough evidence to show that there are linguistic features that have relevance to both morphology and syntax. This is also the case in Kiswahili as demonstrated in the study. However, proponents of the strong lexicalist hypothesis like Lapointe (1980 & 1988), still deny that syntactic rules ever refer to anything besides the features that define syntactic categories. On the other hand, proponents of split morphology argue that it is only inflectional morphology that is relevant to syntax, and not derivational. One such proponent is Robins (1989: 241) who argues that:

[6]. *Among them are (Kapinga, 1983; Mbaabu, 1985; Mdee,1986; Mohammed, 1986 & 2001; Kabugi, 1995; Ndalu,1997 and Waihiga,1999), just to mention a few.*

Derivational formations, by definition, do not directly involve the word in syntactic relations with other constituents of the sentences in the way that inflections do. Their grammatical relevance lies principally in the word class that result from their use.

Following such controversies, Webelhuth (1995: 305- 6) argues that:

It is only the weak lexicalist hypothesis that gives the widest berth to morphosyntax, allowing it to affect morphology generally, regardless of its classification in inflectional or derivational terms.

The approach taken in this piece of work is based on Webelhuth's (1995) assertion, that is, the weak lexicalist approach, which gives room for the interface between morphology and syntax.

2. 5 The Generative theory

In theoretical linguistics, generative grammar refers to a particular approach to the study of syntax. A generative grammar of a language gives a set of rules that correctly predict the combinations of words that form grammatical constructions. Generative grammar originates in the work of Noam Chomsky who first introduced the theory in 1957, when he wrote his first monograph. However, research evidence shows that before then, the linguist Otto Jaspersen had recognised that the structure of language comes into existence in the mind of the speaker. Thus, he had observed that language was an aspect of the human mind. Chomsky in Webelhuth (1995: 386-387) notes that:

These traditional concerns of Jaspersen were displaced in part by behaviourist currents, and in part by structuralist approaches. The two radically narrowed the domain of inquiry, while much expanding the data base for some future inquiry that might return to the traditional and surely valid concerns. Generative grammar can be regarded as a kind of confluence of long forgotten concerns of the study of language and the mind and new understanding provided by formal sciences.

With regard to the above proposition, Newmayer (1966: 3) notes that there are some linguists who hold the view that Chomsky was a relative late-comer to the idea of characterising linguistic regularity by means of a formal generative grammar. The argument goes that Chomsky's (1957) 'syntactic structures' came after Harris and Hockett had put forward the idea of generative grammar in early 1950; and that Bloomfield and Jacobson had presented generative descriptions even earlier. However, Newmayer (Op. cit) refutes such claims and instead argues in support of Chomsky. His position is that; modern attempts to present a generative grammar of a language

encompassing all levels of description was Chomsky's 1949 bachelor's thesis; and that this work was not influenced by any of the above linguists.

In acknowledging Chomsky's contribution, Robins (1989: 279) points out that:

> *Chomsky has initiated and carried through a revolution in the theoretical linguistics, in the way in which languages are researched and in the process to which linguistics should be directed. This has been done not only by Chomsky but also by the other linguists. Though they may differ in their basic concepts and analytic frameworks, they all agree that structural linguistics did not go further enough.*

Whether or not the term revolution is appropriate, there was an important change of perspective: from the study of behaviour and its products to the inner mechanisms that enter into thought and action. According to the generative theory, behaviour and its products is not the object of inquiry but rather the data that can be used to provide evidence about the inner mechanisms of the mind. This implies that the properties and patterns that were the focus of attention in structural linguistics, find their place, but as phenomena to be explained along with innumerable others, in terms of the inner mechanisms that generate expressions. Under the generative approach therefore, the study of language is mentalistic, it is concerned with the mental aspects of the world. Chomsky's point of departure is his observation that a fluent speaker of a language possesses the ability to produce and to understand sentences that he/ she have never heard before. He calls this ability the competence of the native speaker. The actual production of sentences by a speaker is his performance. Haegeman (1994) argues that, according to the generative theory; human beings have a genetic endowment that enables them to learn language. It is this innate capacity for language learning common to all human beings, which generative linguists seek to characterise. This knowledge that is common to all human beings is what is referred to as the principles of Universal Grammar (UG). Chomsky (1976: 26) defines UG as, "The system of principles, conditions and rules that are elements of all languages; the essence of universal language."

Based on the definition of UG given above, the assumption is that there is that part of knowledge of language that is common to all human beings, regardless of the language that they speak. This knowledge is innate and it is not learnt. It is this innate ability that enables children to acquire language rapidly and uniformly regardless of the type of language that they are learning or the deficiency in the linguistic environment that they are exposed to. The task of the generative linguist therefore is to characterise this genetic capacity.

Although most linguists argue that there has been a Chomskian revolution in linguistics, e. g. (Scarle, 1972; Langacre, 1979; Newmayer, 1980 and Sampson, 1980); there are some that are opposed to Chomsky's revolutionary development in linguistics. These include: (Chafe, 1970; McCawley, 1968; Lakoff, 1971; Murray 1980 and Koerner, 1983). They argue that what Chomsky did was just a natural outgrowth of the American structural linguistics (which he himself admits in Chomsky 2000). This argument is based on the fact that Chomsky's syntactic structures retained crucial concepts of its historical antecedents, especially Saussure's idea of the existence of structural interrelationships of elements in the language. They also in particular question the existence of two levels of representation; the deep structure and the surface structure. In spite of such misgivings, the generative theory has been fruitful and influential. The best that can be done is to adapt Newmayer's (1996: 32) conclusion that:

> *Chomsky's revolution is a revolution within structural linguistics, one, which altered our conceptions of the nature of linguistic structures and opened the way to an understanding of how nature bears on the workings of the human mind.*

That is indeed the case in that as much as Chomsky retained some features of the structural approach to language study, he and colleagues departed from the concentration on the inventory and the analysis of utterances from a corpus without seeking to characterise the rules that permit native speakers to produce an infinite number of grammatical structures. Likewise, unlike the structuralists, Chomsky and his proponents sought to discover the similarities that held between structures that seemed to be different from the surface as well as make a number of generalisations that could not be captured from the surface structure. However, it is important to mention that the distinction between the deep structure and the surface structure is made redundant in the Minimalist programme (Chomsky, 1993).

As earlier mentioned, the generative theory of grammar has been widely adopted by linguists in the study of different languages, especially, those of indo- European origin. Likewise, the theory has been widely used in the study of human language as a whole, and especially in the search for the Universal grammar (UG) [7].

Contrary to the above, the study of the structure and form of Kiswahili has in most cases been based on the traditional approach, with a few exceptions. So far, the transformational generative

[7]. *See also Chomsky (1957), Cullicover (1997), Haegeman (1991, 1992) and Radford (1988).*

theory has not been applied to a large extent, especially in the study of different aspects of Kiswahili; this is despite the fact that the theory is many decades old.

Nevertheless, recent studies have shown that there are linguists in Kenya that have applied this theory especially in the study of the morphological aspect of certain Bantu languages. Mukuthuria and Chimera (July 2004) posit that: T. G. G is one of the theories that have been fruitful in analysing different languages at the morphological level. They specifically explain how T. G. G has succeeded in analysing the morphology of some Bantu languages of Kenya. They give examples of linguists such as Christe (1973), who has used the T. G. G to analyse the Kiswahili morphology. They also mention Wald (1973), who has also used T. G. G to analyse agreement in Kimvita morphology. Finally, they have also mentioned the linguist Baya (1993), who has applied T. G. G in the analysis of the auxiliary verb in Kiswahili and through his analysis; he makes explicit the fact that T. G. G can be used to handle elements smaller than the sentence.

Research carried out by Mukuthuria (1997) was also based on the T. G. G. Using this theory, Mukuthuria (op cit.) analysed the verb in Kitigania, a dialect of Kimeru that is spoken in the Eastern parts of Kenya. Mukuthuria has made it explicit in the study that the morphemes of the verb in Kitigania are arranged in a very specific way and that a given morpheme can have multi-functions. This is a very important study, though its focus is on morphology and not on morphology-syntax interface, which was the area of interest in this study.

So far, none of the above linguists has used the theory to carry out studies on Kiswahili morphosyntax but instead their studies have mainly been at the morphological level. However, as earlier mentioned in the literature review, Vitale (1981) has used the transformational generative approach in the study of morphology-syntax interface. Contrary to the author's work, this study has given a more systematic analysis of morphology-syntax interface in Kiswahili that is triggered by quite a variety of morphosyntactic categories that have not been considered by Vitale (1981).

2. 6. Theoretical Framework

In this study, we have used the transformational generative theory of grammar in analysing the interface between morphology and syntax in Kiswahili. This is an improved version of the

Syntactic theory that came in (1965), with the publication of Chomsky's ***Aspect of the Theory of Syntax (Aspects***). In this model, grammar is not limited to what is heard and seen but rather it is defined in terms of our innate, subconscious internal system of rules that constitute the human language capacity. The main aim of the transformational generativists is to build a model of the human's internal rules that are used to generate only grammatical and not ungrammatical sentences. This model therefore perceives grammar as a reflex of the native speaker's competence; hence, language is seen as an aspect of the human mind. In adapting this theory, our main aim is to see whether the theory effectively handles the aspect of morphology-syntax interface in Kiswahili. An attempt has been made to give an alternative theory where the T. G. G has failed.

Unlike the Syntactic theory and the later versions of the generative theory, it is in the transformational generative theory that the concepts deep structure and surface structure were introduced. Chomsky proposed that beneath every sentence in language, there is a deep structure. In the T. G. G, the deep structure, which is the base component of a language, has the lexicon and a set of categorical rules (the basic phrase structure rules). The lexicon lists all the vocabulary words of the language and associates each one of them with the syntactic, semantic and phonological information required for the correct operation of rules. This information is represented by the use of features. The basic phrase structure rules are used to generate a set of phrase markers that have in them slots to be filled by items from the lexicon. Based on the syntactic information provided in the lexicon, the phrase structure rules permit only well-formed structures and not the ill-formed ones. The deep structures are the input to the semantic component, which describes their meaning. In other words, the deep structure represents the core semantic relations of a sentence. The deep structure is then converted using transformational rules into a surface structure that corresponds more closely to what is pronounced and heard.

The rationale that is given by transformational generativists is that just as the surface similarities conceal underlying differences that cannot be represented using the phrase structure grammar, surface differences also conceal underlying similarities. These similarities can only be captured using a transformational grammar. So, in this model, in addition to phrase structure rules, Chomsky claims that the grammar also require transformational rules, which transform phrase markers into other phrase markers by moving, adding and by deleting other elements. Unlike phrase structure rules in which one element is re-written as a string of elements,

transformational rules (TRs) act upon the output of phrase structure rules (PSRs), to give the surface structure (S-S). Therefore, in this model, transformational rules apply after the phrase structure rules have applied. The surface structure, which is the transformational component, is the actual final utterance, words that are spoken or written. The surface structure is the input to the phonological component.

Robins (op cit.) argues that PSRs are inadequate for a full structural exposition and therefore incapable of explicating the open-ended creativity of natural language. He explains that this is why TRs were introduced, in order to handle structures, which involved relationships that could not be handled by PSRs. An important aspect of this theory is that rules are not prescriptions of behaviour, which the grammarians impose on speakers. On the contrary, they are statements of principles responsible for the observed regularities in the speech or writing of users of a particular language. The task of the grammarian or linguist is to state the rules that are in each component. These rules represent the speaker's competence. Consequently, if a speaker knows how to produce and understand sentences in his/ her language, then it follows that he/ she has internalised the rules of the language. In the present study; the rules formulated are based on the structures generated by the respondents as well as those obtained from textbooks, so they are not prescriptive but rather descriptive; they are a reflection of what the speaker knows.

As earlier mentioned, in T. G. G, all the semantically relevant elements of a sentence, that is, those that determine the meaning are contained in the deep structure of the sentence. This produces two components of syntax; namely, the base component that generates the deep structures and the transformational component that generates the surface structures. This theory of language is represented graphically as below:

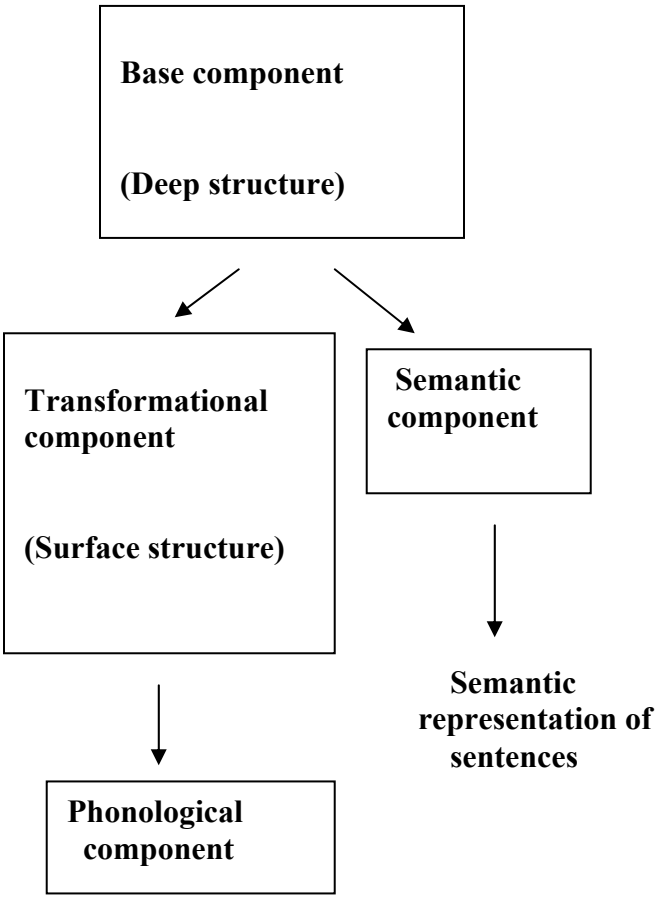


Figure 1. 1 Phonological representation of sentences.

According to T.G.G, linguistic phenomena are best analysed at a number of distinct formal levels, which are related to each other by special mappings; which transform one level into another as illustrated in ***figure 1.1*** above.

It is important to mention that in the recent past, much has happened and there are so many changes that have taken place in the field of linguistic (especially with regard to the deep structure and the surface structure); some initiated by Chomsky himself. Chomsky, who came up with the idea of the deep structure as being the input of the semantic component and not the surface structure has come out claiming that the surface structure determines at least some meaning. On the extreme end are the semantists who have come out arguing that there is no boundary between syntax and semantics and that there are no such structures as syntactic deep structures.

In the course of applying the basic theory, other sub-theories and principles were applied to an extent. Some of the theories, principles and parameters that interacted with basic theory in the study include; Government and Binding theory, the Projection principle, Mirror principle, Word order parameter, Strict adjacency principle, Structure dependency principle, Structure preserving principle and the Subjacency principle.

Government and Binding theory has been partly applied in ***section 4. 3. 1. 5*****,** where morphosyntactic processes involve anaphoric relations. In this section, it is shown that apart from the reflexive morpheme, the reciprocal morpheme, pronominalisation processes, features of pro and PRO being morphosyntactic, the binding of these elements is also morphosyntactic in Kiswahili and not just syntactic as it is with most languages. Theta theory on the other hand has been used to analyse the morphosyntactic category of thematic information in Kiswahili. In the study, it has been shown that the thematic information that is marked for a given predicate in the lexicon determines the word with regard to structure, meaning as well as thematic properties. At the syntactic level, this information has relevance to the entire sentence structure. The thematic information determines the linguistic elements to occur as arguments in order to receive the specified theta roles.

The projection principle has been observed in the present study. This is the principle whose emphasis is on the representation of the information that is specified within the lexicon, at the syntactic level. We have illustrated in ***section 4. 3. 1. 4*** that in Kiswahili, lexical information has morphological and syntactic consequences. Specifically, the categorical, subcategorial, selectional and thematic information has been shown to have effect on the word as well as on the whole sentence structure.

Word order parameter refers to the order in which words occur in structures. This differs cross-linguistically. This parameter has been observed in the study. We have demonstrated through the analysis that Kiswahili is an SVO language and as such, heads predominantly precede their complements. Strict Adjacency principle has also been observed in the study. This is the principle that demands that when an NP and a PP occur as complements within a phrase, the NP has to be adjacent to the head and not the PP. In analysing the subcategorisation information as being relevant to morphology and syntax, (***section 4. 3. 1. 4. 2***), it is observed that the NP complement occur immediately after the head as in example C2 (31) (i), while the PP complement follows the NP complement.

Another principle that has been observed is the Structure preserving principle. This is the principle that demands that structures established at the D-S be preserved at the S-S. This is ensured by the use of traces, which mark the base-generating site of a moved element. Likewise, the principle demands that when movement takes place, a moved category must land in a similar category position, e. g. an NP to an NP position. This principle has been observed in structures that involve movement. Structure dependence principle has also been observed in the analysis. This is the principle that demands that all formal operations be structure dependent; that is, act on constituents. In the study, movement is seen to involve constituents and not non-constituents, which would otherwise render the structures ungrammatical.

Finally, the Subjacency principle has also been observed in the study. This is the principle that restricts movement of elements over more than one bounding node; where a bounding node is either an NP or an IP in Government and Binding theory. In the analysis (see section 4. 3. 1. 3), there is no moved constituent that has crossed more than one bounding node.

The above theories, principles and parameters have only been mentioned in passing and where necessary, they have been used to make specific statements of theoretical significance.

Tenets of the Transformational Generative Theory

Below are some of the tenets of the transformational generative theory of grammar that guided this study.

(1). The transformational generative theory goes beyond surface language analysis as it were under the traditional and pedagogical grammar. In this model, the aim of research is mentalistic; that is, seeking to account for the internalised linguistic knowledge of speakers of a language. So, what is important for a linguist that uses this theory is to be able to account for how a child acquires high levels of linguistic competence given the impoverished nature of the data that he/ she exposed to (Chomky. 1965: 25). According to Chomsky, a theory should be explanatorily adequate; that is, it should be able to explain how a child acquires language. This is achieved by selecting a descriptively adequate grammar that is based on primary linguistic data. This tenet guided the researcher in carrying out the study in the sense that not only was the analysis of the words and sentences (collected from the respondents) done in order to establish the morphosyntactic processes but rather the processes were also formalised into rules. Rules are instructions of what goes on in the speakers' mind when constructing such morphosyntactic

structures. However, the study has shown that the question of accounting for the properties that are true to all languages (principles) is only partially handled by the model we are applying (see Ross, 1986 for a discussion on how). Chomsky's (1981) '*Lectures on Government and Binding'* (in what he referred to as principles and parameters) adequately handles this question. In the study, we have shown how far T.G. G goes in achieving this and of course its weaknesses.

(2). Under the transformational generative approach, grammar is viewed as a set of instructions for generating the sentences of a language. These instructions are a set of finite rules that are used to generate an infinite number of sentences. In other words, the approach puts emphasis on giving of account for the well-formed expressions of a natural language. This tenet also guided the study in the sense that in the course of formulating rules (that were based on the established morphosyntactic processes), not many of them were formulated for each structure but rather a finite set. Specifically, a single rule was formulated to account for related morphosyntactic structures, and the same could still account for an infinite set of potential structures that are based on the morphosyntactic category in question. This is an illustration of the creative aspect of language. Likewise, the rules that have been formulated only account for grammatical morphosyntactic structures in Kiswahili, which it (the rule) also assigns a structural description.

(3). The approach puts emphasis on the study of competence rather than performance. This is because language is seen as a mental reality. Consequently, focus in this theory is on the characterisation of what the speaker knows (internalised linguistic knowledge). By formulating rules that are based on the morphosyntactic processes established from the analysis of words and sentences constructed, as well as those taken from textbooks, what we were doing is characterising what the speaker of Kiswahili knows with regard to morphology-syntax interface. By formulating such rules, the study has made explicit what happens in the mind of the speaker when he or she generates such constructions and this is the knowledge that the speaker has (competence).

(4) The transformational generativists emphasise the fact that language has two levels of representation; a deep structure and a surface structure. The deep structure represents the core semantic relations of a sentence and is mapped onto the surface structure via transformations. The rationale in this approach is that there are considerable similarities between the language's deep structures, which would reveal properties common to all languages that are concealed by their surface structures. In the study, we have shown how different surface structures are derived

from the deep structures; and the relationship that holds between them. Whereas the deep structures are generated using phrase structure rules, the surface structures are generated using the transformational rules. The transformational rules established reveal the relationship that holds between parts of a sentence as well as between sentences with the assumption that in spite of the variation in the surface structures, a fundamental structure exists underneath.

(5) Under transformational generative theory, transformations are structure changing. This tenet has been used in the analysis of Kiswahili morphosyntax in that on the application of the transformational rule, changes occur in the entire structure. In the study, we have used rules such as the deletion and addition rules, rules of permutation as well as rules of substitution.

CHAPTER THREE

METHODOLOGY

3. 1 Introduction

This chapter presents the methodology employed in carrying out the study. It specifically discusses the sampling procedure, techniques of data collection and data analysis.

3. 2 Description of the Study Area

The study was carried out at Egerton and Moi Universities. Egerton University is situated in Nakuru District, while Moi University is in Uasin Gishu District; both in the Rift Valley Province, Kenya. The two Universities formed the study area because of the suitability of the population therein. Though the setting is not native to Kiswahili, most of the population therein and especially those that major in Kiswahili use the standard variety of Kiswahili, mainly in writing.

3. 3 The Population of the Study.

The study sample comprised of 30 respondents out of a population of 77 students. These included 10 Fourth year Kiswahili undergraduate students, 5 of them from Egerton University and 5 from Moi University. There were also 10 First year Kiswahili Masters students, 5 of them from Egerton University and the remaining 5 from Moi University. 10 Second year Kiswahili Masters students from Moi University were also used as respondents. Since the population was not homogeneous, stratified purposive sampling procedure was used to select the sample. The respondents provided words, phrases and sentences that were used by the researcher to establish the morphosyntactic processes that occur in Kiswahili.

Basically, a sample of 118 words out of a population of 150 that had been provided by the respondents was used in the analysis. These were added to 18 more words that had been obtained from ten Kiswahili text books (***see Appendix 1***). In total 32 words that had been provided were discarded either because of errors or for having been repeated. So, in total, 136 words were used as the sample for the study.

With regard to syntactic structures, a sample of 108 out of a total population of 150 was used

in the analysis. These were added to 18 more syntactic structures that had been sought from ten Kiswahili textbooks ***(see Appendix 1).*** In total, 126 syntactic structures were used in the analysis. Quite a number of syntactic structures were discarded because of violating the general structural pattern of Kiswahili.

From the words, the researcher was able to identify different morphosyntactic categories as well as their effect at the morphological level. On the other hand, from the sentences provided, the researcher was able to determine the effect of the same morphosyntactic categories at the syntactic level; and by so doing, specific morphosyntactic processes were established. Based on the morphosyntactic processes established, specific morphosyntactic rules were formulated. Finally, the processes were represented on phrase markers.

3. 4 Sampling Design

Stratified purposive sampling procedure was used in selecting the sample because the population from which the sample was drawn did not constitute a homogeneous group. Consequently, the technique that was used provided a representative sample of each sub-group and by extension, of the Kiswahili users at large.

The 10 Kiswahili undergraduate students, henceforth KUS4, were selected from the Kiswahili Departments because being Kiswahili majors, they seemed more competent in Kiswahili than their counterparts in the other Departments; hence they were capable of providing words, phrases and the sentences required. They therefore possessed more of the characteristics desired for the study.

On the other hand, the First and Second year Masters Students from different Kiswahili Departments, henceforth KMS1 and KMS2 respectively, were found to be an appropriate sample because they were more competent in Kiswahili than their counterparts who majored in other subjects. Consequently, they could provide appropriate data for the study.

The choice of the study population constituting KUS4, KMS1 and KMS2 was motivated by the fact that as much as the respondents are non-native Kiswahili speakers, they use the standard variety of Kiswahili. This seemed a more appropriate choice for the study. However, this is not to deny that a morphosyntactic study on any of the native Kiswahili non-standard varieties is not possible. On the contrary, it is quite possible since language competence is a rule-governed creativity and not a function of Education and training.

3. 5 Variables

The aim of the study was to establish the morphosyntactic processes that occur in Kiswahili, account for them and establish the morphosyntactic rules in Kiswahili. Therefore the independent variable(s) were the morphosyntactic categories, while the dependent variables were the morphosyntactic processes and rules.

Morphosyntactic categories are the independent variables because they are the ones that trigger the interface that result into different morphosyntactic processes. So, the occurrence of morphosyntactic processes depends on the presence of morphosyntactic categories. Likewise, the rules that are formulated are based on the morphosyntactic processes whose occurrence is dependent on the presence of the morphosyntactic categories. The entire process is generative in itself because from a single morphosyntactic category, an infinite number of structures that show morphology-syntax interface can be generated. Likewise, the entire process is generative because it is from the word that different morphosyntactic categories are identified. This is because morphosyntactic features are a property of the word. The very generative property is observed when the morphosyntactic category on the word functions within a syntactic context, resulting into morphosyntactic processes.

Morphosyntactic categories differ from morphological as well as syntactic processes because unlike the later processes that are independent of each other, the former, that is, morphosyntactic categories have relevance to the two levels of grammar; they motivate the interaction between the two levels of grammar.

3. 6 Techniques of Data Collection

3. 6. 1 Pilot study

The research instruments were pilot-tested before the actual data collection to verify whether the questions that were to be asked and the instruments to be used would effectively achieve the objectives of the study. A total of 8 respondents were used in the pilot study. Among them, four were KUS4 and of the remaining 4, 2 were KMS1 and the other 2 were KMS2. The pilot study necessitated relevant changes in the research instruments and the sample population that would have otherwise resulted into errors. For instance, considering the errors in the data provided, the researcher opted to stick to the three groups instead of going for any other, especially, from the

lower cadre of the students, whose data would have been worse. Likewise the researcher decided to use questionnaires alone for easier analysis, given the amount of data that was to be provided. Additional data from the use of other instruments would have made the analysis more complex.

3. 6. 2 Primary Data

These data was collected from a sample of 30 respondents. Among them, 10 were KUS4, the other 10 were KMS1, and 10 others were KMS2. This sample provided a total of 150 words as well as 150 syntactic structures. However, on editing the data, 32 words were discarded either because the forms were inappropriate or had been repeated. On the other hand, 42 syntactic structures were done away with mainly for being idiosyncratic. In total therefore, 118 words and 108 syntactic structures provided by the sample were used in the analysis as primary data. In data collection, Questionnaires were used. This instrument proved more appropriate to the subject under consideration.

3. 6. 2. 1 Questionnaires

A total of 30 questionnaires were given out to the respondents. Each one of them had two structured questions. All the questionnaires were returned, with the two questions answered. The questionnaire was designed in a way, which ensured that the syntactic structures generated were based on the words that had been given by the respondents. This made it possible to analyse the relationship that holds between the morphosyntactic feature or property identified on a given word, and its interaction with the other elements either within the phrase or the sentence. From the analysis, morphosyntactic processes were established and they were accounted for using specific morphosyntactic categories. From the processes, morphosyntactic rules were formulated; and finally, representations on phrase markers were made.

3. 6. 3 Secondary Data

Secondary data was collected from documented published literature in the libraries and resource centres. These data constituted a total of 18 words as well as 18 syntactic structures that were used in the analyses. The words and sentences were chosen with the objectives of the study in mind. Emphasis was on those words and sentences that would enable the researcher establish the morphosyntactic processes that occur in Kiswahili, account for them and be able to establish

the morphosyntactic rules in Kiswahili. Consequently, the researcher made sure that the words chosen in isolation, occurred in some syntactic structure; that is, in some structural context. This was quite essential especially in analysing the effect of the morphosyntactic category at the morphological as well as at the syntactic level. More so, the researcher ensured that the secondary data bore some morphosyntactic features especially those not identified from the primary data. Secondary data supplemented the primary data.

3. 7 Data Analysis and Interpretation

The aim of data analysis was to summarise the findings of the study in such a way that the study questions were answered. Based on the type of data collected, a qualitative and descriptive content analysis technique was used.

The researcher began by editing the words, phrases and sentences obtained from the questionnaires and written documents in order to ensure accuracy and completeness. Those that violated the general structural pattern of Kiswahili as well as those that had been repeated, (especially words) were discarded at this stage. Since all the constructions were in Kiswahili, they were all transliterated before being translated into English, which is the working language in the study. A transliteration was done in order to capture the original meaning of each one of them.

Based on the words, we then identified different morphosyntactic categories (that is features and properties) within the words that affected them at the morphological level. An observation of how the same relate with other linguistic elements at the syntactic level was made. In so doing, we were able to come up with five different groups. Each group represented one morphosyntactic process that is triggered by a number of related morphosyntactic categories. Consequently, data on words and phrases or sentences was arranged into five major groups that were based on the following morphosyntactic processes; those involving inflectional morphology, class-changing word formation processes, class non-changing word formation processes, lexical information and anaphoric relations. In order to ensure that the data was inclusive enough, the researcher supplemented with secondary data. The words from textbooks were not just picked because they occurred in some syntactic context but mainly because they bore some specific morphosyntactic categories not identified in the primary data. By so doing, all morphosyntactic categories were handled.

Under each morphosyntactic process, categories that trigger morphology-syntax interface were identified. Basically, processes involving inflectional morphology were seen to be triggered by grammatical categories of gender, number, person, tense, aspect and the comparison. Those involving class-changing word formation processes were seen to be triggered by derivational affixes, conversion processes, compounding processes and idiomization. Morphosyntactic processes that involve class non-changing word formation processes were observed to be triggered by derivational affixes namely; those of passivisation, causation, the stative, the applicative as well as the features of the interrogative pronoun. Morphosyntactic processes that involve lexical information were observed to be triggered by the categories of categorial information, subcategorial information, selectional information and thematic information. Finally, morphosyntactic processes that involve anaphoric relations were seen to be triggered by the reflexive morpheme, the reciprocal morpheme, pronominalisation process, and the features of pro and PRO.

Each of the morphosyntactic categories that trigger a specific morphosyntactic processes was then picked and analysed at the following levels of analysis and interpretation:

(i) Morphological level

Under this level, the researcher identified features, either non-lexical (affixes), lexical items (words) or lexical information (specific properties) that have relevance to morphology as well as syntax in Kiswahili. At this stage, we explained how the specific feature or property influences the word.

(ii) Syntactic level

Each morphosyntactic category was then analysed at the level of syntactic function. At this stage, we showed how the morphosyntactic category in question influenced the entire syntactic structure. Based on the relevance of the morphosyntactic category at the morphological as well as the syntactic level, a morphosyntactic process was established.

(iii) Level of rules

The morphosyntactic processes that had been established were finally formalised into rules. While phrase structure rules are used to describe the deep structures, the transformational rules are used to describe the surface structures. So, rules are based on the generated structures in question. In almost all cases, a single rule is used to represent a variety of structures with shared morphosyntactic properties. This is in line with the transformational generative theory that is

being applied in the study. Rules are given at the morphological as well as at the syntactic level.

(iv) Phrase marker representational level

Identified morphosyntactic structures have been represented on phrase markers for easier interpretation; especially with regard to the relationship that holds between the deep structures and the surface structures. Such phrase markers could as well be used to represent an infinite set of structures that share similar properties.

Finally, for each morphosyntactic process, a brief conclusion with regard to morphology-syntax interface in Kiswahili, in the light of the T. G. G has been given.

CHAPTER FOUR

DATA PROCESSING, ANALYSIS AND INTERPRETATION

4. 1 Introduction

This chapter presents data processing, analysis and interpretation. The study set out to establish the morphosyntactic processes that occur in Kiswahili, account for their occurrence and finally establish the morphosyntactic rules in Kiswahili. Therefore, this chapter first shows how data was processed. Secondly, the chapter answers the research questions through the analysis of the data and the interpretation of the research findings.

4. 2 Data Processing

After data collection (of words, phrases and sentences), editing was done in order to correct any errors, especially with regard to grammar as well as repetition of words. This ensured clarity and completeness in the data. We then classified the data into three major groups; each on a separate sheet of paper. The first group had words; the second had phrases while the third had sentences. The three groups were assigned the labels **A1, B1** and **C1** respectively. The three groups were further reclassified based on the shared morphosyntactic properties that had been identified. So, out of the three groups, two groups emerged, that of words, labelled **A2;** and that which consisted of syntactic structures were labelled **B2** & **C2**. The last two were put together because they both deal with syntactic structures. All the structures, that is, **A2, B2** and **C2** were coded and used in the analyses. Since all the structures were in Kiswahili, the researcher had to transliterate the data before translating into English, which is the working language in the present study (***see Appendix 2***).

In doing the analysis, all the data was classified under five emerging morphosyntactic processes, with each of the process being triggered by specific morphosyntactic categories that share attributes. The morphosyntactic processes under which the data was classified as per the analysis are as follows:

(i) those that involve inflectional morphology

(ii) those that involve class-changing word formation processes

(iii) those that involve class non-changing word formation processes

(iv) those that involve lexical information

(v) those that involve anaphoric relations

The five morphosyntactic processes formed the headings under which data analyses and interpretation were done. Below is a table showing the various morphosyntactic processes and the categories that trigger their occurrence.

Table 4. 1 Morphosyntactic processes triggered by various morphosyntactic categories.

Types of morphosyntactic process	**Categories that trigger morphology-syntax interface**
1. Involving inflectional morphology	(i) Gender (ii) Tense (iii) Person (iv) Aspect (v) Number (vi) Comparison
2. Resulting from class-changing word formation processes	(i) derivational affixes & conversion processes (ii) Compounding processes (iii) Idiomization processes
3. Resulting from class non-changing word formation processes	(i) Passive affix (ii) Causative affix (iii) Applicative affix (iv) Stative affix (v) Features of the interrogative pronoun
4. Involving lexical information	(i) Categorial information (ii) Subcategorial information (iii) Selectional information (iv))Thematic information
5. Involving anaphoric relations	(i) Reflexive morpheme (ii) Reciprocal morpheme (iii) Pronominalization processes (v) Features of pro (vi) PRO

4. 3 Data Analysis

Descriptive content analysis was used in the analysis of data. Data presentation and analysis was divided into five different sections that were based on the different types of morphosyntactic processes established in the study. These processes were established based on the words, phrases and sentences that had been provided by the respondents through questionnaires as well as those that had been sought from documented materials.

Under each morphosyntactic process, specific categories that trigger morphology-syntax interface were also identified.

After identifying the categories, each one of them was analysed and interpreted at the morphological and syntactic levels. In the analysis, we have shown how each category affected the word on the one hand and the phrase or sentence on the other. Specific morphosyntactic rules have been established based on the processes that had been established. The same have been represented on phrase markers for easier interpretation.

In the sections that follow, each of the established morphosyntactic processes is analysed and interpreted appropriately.

4. 3. 1 Morphosyntactic Processes

4. 3. 1. 1 Inflectional Morphology

Based on the data on words, phrases and sentences that were used in the study, inflectional morphology was identified as exhibiting morphology-syntax interface in Kiswahili. Under inflectional morphology, specific grammatical categories that trigger morphology-syntax interface were identified. The categories are those of gender, number, person, tense, Aspect, and the comparison. Each of these categories is analysed based on the data at the levels of morphological function, syntactic function, rules formulation and representational level.

At the morphological level, we observed that specific inflectional affixes as well properties have morphological consequences in that they determine the word with regard to its form and the meaning. When the influenced word functions at the syntactic level, the same has effect on the entire sentence structure with regard to the type of the elements that are to occur in the structure and their distribution.

Using the transformational generative theory, specific rules that are based on the established

morphosyntactic processes have been formulated. Both phrase structure rules (PSRs) and transformational rules (TRs) have been given depending on the structure in question. The finite set of rules formulated can generate an infinite number of morphosyntactic structures in Kiswahili. This is in line with the transformational generative theory of grammar that is being applied in the study.

Finally, we have represented the same morphosyntactic structures on phrase markers. These are structural descriptions of the phrases and sentences in question and they (phrase markers, henceforth, PMs) are assigned by the rules that generate the structure. In the study, phrase markers are used for easier interpretation of the interface between the two levels of grammar. Just as with the rules, the phrase markers given can be used to represent an infinite set of potential morphosyntactic structures that have shared attributes. Below is the format of analysis:

Model of analysis

(i) Morphological level

↓

(ii) Syntactic level

↓

(iii) Rule formulation level

↓

(iv) Phrase marker representational level

With regard to inflectional morphology as a morphosyntactic category, Anderson (1992: 99) says:

> *Words have a morphosyntactic representation, which characterise all (and only) those properties that are relevant to the principles of both word formation and of syntax. Only that information about a word that is encoded in this representation is available to the syntax, and only that information about syntax that is provided there is available to morphology. The morphosyntactic representation of a word is the only aspect of it that is visible to syntax, and the only way the syntax can affect the form of a word is by manipulating its morphosyntactic representation.*

According to Anderson (Op. cit), inflectional morphology has a property involving interaction between word formation and syntactic principles. He further argues that:

> *Morphological properties of words appear to be determined by an interaction with the syntactic environment in which they appear, or of properties that must be visible to syntactic principles for these to perform their intended function.*

Anderson (Op. cit. pg 102).

Likewise, Katamba (1993) agrees with Anderson's argument, he says that inflectional morphology of words is assigned by the syntax and depends on how a word interacts with other words hence, inflection is syntactically motivated. This is the position that we have taken in this sub-section; that is, inflectional morphology has relevance to the word as well as to the syntax.

4. 3. 1. 1. 1 Gender and Number

With regard to gender and number as morphosyntactic categories, Tallerman (1998) says that heads influence their dependents by first, selecting dependents of a certain class and not just any; and secondly, by requiring that their dependents agree with various grammatical features of the head; such as gender, number and person. Agreement between the grammatical features of the head and those of the dependent elements in the structure is illustrated in this study as a demonstration of morphology-syntax interface. This is because the gender and number feature has both morphological and syntactic consequences.

L1 Gender and number are grammatical categories that are marked by the same inflectional affix and they have relevance to morphology and syntax in Kiswahili. At the morphological level, the gender and number feature determine the structure of the word (noun) as well as its meaning; and at the syntactic level, the same feature is pertinent to the whole syntactic structure. Below are the words used in the analysis:

A2 (1) ***M-***ti 'tree'

A2 (2) ***Wa-***tu 'people'

A2 (3) ***M-***toto 'child'

A2 (4) ***Ma-***yai 'eggs'

A2 (5) ***Ki-***su 'knife'

A2 (6) ***Ji-i***no 'tooth'

A2 (7) ***M-*** sichana 'girl'

In A2 (1) - A2 (6), italic is used to show gender and number marking. The structure of these words is represented as below:

Table 4. 2: Gender and number marking on the noun

Morphosyntactic category	**Word**		
	Morphosyntactic feature	Root	Word (noun)
Gender and number	***m-*** (gender 9 SG)	-ti	Mti 'tree'
	wa- (gender 2 PL)	-tu	Watu 'people'
	ma- (gender 4 PL)	-yai	Mayai 'eggs'
	ki- (gender 7 SG)	-su	Kisu 'knife'
	m- (gender 1 SG)	-sichana	Sichuan 'girl'
	jig- (gender 3 SG)	-ino	Jingo 'tooth'

So, as observed in ***table 4. 2***, at the morphological level, the words in A2 (1) - A2 (6), are made up of $\boldsymbol{Af_nR}$

Where,

$Af_n \rightarrow$ morphosyntactic feature on the noun

R $\rightarrow$ Root

We see that when $\boldsymbol{Af_n}$ is affixed on the noun, it changes the morphological structure and the meaning of the noun (***R***). In other words, the grammatical category of gender and number has morphological consequences. This is because $Af_n + R \longrightarrow Af_nR$

L2 The syntactic function of the above words is illustrated in the sentences below and based on these sentences, we show that the gender and number affix have syntactic consequences:

B2 (1) Gender 9 [NP ***M-*** ti ***m-*** zuri].

GEND/ SG- tree GEND/ SG- good

'A good tree.'

B2 (2) Gender 2 [NP ***Wa-*** tu ***wa-*** chache].

GEND/ PL- person GEND/ PL- few

'Few people.'

B2 (3) Gender 8 [NP ***Vi-*** kombe ***vy-*** ote].

GEND/ PL- cup GEND/PL all

'All cups.'

C2 (4) Gender 3 ***Ji-*** no ***li-*** me- vunjik- a.

GEND/SG- tooth GEND/SG- PERFT- break- VS

'The tooth is broken.'

C2 (5) Gender 1 ***M-*** sichana ***a-*** me- pote- a.

GEND/ SG - girl GEND/ SG- PERFT- lose VS

'A girl is lost.'

In example B2 (1) - B2 (3), we see that the gender and number features that are marked on the noun percolate onto the adjectival and the quantifier modifiers. In all the three cases Af_n becomes Af_{ni} in the environment in which the two agree in terms of gender and number. Therefore, there is a morphosyntactic process that is observed in the structures in B2 (1) -B2 (3) that is triggered by the gender and number category. The reason for this conclusion is based on the fact that at the morphological level, the two categories determine the structure of the noun, its meaning as well as its properties; and when the noun functions syntactically, the entire syntactic structure is influenced. ***Table 4. 3*** show the summary of the effect of gender and number affix on the modifying elements. This can be extended to the other modifiers within the NP that we may not have considered. What is true to all of them is that their morphological structure and the meaning changes depending on the gender and number feature that is born by the head noun. These features have morphological and syntactic relevance.

However, there are a few exceptions. For instance, the gender and number features that are born by the head nouns from the ***i- zi-*** genders and the ***u- zi*** genders (plural) do not change the structure of the quantifier ***-chache*** 'few', as much as this quantifier inherently take prefixes. We illustrate this on ***table 4. 3*** below:

Table 4. 3: Af_{ni} marking within the NP is dependent on Af_n

Gender	**Adjectival root -zuri**		**Quantifier root**		
	SG	**PL**	**-chache**	**-ote**	
			PL	**SG**	**PL**
1& 2: a-wa	m-	wa-	wa-	-	w-
3& 4: li- ya	n-	ma-	ma-	l-	y-
5& 6: u- ya	m-	ma-	ma-	w-	y-
7& 8: ki- vi	ki-	vi-	vi-	ch-	vy-
9& 10: u- i-	m-	mi-	mi-	w-	y-
11& 12: i- zi	n-	n-	∅	y-	z-
13: u-	m-	∅	∅	∅	w-
14& 15: u-zi	m-	n-	∅	w-	z-
16: ku-	ku-		ku-	kw-	
17: pa-	pa-		pa-	p-	
18: ku-	ku-		ku-	kw-	
19: mu-	m-		m-	mw-	

Apart from the above, this pattern can also be extended to other noun modifiers in Kiswahili, that is, morphology-syntax interface is also observed when the noun occurs with other modifiers like the numeral, the demonstrative pronoun, relative pronoun and the simple possessives as below:

B2 (4): Gender 7: [NP ***Ki***- jiko hi- ***cho***].
GEND/ SG- spoon DEM- GEND/ SG
'That spoon.'

B2 (5): Gender 17: [NP ***Pa***hali ***p***- ake].
GEND- place GEND- POSS
'His/ her place.'

B2 (6): Gender 3: [NP ***Ji***- no ***l***- a Bakari].
GEND/ SG- teeth GEND/ SG- CONJ- Bakari
'Bakari's tooth.'

B2 (7): Gender 18: [NP ***Ma***hali ***ku***- wili].
GEND- place GEND- NUM
'Two places.'

C2 (6) Gender 1 ***M***- toto ***a***- na- ***ye*** li- a- ni w- angu.

GEND/ SG- child GEND/ 3SG-PROG- REL- cry- VS- COP- SG- POSS

'The child who is crying is mine.'

In B2 (4) – B2 (7), the gender and the number features that are marked on the noun have percolated onto the following modifier and thereby determining the entire phrasal structure.

Unlike all the other noun modifiers, where the gender and number feature always precede the root, the demonstrative pronoun behaves differently in Kiswahili. This modifier either occurs with a prefix or a suffix depending on the proximity of what is being referred to. Consequently, its form is either Af_nR or RAf_n; that is, it is either formed from a prefix and a root or from a root and a suffix as illustrated below, where B2 (4) is repeated with another example of a demonstrative denoting non- proximity:

B2 (4): Gender 7: [NP ***Ki-*** jiko hi- ***cho***].

GEND/ SG- spoon DEM- GEND/ SG

'That spoon.'

B2 (4): (i) Gender 7: [NP ***Ki-*** jiko ***ki-*** le].

GEND/ SG- spoon GEND/ SG DEM

'That spoon.'

Whereas in B2 (4) gender and number feature is marked after the demonstrative root, in B2 (4) (i) it precedes the demonstrative root. As much as the two phrases have the same semantics in English, in Kiswahili, the each one of them has a different meaning.

Likewise, unlike all the other noun modifiers that occur after the head, the demonstrative pronoun in Kiswahili can as well occur as a pre- modifier of the head noun. However, what is true in both occurrences is that the number and the gender affixes that are marked on the head nouns are pertinent to syntax since they determine the type of affixes that have to occur on the demonstrative pronouns. Below is B2 (4) repeated with another example, where the demonstrative pronoun occurs as a pre- modifier of the head noun:

B2 (4): Gender 7: [NP ***Ki-*** jiko hi- ***cho***].

GEND/ SG- spoon DEM- GEND/ SG

'That spoon.'

B2 (4) (ii) Gender 7: [NP Hi- ***cho*** ***ki-*** jiko].

DEM- GEND/ SG- GEND/ SG- spoon

'That spoon.'

In spite of the difference in the two structures, the two phrases have similar semantics.

Apart from phrases, morphosyntactic processes are also observed within sentences (see C2 (4) - C2 (6)). Based on these sentences, we see that the subject affix attachment rule copies the gender and number features of the noun onto the verb. Consequently, all the finite verbs in intransitive and transitive structures in Kiswahili are marked for agreement with the surface subject of the sentence according to the gender and number feature of the noun in question. This will be clearly demonstrated on the phrase marker on figure 4. 3.

So, just as with the phrasal structures, we see that in the sentences given above, $\boldsymbol{Af_n}$ becomes $\boldsymbol{Af_{ni}}$ in the environment in which the two agree with regard to the gender and number feature.

Based on the morphosyntactic processes established in B2 (1) - B2 (7) and C2 (4) - C2 (6) above, we see that there is a common characteristic in all these structures in which the gender and number feature motivates interface between morphology and syntax in Kiswahili and this is: *The gender and number feature that is marked on the noun influences the entire syntactic structure with regard to the same features; that is, the gender and number features on the other elements at the syntactic level have to agree with those that are marked on the head noun.* However, there are a few exceptions where this may be violated without necessarily negatively affecting the syntactic structure. This happens in Kiswahili with a few modifiers, which, though they inherently take affixes, they fail to do so when they occur with nouns from certain genders. For instance, nouns from ***gender 3***; that is, ***li-*** (sg) do not assign gender and number features to adjectives like ***refu*** 'long'. Likewise, nouns from ***gender 12***; that is, the ***zi-*** (plural) and from ***gender 15***; that is, the ***zi-*** (plural) do not alter the structure of the adjective ***-chache*** 'few', though the modifier ***-chache*** 'few' inherently take prefixes. However, important to note is that even without a prefix, such structures are grammatical. This happens so because such adjectives are not meant to take affixes when modifying nouns from these particular genders. However, in cases where the right morphosyntactic feature is not assigned at the syntactic level the whole structure becomes ungrammatical as illustrated below:

B2 (1) (i) Gender 9 *[NP ***M-*** ti ***ki-*** zuri].

GEND 9/SG- tree GEND 7/ SG- good

'A good tree.'

The structure in B2 (1) (i) is ungrammatical because of the fact that as much as the gender and number feature is marked on the head noun, the same feature has not percolated onto the

adjectival modifier. Given that the noun ***mti*** 'tree' is from ***gender 9*** (the ***u-*** gender), the adjectival modifier has to take the gender feature that agrees with the one that is marked on the noun, which in this case is ***m-*** and not ***ki-.*** The later is marked on the modifiers that occur with nouns from gender 7 (***the ki-*** gender)**.** Consequently, in B2 (1) (i), the grammatical feature that is marked on the head noun and the one on the adjectival modifier do not agree. The implication here is that it is not enough for the gender and number affix to be assigned to the modifier at the syntactic level, the two have to agree; and this is when a morphosyntactic process will have taken place.

L3 The rules that generate and define the morphosyntactic processes established in the structures above are in two levels:

(i) Level of phrases as in B2 (1) - B2 (7)

(ii) Level of sentences as in C2 (4) - C2 (6)

In rule 1 (level of the phrase), the noun occurs with a modifier, which bears the gender and number feature that is dependent on the one that is marked on the head noun. So, its structure and meaning (the modifiers') is influenced by that of the noun. Thus,

$NP \rightarrow$[8] $Af_nR + Af_{ni}R / RAf_{ni}$

Where:

NP $\rightarrow$ Noun phrase

$Af_n \rightarrow$ Morphosyntactic affix that is marked on the noun that percolates onto the modifying element(s) in the structure

$Af_{ni} \rightarrow$ An agreement affix in a morphosyntactic structure, whose occurrence is dependent on the affix that is marked on the head noun.

R$\rightarrow$ Root

The interpretation of the rule is that the NP is:

(i) Formed from a noun and a modifier, in which, the gender and number prefix that is marked on the noun motivates the occurrence of the prefix that is marked on the modifier and the two have to agree. This applies to most noun phrases in Kiswahili.

(ii) Formed from the noun and a modifier in which, the gender and the number prefix that is marked on the noun determines the occurrence of the suffix that is to be marked on the modifier

[8] *The arrow is an instruction to rewrite the left hand symbol with the elements on the right.*

The two have to agree as in example B2 (4), where the head noun is modified by a demonstrative pronoun. Rule 1, shows the relevance of ***Af_n*** (gender and number morpheme) to morphology and syntax; that is, this affix influences the noun, which in turn affects the structure of the modifier and by so doing, the entire NP is determined.

Rule 1 describes a variety of NPs in Kiswahili, in which the gender and number affix trigger interface between morphology and syntax. This is in line with the transformational generative theory that has been adapted in this study, where a finite set of rules are used to describe an infinite set of sentences.

Rule 2: Level of sentence: The sentence is generated from an NP and a VP. We see that the gender and the number feature that is marked on the noun that is in the surface subject position percolates onto the verb. Consequently, the structure of the subject and object agreement markers, the relative marker and the possessive are dependent on the gender and the number feature that is marked on the noun. Whereas the subject affix attachment rule copies the gender and number features of the noun onto the verb, the object affix attachment rule copies the gender and number feature of the direct object onto the verb. The relative attachment rule on the other hand copies the same features that are marked on the noun, onto the verb. This is therefore what has happened in C2 (6):

$S \rightarrow Af_nR + Af_{ni} + ASP+ \ REL+ \ V+ \ COP+ \ POSS$

This rule describes the morphosyntactic structure that is repeated below:

C2 (6) Gender 1 ***M-*** toto ***a-*** na- ***ye*** li- a- ni w- angu.

GEND/ SG- child GEND/ 3SG-PROG- REL- cry- VS-COP SG- POSS

'The child who is crying is mine.'

Where:

S → Sentence

REL → Relative marker, (derives gender and number properties from the noun in surface subject position)

COP → Copular verb

POSS →Possessive

ASP→ Aspect

V→ Verb

Rule 2 describes a morphosyntactic process that is formed from a noun, a tensed relative verb, a

copular verb and a possessive pronoun.

What is true in the morphosyntactic processes above is that the gender and number property that is marked on the verb, the relative or the possessive pronoun is dependent on the one that is marked on the noun in the subject and the object position. Similar morphosyntactic structures in Kiswahili can be described using the same rule.

In rule 2 we see an interdependence relationship between the features of the noun and those of the other elements in the structure. This is an illustration of the relevance of the gender and number feature on syntax.

L4 The morphosyntactic process established within the NP in B2 (1) is schematised below:

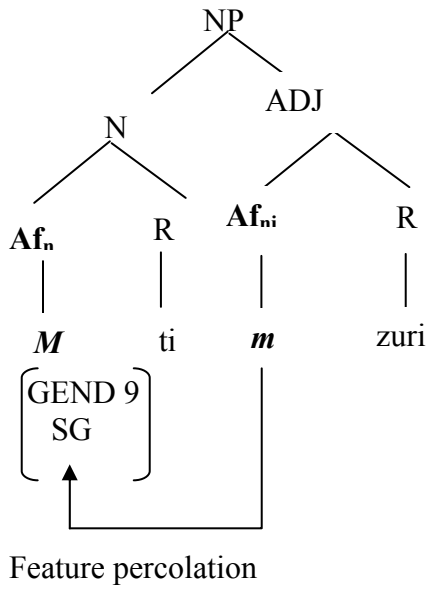


Fig. 4. 1: Gender and number feature percolation onto the post modifier within the NP

Other NP structures that show morphology – syntax interface through the percolation of the gender and number features of the head noun onto its modifier can be represented in the same way, using a similar PM. Here we see that different surface manifestations are captured using the same underlying rule. This is in line with the T. G. G, where emphasis is on capturing the similarities that exist between the language's deep structures, which is hoped to reveal properties common to all languages that are concealed by their surface structures. However, for those NPs in which the modifier precedes the head as in B2 (4) (ii), appropriate changes are made in the

representation as shown below:

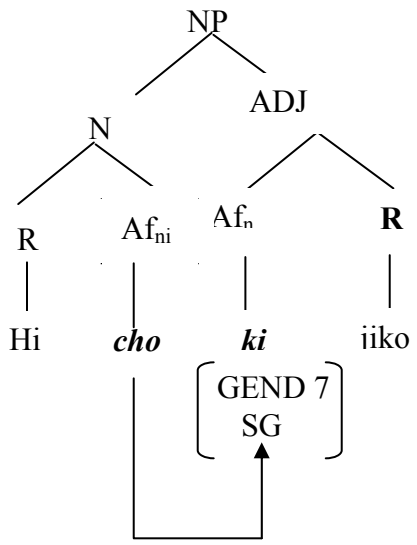


Fig. 4. 2: Gender and number feature percolation onto the Pre- modifier within the NP

We can represent similar NPs occurring with a pre- modifier on ***figure 4. 2***. In both cases, we see that there is a morphological rule that spells out the specific affixes that are to occur on the modifier (shown by the arrow). As mentioned before, the occurrence of the affixes on the modifiers is motivated by the presence of the gender and the number affix that is marked on the head noun. This feature is pertinent to syntax in Kiswahili.

For the morphosyntactic processes in C2 (4) and C2 (5) that involve sentences, the representation is as below:

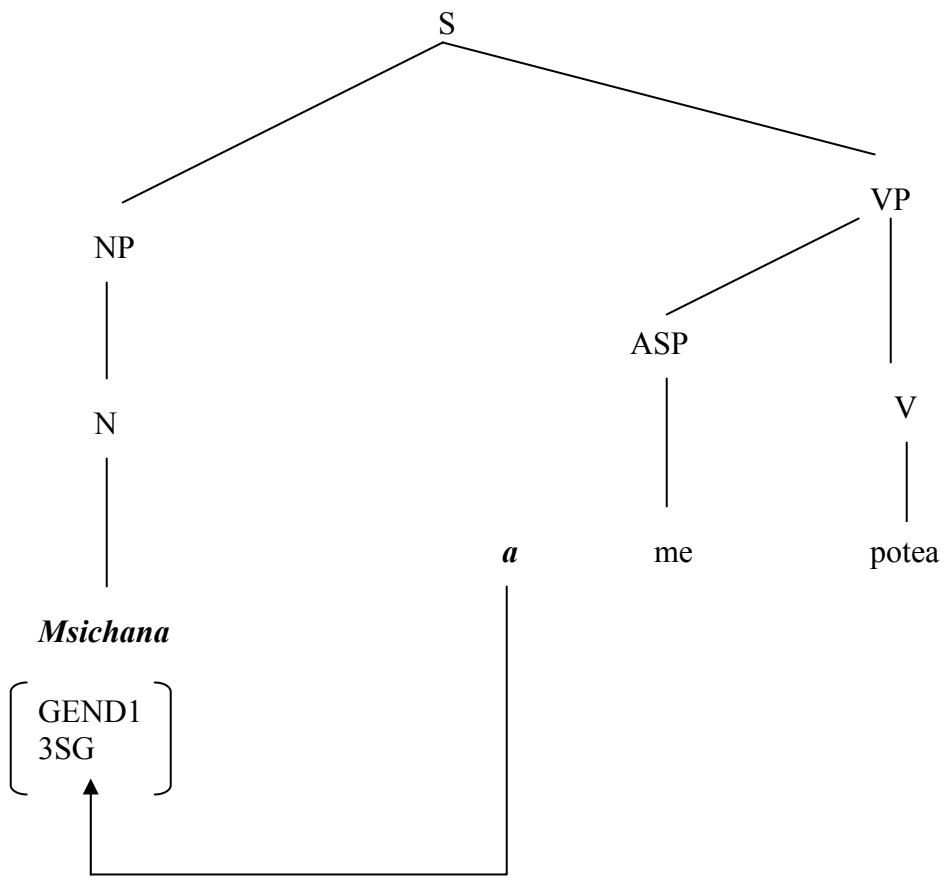


Fig. 4. 3: Morphosyntactic process within a sentence, triggered by gender and number category.

In ***figure 4. 3***, we see that the subject affix attachment rule copies the gender, number and person feature of the noun in the subject position onto the verb. From the phrase marker, we see that T. G. G fails to adequately represent the agreement features in Kiswahili such as AGRs, the AGRo, (that marks gender, number and person) as well as the relative marker as we shall be seeing in the study. Kiswahili is a language with a very rich morphology and as such any theory that is applied in the study of this language must take into account this fact. Such a theory must be able to appropriately represent all the morphosyntactic features of the language because in Kiswahili, these features carry phonetic information as well as semantic information; that has to be represented. In the present study, we suggest that for such features to be appropriately represented, a theory in which the inflectional properties of the verbs and the nouns are assigned in the lexicon be applied. In such a theory, the inflected verbs and nouns are base generated under their respective heads and as such any movement that takes place is only for feature

checking. The Minimalist program (MP) takes care of this as explained by (Schroeder, 2002: 16). In the present study, an attempt has been made to take care of the T. G. G's shortcomings by using arrow notations to mark the overt morphosyntactic features and the same arrow is also used to show their morphological and syntactic effect.

Just as with the NP representation, this PM not only represents the morphosyntactic structures that are given above, but many more that are triggered by the gender and number categories in Kiswahili. In T. G. G, such phrase markers are a description of phrase structures or constituent structures and they (PMs) are assigned by the rules that generate the structures in question.

From the three representations, we observe that the morphosyntactic features of gender and number determine the structure of the word, that is, the noun, with respect to the property of gender and number, which in turn determines the whole syntactic structure. In both representations, $\boldsymbol{Af_{ni}}$ has to agree with $\boldsymbol{Af_{n}}$ for the structures to be grammatical. The arrow shows feature percolation from the noun to the other elements in the structure. This interdependence relationship is morphosyntactic.

4. 3. 1. 1. 2 Tense

Tense is a grammatical category of inflectional morphology identified from the data as triggering morphology-syntax interface in Kiswahili.

L1 Below are the words (verbs) used to demonstrate morphology-syntax interface that is triggered by the grammatical category of tense:

A2 (8) A***li***soma 'He/ she read'

A2 (9) A***ta***kula 'He/ she will eat'

A2 (10) Haki***ku***vunjika 'It did not break'

A2 (11) A***ki***ja 'If he/she comes'

A2 (12) U***nge***likuja 'If you had come'

A2 (13) Asi***ngali***tubu 'If he/she had not repented'

The words that are given above show that at the morphological level, the tense marker (which appears in bold italics) determines the morphological form and the meaning of the verb. Unlike the preceding morphosyntactic features discussed in ***sub-section 4. 3. 1. 1.1*** (those of gender and number), under T. G. G, the tense feature is inherently present in the verb; that is; it is included at the base. Below is the representation of the above verbal structures:

Table 4. 4: Tense marking within the verb

Morphosyntactic category	**Word**				
	Subject marker	Morphosyntactic feature (tense)	Root	VS	Word (verb)
Tense	a-	***-li-*** (PAST)	som-	-a	alisoma
	a	***ta-*** (FUT)	l-	-a	atakula
	ki-	***ku-*** (PAST)	vunjik-	-a	hakikuvunjika
	a-	***-ki-*** (COND)	j-	-a	akija
	u-	***-ngeli-*** (CONT)	kuj-	-a	ungelikuja

From the verbal structures on ***table 4. 4*** above, we see that the morphosyntactic category of tense has morphological consequences, the feature determines the structure and meaning of the word; that is, the verb. Therefore, the verbs that are given above made up of:

(NEG)+ AGRs+ T+ V

Where:

T→ tense (morphosyntactic feature)

(NEG)→ Optional negation marker

L2 Based on the words given in A2 (8) - A2 (13) above, the following sentences are used to illustrate morphology-syntax interface that is triggered by the grammatical category of tense:

C2 (6) Maria a- ***li-*** som- a ***jana***

Mary AGRs- PAST read VS yesterday

'Mary read yesterday.'

C2 (7) Ki- ti ha- ki- ***ku-*** vunjik- a ***leo***.

SG- chair NEG- AGRs- PAST break- VS today

'The chair did not break today.'

C2 (8) A- ***ki-*** j- a ni- ***ta-*** end- a.

3SG- COND- come VS ISG- FUT- go VS

'If he comes, I will go.'

C2 (9) U- ***ngeli-*** kuj- a u- ***ngeli-*** m- pat- a.

2SG- CONT- come VS 2SG- CONT- AGRo- find VS

'If you had come, you would have found him.'

In C2 (6)- C2 (9), we see that the grammatical category of tense that determines the morphological structure and the meaning of the verb also has effect on the whole sentence structure with regard to its form as well as its meaning. Specifically, the tense marker, which is marked on the verb, influences the entire sentence structure by putting a restriction on the type of the syntactic element that is to occur as either an adverbial of time or as the second verb (especially, for the contingent and the conditional). In other words, the type of the adverbial of time and the syntactic structure of the second verb are dependent on the type of tense feature in question. Therefore, morphology is seen to influence syntax. Consequently:

$$T_1 \longrightarrow \left\{ \begin{array}{c} \text{Adv} \\ T_2 \end{array} \right\}$$

Thus, the tense marker that is on the verb motivates the occurrence of the adverbial of time or the second tense marker on the contingent or the conditional; and the two have to agree with regard to the category of tense. The interdependence relationship between $\boldsymbol{T_1}$ and either the ***adverb*** or $\boldsymbol{T_2}$ is morphosyntactic; that is, the relationship has morphological and syntactic consequences. This is because it is the tense property of $\boldsymbol{T_1}$ that motivates the occurrence of either the adverbial of time or the $\boldsymbol{T_2}$ at the syntactic level. So, syntax is sensitive to $\boldsymbol{T_1}$ in Kiswahili.

The morphosyntactic processes in C2 (6)- C2 (9) that are triggered by the grammatical category of tense are represented below:

Table 4. 5: Occurrence of the Adverbial of time and T_2 within the sentence depends on T_1

Tense feature	**Dependent elements within the sentence**	
	Adverbial of time	**T_2**
-ku- (PAST)	leo, jana, juzi	
-ki- (COND)	leo, kesho, kesho k	-ta-
-li- (PAST)	Jana, mwaka jana,	
-ta- (FUT)	kesho, mwezi ujao	
-ngeli- (CONT)	leo, jana, juzi	-ngeli-

Table 4. 5 shows that the tense feature that is marked on the verb is pertinent to syntax, it determines the structure and the meaning of the entire sentence by restricting the type of elements to occur as either adverbials of time or as the tense markers within the second verb.

From the analysis, what is true about the morphosyntactic processes that are triggered by the grammatical category of tense in Kiswahili is that: *at the morphological level, the tense feature determines the morphological structure and the meaning of the verb; and at the syntactic level, the same tense feature determines the entire syntactic structure with regard to the type of linguistic elements that are to occur and their syntactic distribution. Thus, the form of T_2 and the Adverb are determined by T_1.* This is a morphosyntactic relationship. This conclusion is based on the fact that both morphology and syntax are sensitive to the category of tense. Violation of the requirements of the tense category in Kiswahili negatively affects the grammaticality of the structure as observed in C2 (6), which is repeated here as C2 (6) (i):

C2 (6) (i) *Maria a- ***li-*** som- a ***kesho***.

Mary AGRs- PAST read VS tomorrow

'Mary read tomorrow.'

The structure in C2 (6) (i) is ill- formed because the past tense feature ***-li-*** that is marked on the verb does not agree with the adverb of time at the syntactic level.

L3 From the morphosyntactic processes established above, two rules that describe them emerge:

Rule 1 describes structures in C2 (6) and C2 (7), where the tense feature on the verb selects the type the adverbial of time to occur in the structure. Thus:

S→ NP+ VP

S→ N+ (NEG)+ AGRs+ ***T***+ V+ ***(ADVP)***

Where:

(ADVP) → Optional adverbial phrase

Bold italic marking on the tense feature and the adverb shows the interdependence relationship between the two. This relationship is explained in terms of morphology-syntax interface in this study.

The rule means that the sentence is generated from an NP and a VP; and that the VP is made up of an optional negation marker, the subject agreement marker, the tense marker, the verbal root and an optional adverb. We have shown that the occurrence of the optional adverbial of time is motivated by the tense feature. This means that the moment the tense feature changes, the adverbial of time also changes accordingly in order for the two to agree. Even in the absence of an optional adverb, we still argue that the category of tense is still morphosyntactic in Kiswahili. This conclusion is based on the fact that the tense feature determines the tense of the word (verb), its structure and the meaning; and when the same tense feature functions syntactically, the whole sentence is determined with regard to the grammatical category of tense. Its structure as well as its meaning is also determined.

Rule 1 appears so because both the tense feature as well as the adverb of time is concerned with the time at which an action is accomplished. However, unlike tense that is an obligatory element in the structures above, the adverb is not; it is only used here to illustrate the fact that syntax is sensitive to the grammatical category of tense in Kiswahili.

Rule 1 describes an infinite number of sentences involving the morphosyntactic category of tense in Kiswahili.

Rule 2 describes the conditional and the contingent that is in C2 (8) and C2 (9) respectively. These are morphosyntactic structures in which there are two actions taking place; and the accomplishment of the second action is dependent on the accomplishment of the first one. In the structures given above, we see that the occurrence of the tense feature on the second verb is motivated by the tense feature that is marked on the first verb. In other words, the verbal affix attachment rule copies the tense feature that is marked on the first verb onto the second verb. Consequently, the tense feature that is affixed on the first verb determines the tense, meaning as well as the form the entire syntactic structure. Specifically, it (the tense feature) demands that a

second verb occurs bearing a tense feature that agrees with the one that is marked on the first verb. Rule 2 that describes the conditional and the contingent is:

S→ (AGRs/ o+ ***CONT$_1$/ COND$_1$***+ V_1)+ (AGRs/ o+ ***CONT$_2$/ COND$_2$***+ V_2)

Where;

COND→ conditional marker

CONT→ contingent marker

Rule 2 means that a conditional or contingent sentence is generated from two sentences; the first one consist of the subject agreement marker, the conditional or contingent marker and a verb; while the second one is made up of the same linguistic elements. The occurrence of the ***CONT$_2$*** and the ***COND$_2$*** is motivated by the presence of the ***CONT$_1$*** and the ***COND$_1$*** in the structure. This is an illustration of how sensitive syntax is to the grammatical category of tense in Kiswahili.

Rule 2 appears so because in the conditional and the contingent constructions, it is assumed that a given action will only be accomplished if the other (on which it is dependent) is first accomplished. This explains why there are two verbs in the constructions. The rule describes many other morphosyntactic structures that are triggered by the grammatical category of tense in Kiswahili, specifically, the conditional and the contingent.

Unlike the conditional marker that must occur twice in the structure, Kiswahili allows the contingent marker ***nge-*** or ***ngeli-*** to occur just once as in C2 (12). When it functions so, it shows the relevance of accomplishing a particular action before anything else is done; so still there are two actions to be accomplished and the accomplishment of the second one is dependent on the accomplishment of the first one.

C2 (12) I- ***nge-*** faa **ø-** tu- mw- **ø-** it- e tu- m- shauri

EXPL-CONT- better SUBJ- 2PL- AGRo- OBJ- call-VS 2PL- AGRo- advice

kabla ya ku- ondok- a.

before DER- leave- VS

'It were better we call him/ her and advice him/ her before leaving.'

Here we argue that even in constructions such as the one in C2 (12), where the contingent marker only occurs once, there is morphology-syntax interface that has taken place just as in C2 (8) and C2 (9). This is because, as we saw at the morphological level, the contingent marker determines the structure and the meaning of the verb; and at the syntactic level, we see the same

contingent marker influencing the entire sentence with regard to its structure as well as its meaning. Specifically, the contingent marker demands that a second action must occur in the structure, though of course not necessarily marked with the contingent morpheme as in C2 (8) and C2 (9).

L4 The morphosyntactic processes established in C2 (6) is schematised below:

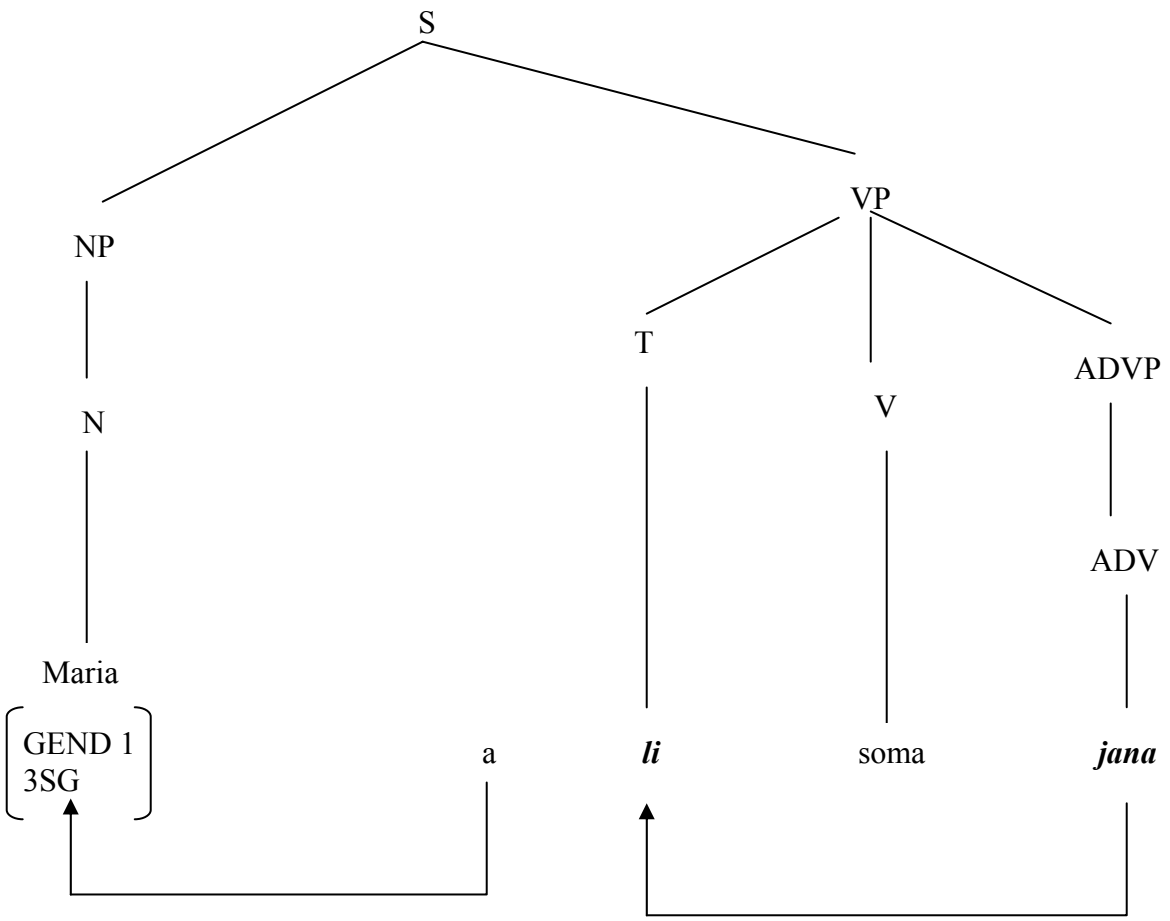


Fig. 4. 4 Tense feature: Morphosyntactic

The arrow linking the tense feature and the adverb shows an interdependence relationship in which the occurrence of the adverbial of time is dependent on the tense feature that is marked on the verb. Other similar morphosyntactic structures that are triggered by the category of tense can be represented on ***figure 4. 4*** as long as the constituents within the structure are specified.

For morphosyntactic structures that are as a result of the contingent tense markers as in C2

(9), below is the representation:

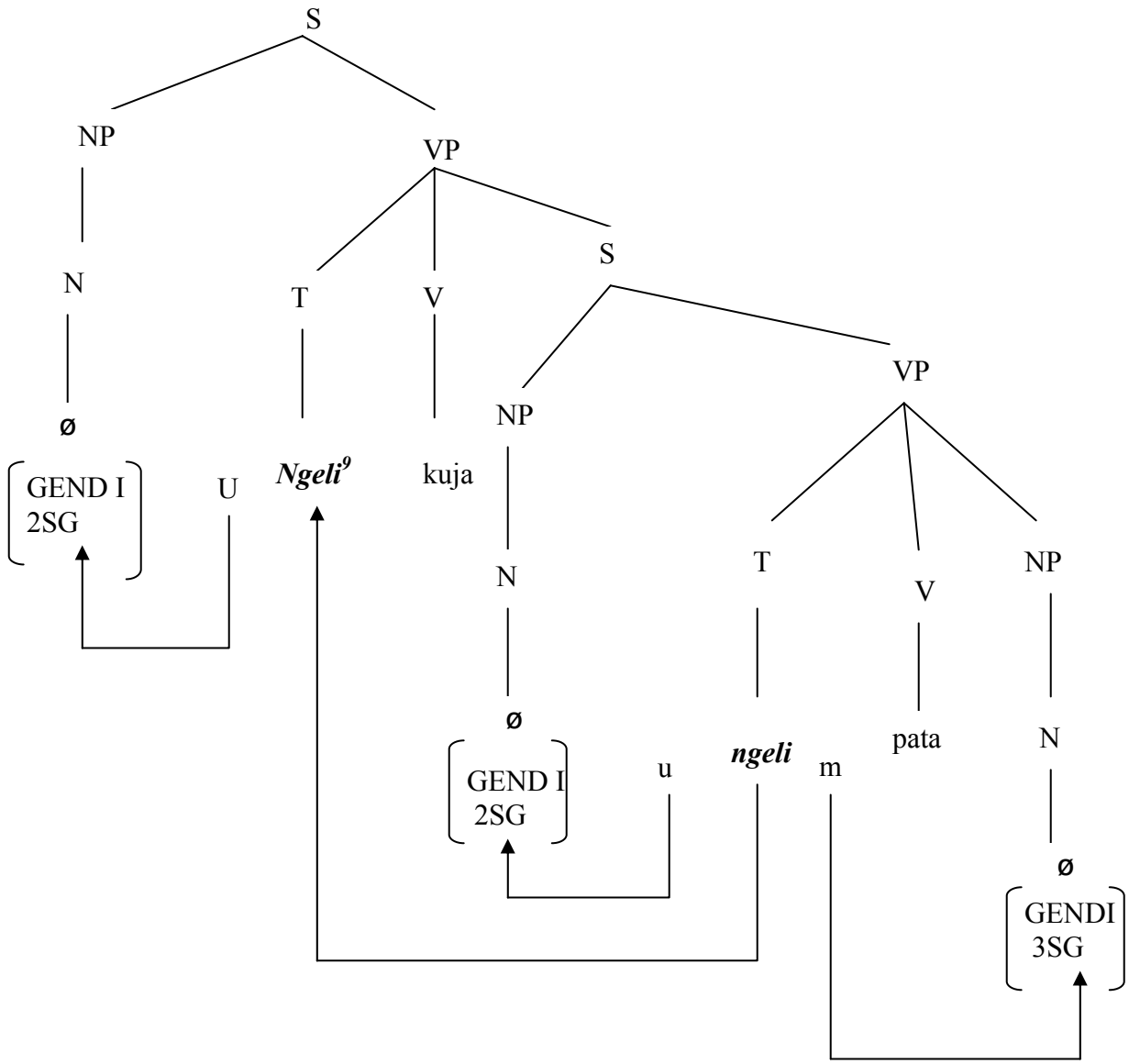


Fig. 4. 5: The Contingent marker: morphosyntactic

Once again the T. G. G fails to carter for the inflectional features of gender, number and person. In order to represent this on the phrase marker, we have used arrows to show the dependence relationship between the implied NP in the subject position and AGRs on the one hand; and on

[9]. ***Ngeli*** *is also an aspectual as well as a mood marker in Kiswahili*.

the other, the implied NP in the object position and the AGRo. For the contingent tense marker, the arrow shows that the occurrence of the second tense marker ***-ngeli-*** on the second verb is motivated by the presence of the first tense marker ***-ngeli-*** on the first verb. We see that syntax is sensitive to the tense marker ***-ngeli-*** in Kiswahili.

We can use the PM on ***figure 4. 5*** to represent an infinite number of morphosyntactic structures that are triggered by the contingent marker ***-ngeli-*** as well as those that are triggered by the conditional marker ***-ki-*** in Kiswahili. As much as the two surface structures are different; that is C2 (8) and C2 (9), they are generated using the same rule (though of course with specifications, see rule 2 above).

The phrase markers on ***figure 4. 4*** and ***4. 5*** show a dependence relationship between the elements in the structure. Specifically, the morphology of the verb has syntactic consequences on the entire sentence structure in Kiswahili, a demonstration of morphology- syntax interface.

4. 3. 1. 1. 3 Person

Person is a morphosyntactic category of inflectional morphology that is used in the classification of pronouns, related determiners, and verb forms according to whether they indicate the first, second or third person.

In this sub-section, it is shown that person is a morphosyntactic category. This is because the category has relevance to the word as well as to the whole sentence structure. Specifically, we have shown that whenever a given feature of person is marked on a given lexical item (normally a pronoun), it determines the form, the meaning and the person property of that item; and at the syntactic level, the very person feature becomes pertinent to the entire structure.

L1 Two types of pronouns that are marked with the category of person are used in the analysis:

(i) Personal pronouns

(ii) Emphatic pronouns[10]

Under emphatic pronouns, two further distinctions are made, namely:

[10.] *Though their translation brings out the meaning of a complex morphosyntactic structures, they function just as the simple personal pronouns in Kiswahili and this is why they are classified as pronouns in this study.*

(i) Those that are formed from a conjunction and a personal pronoun

(ii) Those formed from the copular verb and a personal pronoun

Below are the pronouns used to illustrate morphology-syntax interface that is triggered by the grammatical category of person:

A2 (14) mimi 'I'

A2 (17) ndimi 'It is I'

A2 (16) nasi 'and us'

A2 (18) ndiwe 'It is you (sg)'

A2 (15) yeye 'him/ her'

At the morphological level, the pronouns in A2 (12) – A2 (18) are marked for the property of person and as such, they are determined with regard to their form, meaning and the property of person.

Table 4. 6 shows the property of person that each pronoun bears:

Table 4. 6: Person feature marking on the pronoun

Type of pronoun		
	pronoun	**person feature**
(i) Personal pronoun	mimi 'I'	1 SG
	yeye 'him/ her'	3 SG
(ii) Emphatic pronouns formed from a conjunction and a personal pronoun	nasi 'with us'/ 'and we'	1 PL
(iii) Emphatic pronouns formed from a copular verb and a personal pronoun	ndimi 'it is I'	1 SG
	ndiwe 'it is you' (2SG)	2 SG

We see on ***table 4. 6*** that the property of person that is inherently born by the pronoun determines its morphological form, meaning and the property of person. Thus,

PRON→ Person feature/ property

Where:

Person feature or property: though not morphologically marked, it is postulated; and it has relevance to the word at the morphological level.

L2 Below are sentences that are based on the pronouns given above; and based on these sentences, we illustrate morphology-syntax interface that is triggered by the grammatical category of person:

C2 (10) ***Mimi ni-*** na- som- a.

SG- POS (1SG)- PROG- read- VS

'I am reading.'

C2 (11) ***Nasi tu-*** na- end- a.

1PL- POS (1PL)- PROG- go- VS

'And we are going.'

C2 (15) ***Ndiwe u-*** li- ye- torok- a.

2SG- POS (2SG)- PAST- REL- escape- VS

'It is you who ran away.'

C2 (13) ***Ndimi ni-*** li- ye- m- let- a.

1SG- POS (1SG)- PAST- REL- AGRo- bring- VS

'It is I who brought him/ her.'

C2 (14) Ni - na- ***m-*** pend- a (***yeye***).

1SG- PROG- 3SG- love- VS 3SG

'I love him/ her'

At the syntactic level, we observe that on the one hand, the subject affix attachment rule copies the person feature that is marked on the pronoun in the subject position onto the verb (see C2 (10), C2 (11), C2 (13) and C2 (15)); and on the other, the object affix attachment rule copies the person feature that is marked on the pronoun in the object position onto the verb. Consequently, this feature (person property that is marked on the pronoun) affects the structure of the verb in the sense that it determines the type of subject agreement marker and the object agreement marker that is to occur. So, at the syntactic level, this feature is pertinent. Therefore,

this is what happens:

PRON $\longrightarrow$ AGRs/ o

Where:

AGRs/ o$\rightarrow$ Subject or object agreement marker

PRON $\longrightarrow$ AGRs/ o means that, at the syntactic level, the person feature that is marked on the pronoun motivates the occurrence of either the subject or the object agreement marker; and the two have to agree with regard to the feature of person. As earlier mentioned, these features are copied by the subject and object affix attachment rules respectively. In other words, the ***AGRs*** and the ***AGRo*** is controlled by the features of the pronoun that is in the subject and in the object position. In the present study, the interdependence relationship between the agreement features on the pronoun and those on the verb is explained in terms of morphology-syntax. This is because these features have morphological and syntactic consequences.

The following table shows the effect of the grammatical category of person (as used in the above structures) on the sentence structure in Kiswahili:

Table 4. 7: Influence of the grammatical category of person at the syntactic level

Type of pronoun				
	pronoun	**Person feature on the pronoun**	**Pronominal marker:**	
			AGRs	**AGRo**
(i) Personal pronoun	mimi 'I/ me'	1 SG	ni-	ni
	yeye him/ her	3 SG	a-	-m-
(ii) Emphatic pronoun formed from a conjunction and a personal pronoun	nasi 'we/ us'	1PL	tu-	-tu-
(iii) Emphatic pronoun formed from an copular ***ni*** 'be' and a personal pronoun	ndimi 'I/ me'	1SG	ni-	-ni-
	ndiwe 'you (SG)'	2SG	u-	-ku-

T***able 4. 7***, shows that the emphatic and the simple forms function in the same way; that is, they assign similar person agreement features on the verb (AGRs and AGRo) Basically, each simple form has an emphatic counterpart with which they share morphosyntactic features. As we can see on T***able 4. 7***, at the syntactic level, the subject and object affix attachment rules copy the AGRs and AGRo that are marked on the pronoun onto the verb. This means that the grammatical category of person has morphological and syntactic consequences in Kiswahili.

Based on the morphosyntactic processes in C2 (10) - C2 (15), we see that: *the grammatical category of person is morphosyntactic in Kiswahili. This category determines the morphological structure, the meaning and the property of person of the word (pronoun) and at the syntactic level, the same person feature motivates the occurrence of AGRs and AGRo on the verb and by so doing, the whole syntactic structure is determined with regard to form, meaning as well as the property of person.*

Violation of the requirements of the grammatical category of person, negatively affects the entire sentence structure as demonstrated below, where C2 (10) is repeated as C2 (10) (i):

C2 (10) (i)**Mimi u-* na- som- a.

1SG POS (2SG)- PROG- read- VS

'I you are reading.'

C2 (10) (i) is ungrammatical because the subject affix attachment rule that is supposed to copy the first person feature that is inherently present within the pronoun ***mimi*** 'I' has not appropriately applied at the syntactic level. Having been marked for first person singular, the personal pronoun ***mimi*** 'I/ me' demands that the verb takes the pronominal feature ***ni-*** for concordial purposes, so this feature has to be copied onto the verb.

L3 The morphosyntactic processes that are given in C2 (10) and C2 (11) are generated from a pronoun and a VP; and the VP is generated from a pronominal marker that agrees with the PRON in the subject position, a tense or an Aspect marker, an optional AGRo (depending on whether there is a pronoun in the object position) and a verb. Therefore the rule that describes the structures is:

S→ PRON+ VP

VP→ AGRs+ T/ ASP+ (***AGRo***) + V+ (***PRON***)

Therefore:

S→***PRON***+ ***AGRs***+ T/ ASP+ (***AGRo***) + V+ (***PRON***)

Where:

PRON→ Pronoun

ASP→ Aspectual marker

The rule means that a sentence is generated from a pronoun and a VP, whose AGRs and AGRo is dependent on the person feature that is marked on the pronoun in the subject and the object position respectively. In other words, the person feature that is inherently marked within the pronoun motivates the occurrence of the ***AGRs/ o***, and the two have to agree with regard to the grammatical category of number.

The rule shows the relevance of the person feature that is marked on the pronoun to morphology as well as syntax.

Just as with the personal pronoun that is in the subject position, we see from example C2 (14) that a morphosyntactic process takes place when the pronoun occurs in the object position.

Similarly in this case, the property of person that is inherently present within the pronoun in the object position determines the structure, the meaning and the person property of the pronoun at the morphological level. At the syntactic level, the same property of person influences the whole sentence with regard to its structure, and the meaning.

L4 The morphosyntactic structure established in C2 (10) that is triggered by the category of person is schematised below:

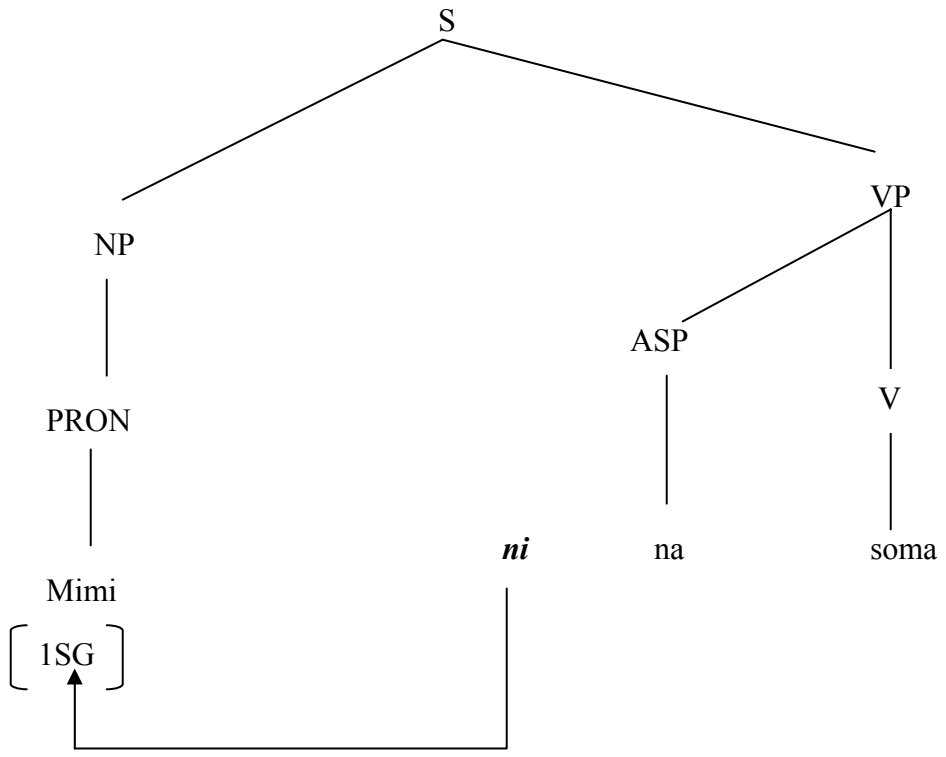


Figure 4. 6: Person: A morphosyntactic feature

On figure 4. 6, we have used the arrow to indicate the interdependence relationship between the pronoun that is in the subject position and the subject pronominal feature that is marked on the verb. Specifically, the person feature that is marked on the pronoun in the subject position is copied onto the verb. This is an illustration of the morphosyntactic property of the person feature in Kiswahili. Once again, our theory of T. G. G fails to cater for the subject pronominal feature. As in the preceding examples, we have used the arrow to show that this morphosyntactic feature is present in Kiswahili as much as it is not taken care of by the T. G. G. The phrase marker on ***figure 4. 6*** can as well be used to represent many more similar structures that are triggered by the

grammatical category of person in Kiswahili. On the other hand, morphosyntactic structures that have the pronoun occurring in the object position as in C2 (14), their representation is:

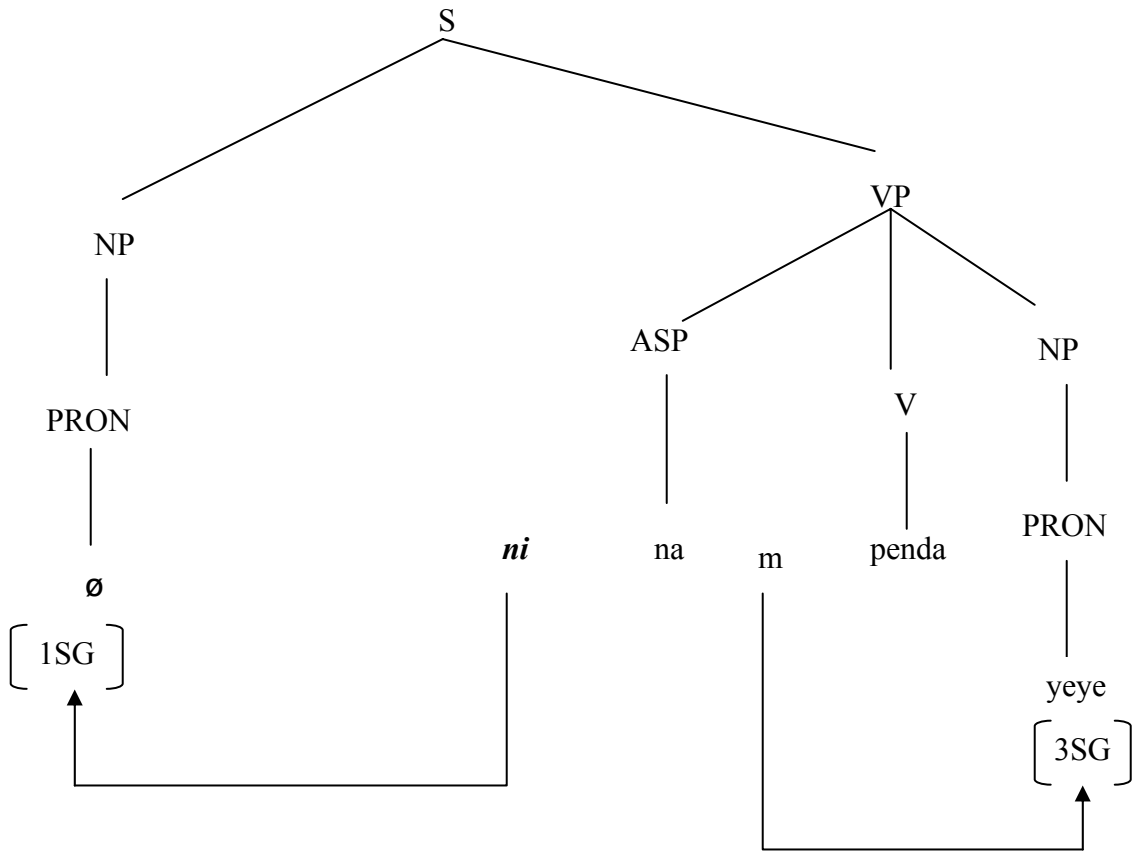


Figure 4. 7: Morphosyntactic structures with the pronoun in the object position

Figure 4. 7 show that the object agreement feature (AGRo) that is affixed onto the verb is copied from the pronoun in the object position. Since this type of affixation is not taken care of in the T. G. G, we have used the arrow to show the relationship that holds between the two; that is, the pronoun in the object position and the AGRo As illustrated before, the person feature that is inherently marked on the pronoun has syntactic consequences. This is explicitly demonstrated on figures 4. 6 and 4. 7 above.

However, it is important to mention that since Kiswahili has a rich agreement system, the pronoun can remain implicit, that is implied. The implied pronoun (pro) sanctions the occurrence of the AGRs or AGRo. In other words, the person features that are born by the null element pro

are copied onto the verb as AGRs and AGRo. (see ***section 4. 3. 1. 5. 3***). Below is an example, where C2 (14) is repeated as C2 (14) (i) below without an object:

C2 (14) (i) Ni - na- ***m-*** pend- a pro

POS (1SG)- PROG- 3SG- love- VS pro

'I love him/ her.'

The meaning that is derived from structures with the pronoun overtly marked and those in which it is not, is the same. In the present study, we argue that even in structures such as C2 (14) (i), there is morphology-syntax interface. This is because it is the person property of the implied pronouns (pro) that determines the occurrence of such a structure in its present form as well as its person property.

4. 3. 1. 1. 4 Aspect

Just as with tense, Aspect is an inherent property of the verb. Its function is to highlight the temporal unfolding of the predication. Basically, Aspect indicates whether an event, state, process or action that is denoted by the verb is complete or in progress. The grammatical category of Aspect is closely related to that of tense and that is why Comrie (1985: 1- 2) says that it is not possible to understand the category of Aspect without first understanding that one of tense. However, as much as the two categories are related, they are quite distinct.

In this sub-section, we have shown that Kiswahili does not allow the marking of Aspect and tense on the same verb; just as in English. In Kiswahili, one mark implies the other meaning; that is, either tense or Aspect. When both tense and Aspect have to be expressed in the same structure, then the auxiliary verb ***kuwa*** 'to be' is used for tense while Aspect is marked on the main verb. In the present study, the Aspectual feature is shown to be morphosyntactic in Kiswahili because this feature is pertinent to morphology as well as to syntax.

L1 Below are the words that we used to analyse morphology-syntax interface that is triggered by the grammatical category of Aspect in Kiswahili:

A2 (19) A***me***soma 'He/ she has read' (Perfective/ Completive Aspect)

A2 (20) Ni***na***lima 'I am ploughing' (Imperfective/ Progressive Aspect)

A2 (22) A***ki***ogelea 'He/ she be swimming' (Imperfective Aspect)

A2 (23) A***ki***tunga 'He/ she be composing' (Imperfective Aspect)

Below is a table that shows Aspectual marking in Kiswahili:

Table 4. 8: Aspectual marking in Kiswahili

Aspect markers: morphosyntactic	
Perfective/ Completive	**Imperfective/ Progressive**
-me-	-na-
	-ki-

At the morphological level, each of the words in A2 (19), A (20), A (22) and A (23) is marked by one of the Aspectual markers as provided on ***table 4.8***. This therefore means that at the morphological level, the Aspectual marker (bold italic) determines the word (verb) with regard to its morphological structure, its meaning as well as its Aspectual properties.

So, the words in A2 (19), A (20), A (22) and A (23) above are generated from:

VP → AGRs+ ***ASP***+ V

Where:

ASP → Aspectual marker.

From the grammar that accounts for the verbal structures above, we observe that the aspectual marker has morphological consequences in that this feature affects the structure of the word, its meaning as well as its Aspectual properties.

L2 Based on the same words, the following sentences are used to illustrate morphology-syntax interface at the syntactic level:

C2 (16) Maria a- ***me-*** som- a ki- tabu ch- ote.
Mary AGRs- PERFT- read VS SG- book AGRo- all
'Mary has read the whole book.'

C2 (17) Mimi ni- ***na-*** lim- a.
1SG AGRs- PROG- dig VS
'I am digging.'

C2 (18) Yohana a- li- kuwa a- ***ki-*** ogelea.
John AGRs- PAST- AUX- AGRs- PROG- swim
'John was swimming.'

The sentences in A2 (16) – A2 (18) show that the Aspectual marker has syntactic consequences in Kiswahili. At the syntactic level, this grammatical category determines the meaning and the Aspectual properties of the entire sentence. Whereas in A2 (16) and A2 (18) the actions are still going on, in A2 (17), the action is already accomplished. The relevance of the Aspectual marker to syntax is appreciated more if we try to vary the Aspectual markers in the three sentences; their structure and meaning will automatically change.

In Kiswahili, when the auxiliary verb occurs with the main verb in the structure, tense is marked on the auxiliary, while Aspect is marked on the main verb as in C2 (18). However, when the main verb occurs alone, it is the Aspectual feature that is marked on the main verb; and the same Aspectual marker has tense meaning in it as in C2 (16) and C2 (17).

From the illustrations that we have given, what emerges is that *the Aspectual feature determines the morphological structure, the meaning and the Aspectual property of the verb and at the syntactic level, the same feature has relevance to the entire syntactic structure.* A structure that violates the requirements of a given Aspectual marker especially in terms of the interpretation of the Aspectual property, affects the entire sentence structure as demonstrated below, where C2 (17) is repeated as C2 (17) (ii):

C2 (17) (ii) *Mimi ni- ***na-** lim- a jana.
I am POS (1SG)- PROG- dig VS yesterday
'I am digging yesterday.'

C2 (17) (ii) is ungrammatical because as much as the Aspectual marker has determined the word (verb, which is marked for the Progressive Aspect) with regard to morphological structure, meaning and Aspectual features, syntax has failed to be sensitive to the syntactic requirements of this category. The occurrence of the adverb ***jana*** 'yesterday' is inappropriate. Since the Aspectual marker ***na*** (PROG) has tense meaning (progressive is a function of the present tense), this meaning has to be appropriately represented at the syntactic level. In C2 (17) (ii), this has not happened.

L3 The morphosyntactic structures established in C2 (16) - C2 (18) are generated from an NP, an optional auxiliary verb (which is made up of AGRs, T & AUX), an obligatory VP (which is made up of AGRs, ASP & V); and an optional NP or ADVP. So the rule that describes the morphosyntactic processes that are triggered b the Aspectual feature is:

S→ NP + (AGRs+ T+ AUX)+ AGRs+ ***ASP***+ V+ (NP) (ADVP)

Where:

ASP→ Aspect

The rule means that in generating the morphosyntactic structures that are given above, the auxiliary verb, the NP that is in object position as well as the adverbial phrase are optional elements; their occurrence depends on the type of the structure (since there are structures in which the auxiliary verb is an obligatory element like C2 (18). However, the VP that bears the aspectual marker is obligatory.

The rule appears so because as earlier mentioned, a sentence in Kiswahili can be generated from a VP alone as long as it has the minimal requirements, which are: a subject agreement marker, a tense marker and a verb. In the absence of a tense marker, an Aspectual marker with a tense meaning occurs. This means that a VP alone in Kiswahili is sufficient to illustrate a morphosyntactic process that is triggered by the grammatical category of Aspect. In such a case, the Aspectual marker determines the morphological form, the meaning and the Aspectual properties of the verb; and by so doing, the whole sentence structure (which in this case is the verb phrase alone) is as well determined with regard to the same Aspectual features.

The PSR given above describes an infinite number of morphosyntactic structures that are triggered by Aspect as a morphosyntactic category. This is in line with the T. G. G whose emphasis is on the use of a finite set of rules to describe an infinite number of structures.

Below is the representation of the morphosyntactic structures that are triggered by the grammatical category of Aspect:

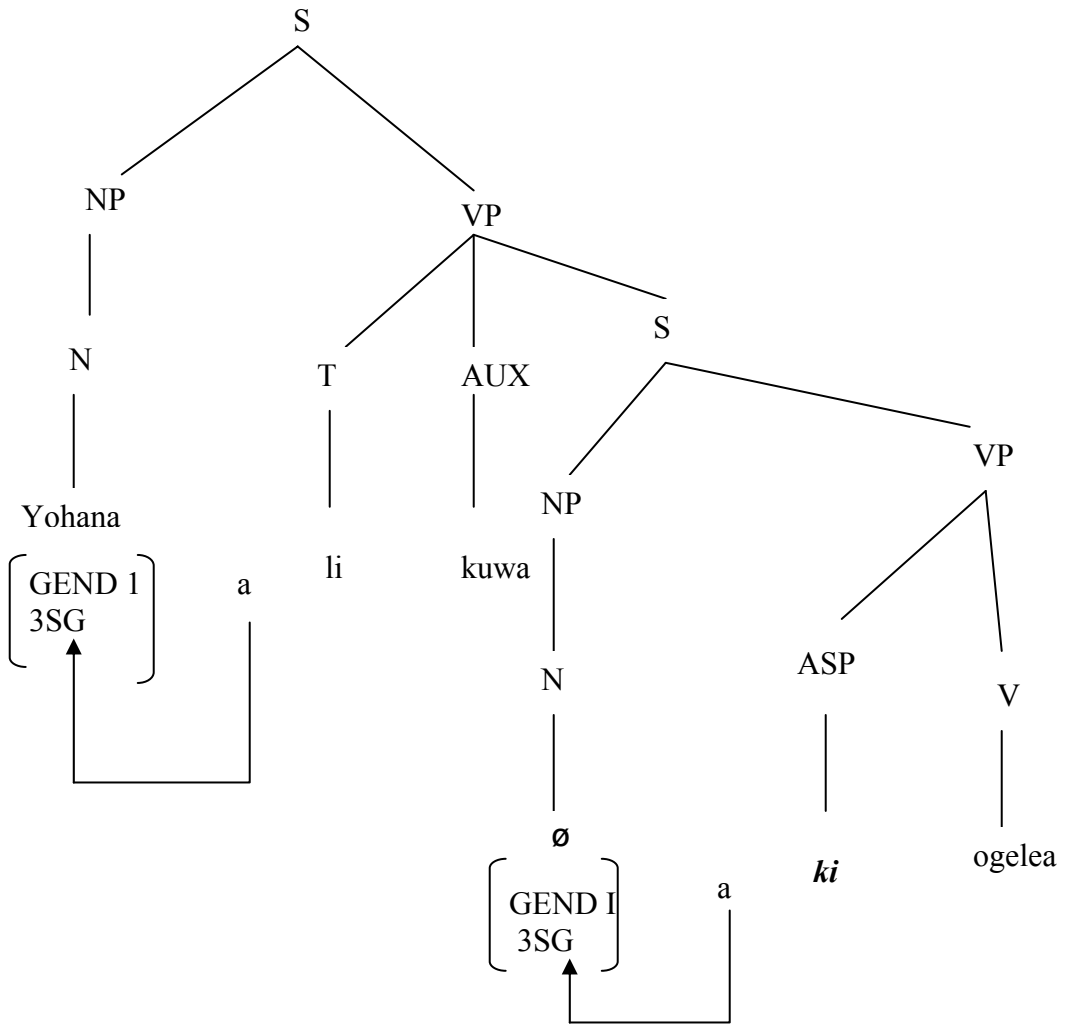


Fig. 4. 8: Aspect: A morphosyntactic category

Just as with the tense feature, the Aspectual feature is inherently present in the verb and as such it is included in the base rule. This is unlike the other agreement features in Kiswahili that cannot be appropriately schematised using the T. G. G. An infinite set of morphosyntactic structures can be represented on the phrase marker on ***figure 4. 8***. The representation makes explicit what goes on in the mind of a Kiswahili speaker when constructing such a sentence. This is part of the focus of the transformational generative linguists, they seek to characterise what the speaker of a language knows.

4. 3. 1. 1. 5 The Comparison

The comparison is an inherent property of the adjective as well as some adverbs. Though not morphologically marked, the analysis of words as well as sentence structures show that this grammatical category is morphosyntactic; it triggers morphology-syntax interface in Kiswahili. In this sub-section, we have shown that this category determines the word (adverb) with regard to the property of the comparison and at the syntactic level, this property influences the entire structure with regard to the linguistic elements that are to occur in the structure and their syntactic distribution.

L1 Below are the words that are used to analyse morphology-syntax interface that is triggered by the grammatical category of the comparison:

A2 (29) ***Kuliko*** 'than'

A2 (30) ***Sana/ zaidi/ mno*** 'more/ most'

A2 (31) ***Kama*** 'as/ like'

A2 (32) ***Kuzidi*** 'than'

Though the words (adverbs) given above are not morphologically marked for the comparison, they all inherently bear the property of the comparison. Therefore, at the morphological level, the category of the comparison determines these words with regard to their morphological form, meaning and the property of the comparison.

The words in A2 (29) – A2 (32) are generated using the grammar below:

ADVP→ R

Where

ADVP→ Adverbial phrase

R→ Adverbial root

This morphological rule means that an adverb is generated from the adverbial root alone. As earlier mentioned, this adverbial root inherently bears the comparison property. At the morphological level, the words occur as below:

Table 4. 9: The Comparison: The inherent property of the Adverb

Word (Adverb)	**Morphosyntactic category (property)**
kuliko 'than'	comparison
kuzidi 'than'	comparison
kupita 'than'	comparison
zaidi ya 'more than'	comparison
sana 'more/ most'	comparison
kama' as/ like'	comparison
kushinda 'than'	comparison

What is common in the above adverbs is that they all bear the attribute of the comparison; they are used to compare qualities and as such, at the morphological level, they are determined with regard to their structure, meaning as well as the property of the comparison.

L3 Since the words that are given above are marked for the category of the comparison, there is no way they can function syntactically without comparing. Therefore at the syntactic level, we show in this sub-section that they (above adverbs) determine what is to occur in the structure in terms of the quality to be compared and the elements to be compared. Consequently, the inherent property in them (adverbs) has syntactic consequences. This is observed in the following sentences that are used in the analysis:

C2 (24)Yohana ni m- kubwa ***sana/ zaidi kuliko*** dada- ake.
John COP- SG- big COMP sister- POSS
'John is bigger than his sister.'

C2 (25) Yohana ni m- fupi ***kama*** nyundo.
John COP- SG- short COMP hammer
'John is as short as a hammer.'

C2 (26) Baba ni m- nene ***kuliko*** mama
father COP- SG- fat COMP mother
'Father is fatter than mother.'

C2 (27) Bakari ni mw- erevu ***kuzidi*** Asha

Bakari COP- SG- clever COMP Asha

'Bakari is clever than Asha.'

The sentences in C2 (24) –C2 (27) show that when the comparison adverbs function syntactically, they demand that the elements to be compared occur as well as the quality to be compared. Therefore, the occurrence of the quality and the elements to be compared is motivated by the comparison property that is inherent in the adverbs in C2 (24) - C2 (27). We see therefore that this grammatical category of the comparison is morphosyntactic. This is because it (the property of the comparison) first determines the form, meaning and the property of the adverb (words used to compare) and at the syntactic level, this very property influences the whole sentence with regard to the type of linguistic elements that are to occur in the structure as well as their syntactic distribution. ***Table 4. 10*** shows what happens at the syntactic level.

Table 4. 10: The syntactic function of the comparison

Elements to be compared	**Quality to be compared**	**Comparison word**	**Elements to be compared**
Yohana	mkubwa 'big'	***kuliko 'than'***	dadake 'his sister'
Yohana	mfupi 'short'	***kma 'as'***	nyundo 'hammer'
Baba 'father'	mnene 'fat'	***kupita 'than'***	mama 'mother'
Bakari	mwerevu clever'	***kuzidi 'than'***	Asha
A	B	C	D

Table 4. 10, shows that the property of ***C*** triggers the occurrence of ***A, B*** & ***D*** at the syntactic level. That is, at the syntactic level, the occurrence of the linguistic elements to be compared (***A*** & ***D***) and the quality to be compared ***(B)*** is motivated by the presence comparison word (***C)***. Therefore, the property of the comparison has relevance to morphology and syntax in Kiswahili. The behaviour of the comparison in Kiswahili is similar to those ones in English. The only difference is that whereas in English the property of the comparison is morphologically marked, in Kiswahili, it is not.

So, basically we see that: *The occurrence of a comparison linguistic item in Kiswahili requires that the quality being compared as well as the entities being compared occur in their*

appropriate syntactic positions for the structure to be grammatical. This is a statement that is true to the grammatical category of the comparison in Kiswahili. Violation of the morphological and syntactic requirements of this category has negative consequences on the entire sentence structure as demonstrated below, where C2 (26) is repeated as C2 (26) (ii):

C2 (26) (ii)*Baba ni m- nene ***kuliko***.

Father COP- SG- fat COMP

'Father is fatter than.'

C2 (26) (ii) is ungrammatical because the requirements of the comparison adverb at the syntactic level have been violated. Given that the comparison has occurred, at least two or more entities that are to be compared have to occur. This shows the relevance of the comparison category to the word as well as to the entire sentence structure.

L3 Each of the morphosyntactic structures that is given in C2 (24) – C2 (27) is made up of two arguments (NPs) that are being compared, a copula verb, the quality (adjective) being compared and the comparison word (adverb). Therefore the morphosyntactic rule that describes them is:

S→***N*** + COP + ***ADJ***+ (INT) + ***ADV*** + ***N***.

Where:

N→ Entities being compared

ADJ→ Quality being compared

(INT)→ Optional intensifier

ADV→ Comparison word

In the rule, it is the adverb that bears the comparison properties and its occurrence has syntactic consequences. Specifically, the adverb demands that the distribution of the other linguistic elements occur as they are within the rule. The rule describes the structures given above as well as many more others that are triggered by the grammatical category of the comparison. This follows from the transformational generative theory being applied.

The PSR shows that the comparison item; the quality being compared and the entities being compared are obligatory in a morphosyntactic construction that is triggered by the grammatical category of the comparison. This is true even in cases where either the subject or the object is implied. In all such cases, the obligatory elements are assumed to be present. Below is an illustration, where C2 (24) is repeated with one of the entities that is being compared missing:

C2 (24) (i) Yohana ni m- kubwa ***sana/ zaidi.***

John COP- SG- big COMP

'John is the biggest.'

In C2 (24) (i) above, there are two (or more) entities being compared though only one of them is explicitly expressed. This is because any time one uses the comparison word ***zaidi*** 'than', it means that at least there is more than one element being compared. This justifies the validity of the PSR; and the process is still morphosyntactic because both syntax and morphology are sensitive to the comparison property.

L4 The following generalised PM is a representation of the morphosyntactic processes in C2 (25):

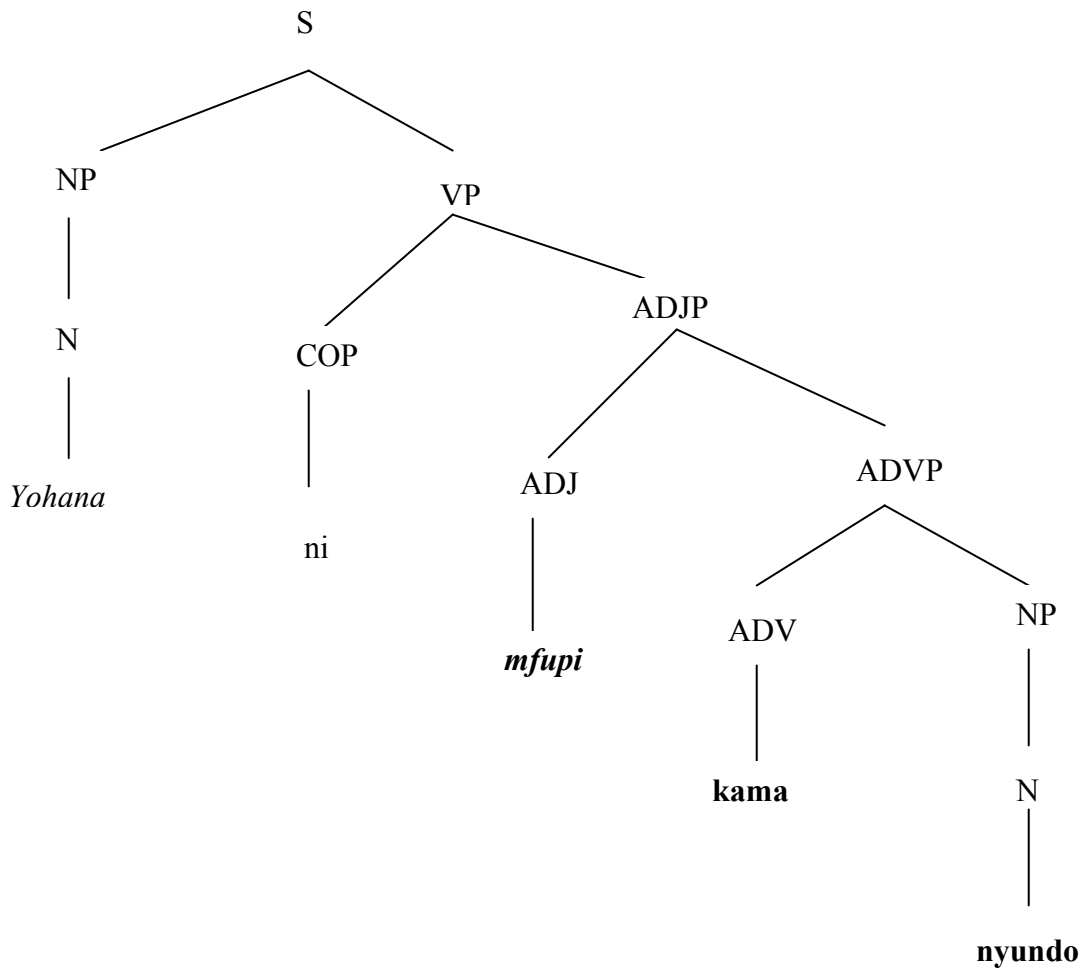


Fig. 4. 9: The property of the comparison: Morphosyntactic

The occurrence of the bold italic linguistic elements on figure 4. 9 is motivated by the comparison properties of the adverb ***kama*** 'as'.

Other morphosyntactic structures that are triggered by the grammatical category of the comparison can be represented on the phrase marker in ***figure 4. 9***. Such a representation reflects what goes on in one's mind when constructing such a structure.

Conclusion

The analysis in the preceding sub-sections show that different grammatical categories of inflectional morphology trigger morphology-syntax interface in Kiswahili. Specifically the grammatical categories of gender, number, tense, person, Aspect and the comparison have been shown to have morphological and syntactic consequences in Kiswahili. This is because, at the morphological level, these categories influence the word; and when the same influenced word functions syntactically; it affects the whole syntactic structure by putting syntactic constraints on the entire structures. We have formulated rules that describe the morphosyntactic processes that have been established. Though finite, the rules describe an infinite set of similar morphosyntactic processes. This is in line with the transformational generative theory of grammar that is being applied in the study. However, as demonstrated in the discussion, the T. G. G fails to appropriately account for most of the inflectional affixes that occur in this language. Being an agglutinating language, the analysis of the Kiswahili morphosyntactic features requires a theory that takes care of the many agreement features that are a basic characteristic of this language.

4. 3. 1. 2 Class-changing Word Formation Processes

Apart from inflectional morphology, the analysis of words and sentences used in the study showed that different class-changing word formation processes trigger morphology-syntax processes in Kiswahili. This is in agreement with Webelhuth's (1995) assertion. Unlike the proponents of split morphology, who argue that it is only inflectional morphology that is relevant to syntax and not derivational (see Robins, 1989: 241), Webelhuth (1995: 305- 306) proposes the weak lexicalist hypothesis that gives the widest berth to morphosyntax, allowing it to effect morphology generally, regardless of its classification into inflectional and derivational terms. The analysis in this sub-section follows Webelhuth's weak lexicalist hypothesis. In the present study, what is relevant to syntax is not just restricted to inflectional morphology but rather it also

refers to derivational morphology, specific processes together with any other property that is morphological but with syntactic consequences. Three types of class-changing word formation processes are analysed in the study; namely:

(i) derivational morphology (ii) compounding (iii) idiomization

Each of this word formation process is analysed at the morphological and syntactic level in order to establish the morphosyntactic process that emerges. Specific morphosyntactic rules are formulated based on the morphosyntactic processes that have been established. These are then schematised on phrase markers for easier interpretation.

4. 3. 1. 2. 1. Derivational Morphology

This is a word formation process where new lexemes are formed from existing ones, using derivational affixes (with the exception of the conversion process). In this sub-section, we have shown that derivational affixes cause major grammatical changes at the morphological level, including change of category of the derived form, change in morphological structure as well as meaning change.

From the data of the derived words that have been used in the study, four types of derivatives are analysed; namely:

(i) Nominalised derivatives

(ii) Verbalised derivatives

(iii) Adverbialised derivatives

(iv) Those involving conversion processes

4. 3. 1. 2. 1. 1 Nominalization

This is a word formation process, where nouns are derived from words that belong to other word classes. Nominalization is a productive process that is used to form nouns that express process, state, result, instrument and agency; using prefixation, suffixation or both. We have shown from the analysis of words and sentences that nominalization derivational affixes affects the morphological structure, the syntactic category and the meaning of the word (derived form) and at their syntactic function, the same affixes have syntactic consequences on the whole sentence.

L1 Below are the nominalized words that are used to analyse morphology-syntax interface

that is triggered by nominalization derivational morphology:

(i) kusoma 'reading'

(ii) kushiriki 'participating'

(iii) upungufu 'shortage'

(iv) uongozi 'leadership'

(v) usafi 'cleanliness'

(vi) undani 'insideness'

(vii) mchungwa 'orange tree'

From the derived words, three things emerge:

(i) The derivative has a base form.

(ii) The derivatives are derived from different word classes. Whereas (i) - (iv) are derived from verbs, (v) is derived from an adjective, (vi) from an adverb, while (vii) is derived from a noun.

(iii) All derivatives are made up of derivational affixes and the root, which form the base form. So, the derivatives occur with their base forms as below:

Derived form	**Basic form**
A2 (36) ***ku***soma 'reading'	soma 'read'
A2 (37) ***ku***shiriki 'participating'	shiriki 'participate'
A2 (38) ***u***pungu***fu*** 'shortage'	pungua 'reduce'
A2 (39) ***u***ongoz***i*** 'leadership'	ongoza 'lead'
A2 (40) ***u***safi 'cleanliness'	safi 'clean'
A2 (41) ***u***ndani 'insideness'	ndani 'inside'
A2 (42) ***m***chungwa 'orange tree'	chungwa 'orange'

Both derivational prefixes and suffixes are used in deriving nouns from words that belong to other word classes, with the exception of A2 (42). Whereas nouns in A2 (36)-A2 (39) are derived from verbs, in A2 (40), a noun is derived from an adjective, in A2 (41), a noun is derived from an adverb, while in A2 (42), a noun is derived from a noun.

From the example of the words given, four observations are made:

(i) There are derivational prefixes, suffixes or both, that are used to derive the derivative from the basic form.

(ii) The presence of the derivational affix causes morphological change in the structure of the derived form.

(iii) The derivational affixes reclassify the derived word form.

(iv) The derivative has a new meaning.

These properties of the nominalised words make explicit the fact that at the morphological level, the derived form of the word is affected with regard to its morphological structure, its category and its meaning. These changes are motivated by the presence of the nominalization derivational affix. Therefore, at the morphological level, the derivatives are made up of:

$NP \rightarrow Af_{1D}\ R\ (Af_{1D})$

Where:

$Af_{1D} \rightarrow$ Derivational prefix or suffix

The morphological rule means that the derivatives are made up of a root and either a derivational prefix, suffix or both. ***Af_{1D}*** determines the morphological structure, the category and the meaning of the derived form of the word. This is because the base form changes as below:

Either:

(a) $R \longrightarrow Af_{1D}\ R$ (the base form becomes a derivative on the addition of a nominalization derivational suffix) or

(b) $R \longrightarrow Af_{1D}\ R\ Af_{1D}$ (the base form becomes a derivative on the addition of a nominalization derivational prefix as well as a suffix)

(a) & (b) show that the derivatives are quite different from the base forms. Whereas in (a), only a derivational prefix is used, in (b), a derivational prefix and a suffix are used to derive the derivatives.

The changes occur whether the nominalised linguistic element is a gerundive (verbal noun), a deverbative, a nominalised adverb, a nominalised adjective or a nominalised noun as shown on ***table 4. 11*** below:

Table 4. 11: Nominalization derivational affixes: Morphosyntactic

Types of nominalised derivatives	**Derivational prefix: morphosyntactic**	**Derivational suffix: morphosyntactic**	**Derivative**
(i) Gerundive	ku-		***ku***imba 'singing'
(ii) Deverbative	m- & u-	-i, -ji, -u, -o, -e, -vu, -fu & -shi	***u***lege***vu*** 'slackness'
(iii) Nominalised adverb	u-		***u***taratibu 'orderliness'
(iv) Nominalised adjective	u-		***u***safi 'cleanliness'
Nominalised noun	m-		***m***pera 'quava tree'

The table makes explicit the derivational affixes that trigger morphology-syntax interface in Kiswahili.

L2 At the syntactic level, the following structures that bear derived forms are used to establish morphology-syntax interface that is triggered by nominalization derivational affixes in Kiswahili.

C2 (28) Maria a- na- penda ***ku***- soma.
Mary AGRs- PROG- love DER- read
'Mary loves reading.'

C2 (29) Sarah ni ***mw***- andi- ***shi***.
Sarah- COP- DER- write- DER
'Sarah is a writer.'

C2 (30) Mama a- na- zingatia ***u***- safi .
Mother AGRs- PROG- emphasise DER- clean.
'Mother puts emphasis on cleanliness.'

C2 (35) ***Ku***- imb- a ***ku***- na- vutia.

GER- sing- VS AGRs- PROG- attract

'Singing is attractive.'

The derivatives have their basic counterparts, in which the underived form is used. The function of the basic and the derived word is different at the syntactic level. Given that the two belong to different syntactic categories, it follows that they function in different syntactic positions. This difference is triggered by the nominalization derivational affix that has syntactic consequences in Kiswahili. This is illustrated below:

C2 (28) (i) Maria ***a- na- som- a*** ki- tabu.

Mary AGRs- PROG- read VS SG- book

'Mary is reading a book.'

C2 (29) (i) Sarah ***a- na- andik- a***.

Sarah - AGRs- PROG- write- VS

'Sarah is writing.'

C2 (30) (i) Mama ni ***m- safi***.

Mother COP SG- clean

'Mother is clean.'

When we compare the derived structures in C2 (28) - C2 (30) and the basic (underived) structures in C2 (28) (i) - C2 (30) (i), we see that the structures with a derived form have:

(i) a different meaning

(ii) a different distribution from that of the underived (basic) form.

(iii) a different structure from that of the underived form, that is, it occurs with different linguistic elements.

Therefore, what is true to the morphosyntactic processes that are triggered by the nominalization derivational affixes in Kiswahili is that: *The nominalization derivational affix is morphosyntactic; it influences the morphological structure, the category and the meaning of the derived form of the word; and at the syntactic level, the same nominalization derivational affix influences the whole sentence structure with regard to the linguistic elements that are to occur in the syntactic structure as well as their syntactic distribution.* Violation of the morphological and syntactic requirements of the nominalization derivational affix, negatively affects the grammaticality of the entire sentence structure as observed below, where C2 (28) (i) is repeated, with an ungrammatical derivative:

C2 (28) (i) Maria a- na- som- a ki- tabu.

Mary AGRs- PROG- read VS SG- book

'Mary is reading a book.'

(ii) *Maria ***ku-*** som- a ki- tabu.

Mary DER- read VS SG- book

'Mary reading a book.'

The ungrammaticality of C2 (28) (ii) is attributed to the fact that the derived linguistic element has the same distribution as the basic form, that is, it is occurring in the verb phrase position instead of the noun phrase position (as much as its morphological structure, its category and meaning has changed). So, the requirements of the nominalization derivational affix have been violated at the syntactic level.

L3 The morphosyntactic structures that bear the derived forms in C2 (28) - C2 (30) consist of a noun or a pronoun, with either a copular verb or a main verb, and a derived form that is either marked with a prefix alone or with a prefix as well as a suffix. Therefore, the PSR that accounts for their occurrence is:

$$S \rightarrow N/\ PRON + \left\{ \begin{array}{l} V \\ COP \end{array} \right\} + \boldsymbol{Af_{1D}R\ (Af_{1D})}$$

Where:

COP→ Copular verb

Af_{1D}→ Derivational prefix or suffix

R→ Root (basic form)

This morphosyntactic rule describes the morphosyntactic structures in C2 (28)- C2 (30) as well as many others that are triggered by the nominalization derivational affixes in Kiswahili. It is the presence of the affix (es) that trigger morphology-syntax interface in the structures and this is why we argue that these affixes have morphological and syntactic relevance.

Below is the representation for the morphosyntactic structure given in C2 (28):

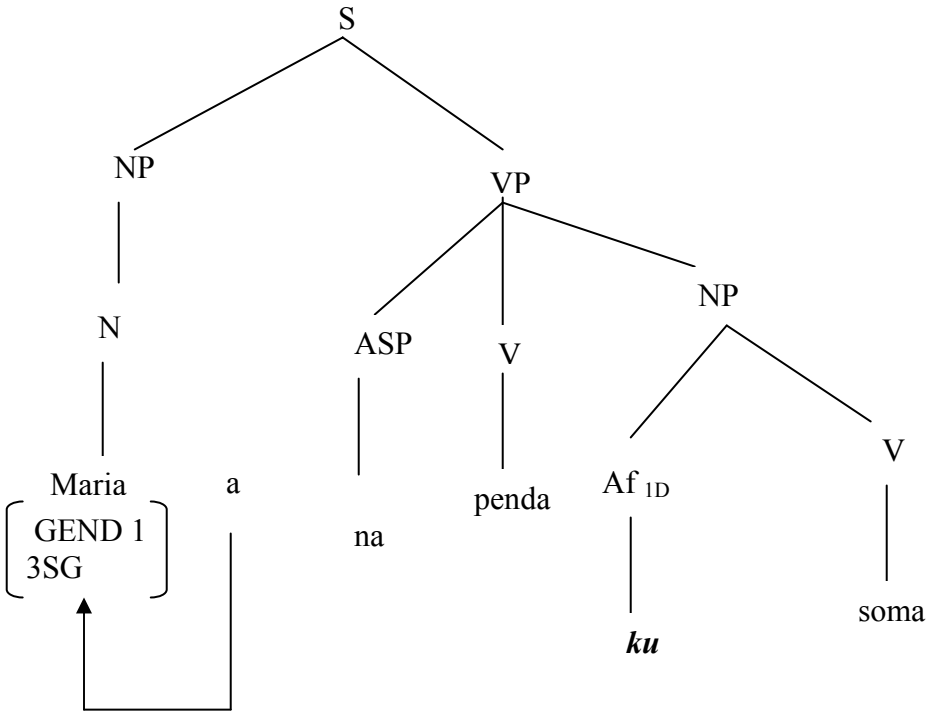


Figure 4. 10: Nominalization derivational marker: *Morphosyntactic.*

The analysis that we have given shows that the lexicon has both roots and affixes and that it is the affixes that determine the syntactic category of the derived word. For instance, in the structure that is represented on ***figure 4. 10***, it is the derivational affix ***ku-*** that determines the class of the derived word (the NP) and not the basic word form, that is, the verb ***soma*** 'read'. In the present study, this analysis is generalised to all the other derived words (with the exception of those that are derived through the process of conversion, compounding and idiomization), specifically those that make use of derivational affixes; that is, the verbalised derivatives and the adverbialised derivatives.

Figure 4. 10 represent the morphosyntactic structure in C2 (28). It can as well represent many more morphosyntactic structures that are triggered by nominalization derivational affixes. For the morphosyntactic structure in C2 (29), below is the representation:

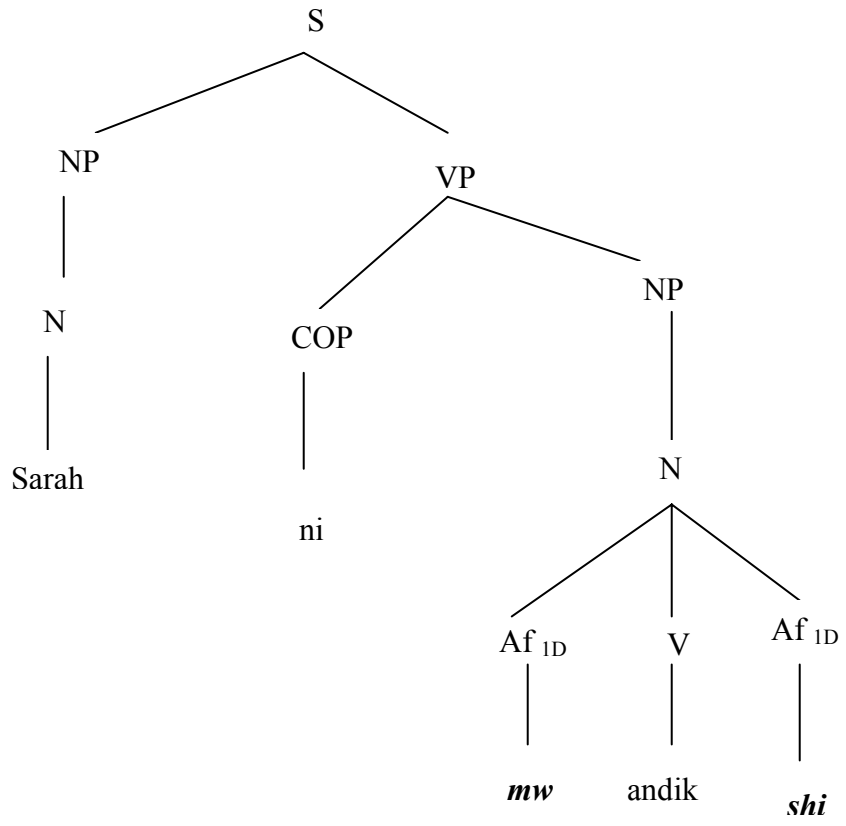


Figure 4. 11: Nominalization derivational marker: Morphosyntactic

The representations reveal that the nominalization derivational affixes are pertinent to the word as well as to the sentence. In other words, they (derivational affixes) trigger morphology-syntax interface. Likewise, the representations on ***figure 4. 10*** and ***4. 11*** show that it is the derivational affixes that determine the word class of the derivative and not the basic form. This is true to all the other derivatives. The two representations can be used to represent any morphosyntactic structure with a nominalised linguistic element, whether it is a gerundive (verbal noun), a deverbative, a nominalised adverb, a nominalised adjective or even a nominalised noun. All these nominalised linguistic elements bear derivational affixes that trigger morphology-syntax interface in Kiswahili.

By giving an account of the structures and their representation, the internalised linguistic knowledge of the Kiswahili speaker is made explicit. This follows from the transformational

generative theory of grammar whose emphasis is in giving account for the internalised linguistic knowledge of speakers of a language.

4. 3. 1. 2. 1. 2 Verbalisation

Verbalisation is the derivation of verbs from words that belong to other word classes. In Kiswahili, this process involves the addition of a verbalisation derivational affix on to the base form. From the analysis, we have shown that the verbalisation derivational affix reclassifies the derived form of the word (that is, the process changes its syntactic category); it also changes its morphological form as well as its meaning. At the syntactic level, the analysis has shown that this affix influences the entire sentence structure with regard to the type of linguistic elements that are to occur in the structure and their syntactic distribution.

L1 Below are the words (derivatives) that have been used to demonstrate the effect of the verbalization derivational affixes at the morphological level:

(i) dhulumu 'mistreat'

(ii) zalisha 'produce'

(iii) safisha 'clean'

(iv) refusha 'lengthen'

The above words are made up of a noun or an adjectival root and a verbalisation derivational suffix. These words occur as below with their basic forms:

Verbs (derivatives)	**Nouns (basic)**
A2 (43) dhulum***u*** 'mistreat'	dhuluma 'mistreatment'
Verbs (derivatives)	**Adjective (basic)**
A2 (45) safi***sha*** 'clean'	safi 'clean'
A2 (46) refu***sha*** 'lengthen'	refu 'long'

The basic and the derivatives given in A2 (43), A2 (45) A2 (46) indicate that it is the derivational suffixes ***-u,*** and ***-sha*** that are used in deriving verbs from words that belong to other word classes. As it can be seen from the structure of the derivatives, at the morphological level, the verbalisation derivational suffix has effect on the derived form of the word. This affix affects its morphological structure, its syntactic category as well as meaning.

The derived forms are generated from a verb root and a verbalisation derivational suffix. Therefore,

$VP \rightarrow R + Af_{1D}$

And

$R \longrightarrow RAf_{1D}$ (basic form becomes a derivative on the addition of a verbalisation derivational suffix)

Where:

$R \rightarrow$ Root (basic form)

$Af_{1D} \rightarrow$ Derivational suffix

$RAf_{1D} \rightarrow$ Derived form

The rule applies to both verbalised nouns as well as verbalised adjectives. Below is the representation of verbalisation derivational marking on the derived word:

Table 4. 12: Verbalisation derivational suffixes

Base form	**Derivational affixes: morphosyntactic**	**Derived form**
Noun	-u	dhulum***u*** (verb)
Adjective	-sha	fupi***sha*** (verb) refu***sha*** (verb)

Table 4. 12, shows that the derivative is quite different from the base form with regard to the morphological form, the meaning and the syntactic category. In the present study, this difference is said to be triggered by the verbalisation derivational suffixes, which are morphosyntactic in Kiswahili.

L2 Below are the sentences that have been used to analyse morphology-syntax interface that is triggered by the verbalisation derivational suffixes, at the syntactic level.

C2 (32) Mama a- me- safi- ***sha*** nguo.
Mother AGRs- PERFT- clean- DER cloth
'Mother has cleaned the cloth.'

C2 (33) Hamadi a- me- refu- ***sha*** kamba.
Hamadi AGRs- PERFT- long- DER rope
'Hamadi has lengthened the rope.

The structures in C2 (32) and C2 (33) bear the derived forms whose basic counterparts occur in

the structures below:

C2 (32) (i) Nguo y- a mama ni ***safi.***

cloth SG- CONJ- mother COP- clean

'Mother's cloth is clean.'

C2 (33) (i) Kamba y- a Hamadi ni ***ndefu.***

Rope SG- CONJ- Hamadi COP- long

'Hamadi's rope is long.'

At the syntactic level, the derived form is different from the base form, with regard to the linguistic elements that have occurred in the structure as well as their syntactic distribution. The difference between the two forms is triggered by the verbalisation derivational suffix that has morphological as well as syntactic consequences in Kiswahili. Specifically, we observe that the suffixes alter the morphological form, the meaning and the syntactic category of the derived form of the word; and at the syntactic level, the same suffixes put syntactic constraints on the type of the linguistic elements that are to occur in the structure as well as their distribution. Therefore, morphology-syntax interface is observed.

Just as with the nominalization derivational affixes, what is true about the verbalised derivatives in Kiswahili is that t*he verbalisation derivational affixes are morphosyntactic in Kiswahili; they influence the word in terms of its structure, syntactic category and the meaning; and at the syntactic level, these affixes influence the whole sentence structure with regard to the linguistic elements that are to occur in the structure and their syntactic distribution.*

The requirements of the verbalization derivational affix has to be observed, if not, the entire sentences structure becomes ill-formed as demonstrated below, where C2 (32) (i) is repeated, with its ungrammatical derivative.

C2 (32) (i) Nguo y- a mama ni ***safi.***

cloth SG- CONJ- mother COP- clean

'Mother's cloth is clean.'

(ii) *Nguo y- a mama ni ***safi- sha.***

cloth SG- CONJ- mother COP- clean- DER

'Mother's cloth is cleaning.'

The structure in C2 (32) (ii) is ungrammatical because the syntactic requirement that demands that the derivatives must have a different distribution from that of the base form has been

violated. Here, it has the same distribution as the base form. Therefore, as much as the morphological requirements have been fulfilled, the same is not the case at the syntactic level. The ungrammaticality of C2 (32) (ii) demonstrates the relevance of the verbalisation derivational affix to the two levels of grammar.

L3 The morphosyntactic processes established in C2 (32) and C2 (33) are generated from a noun, a derived verb and another noun. Consequently, the rule that describes them is:

$S \rightarrow N + AGRs + T + \boldsymbol{RAf_{1D}} + N$

Where:

$R \rightarrow$ Noun or adjectival root

$Af_{1D} \rightarrow$ Verbalisation derivational suffix

The rule means that the sentence is generated from a noun, a derived verb phrase and another noun. The verb is either derived from a noun or an adjectival root through the affixation of a derivational suffix.

The rule is used to describe any morphosyntactic structure that involves either a verbalised noun or a verbalised adjective. The derivational suffix that is marked on the derived word is the one that determines its morphological form, its meaning as well as its syntactic category; the same derivational suffix affects the whole sentence structure with regard to the type of linguistic elements that are to occur in the structure as well as their syntactic distribution.

The morphosyntactic processes established in C2 (32) is schematised below:

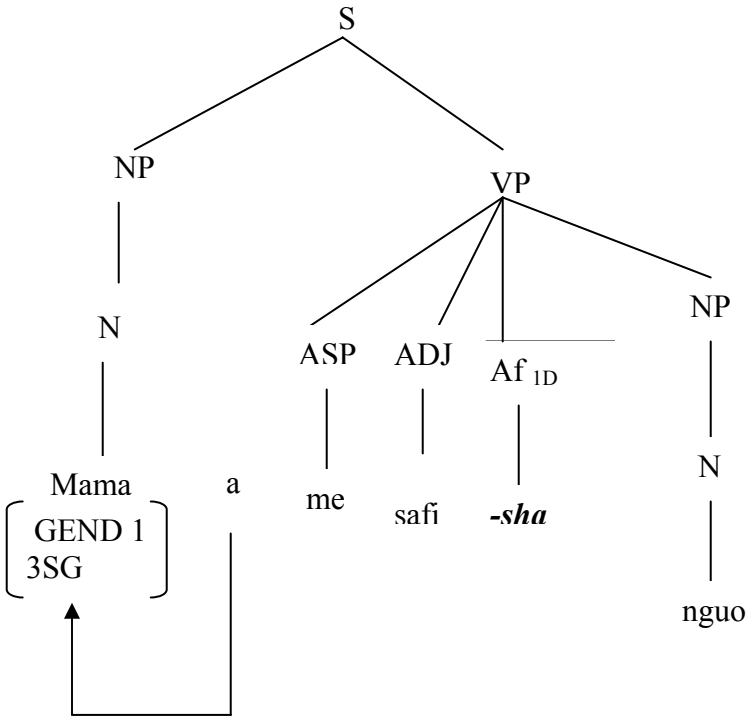


Figure 4. 12: Verbalisation derivational suffix: morphosyntactic

The PM shows that ***Af$_{1D}$*** triggers the occurrence of the other linguistic elements in the structure; and in those respective syntactic positions; that are different from the ones that are occupied in the underived structures. At the same time, it is ***Af$_{1D}$*** (***-sha***) that determines the syntactic category of the derived form. As earlier mentioned, ***Af$_{1D}$*** is present in the lexicon. So, we see from the illustration that ***Af$_{1D}$*** has morphological as well as syntactic consequences in Kiswahili. The morphosyntactic structures given in C2 (32) and C2 (33) can be represented on the same PM, together with many more, whose occurrence is triggered by ***Af$_{1D}$***.

4. 3. 1. 2. 1. 3 Adverbialization

This word formation process involves the derivation of adverbs from words that belong to other lexical categories using verbalisation derivational suffixes.

L1 Just as with nominalization and verbalisation, adverbialisation involves the addition of the derivational affixes onto the base form. Below are the derivatives that are used to illustrate the morphosyntactic effect of the derivational affix at the morphological level:

(i) kijinga ‘foolishly’

(ii) kizembe ‘lazily’

(iii) kiume ‘manly’

(iv) kike ‘womanly’

(v) kikoloni ‘colonially’

These words are derivatives whose base forms occur as below:

Adverb (derived)	**Adjective (basic)**
A2 (47) ***ki***jinga ‘foolishly’	jinga ‘foolish’
A2 (48) ***ki***zembe ‘lazily’	zembe ‘lazy’
Adverb (derived)	**Noun (basic)**
A2 (49) ***ki***ume ‘manly’	-ume ‘man’
A2 (50) ***ki***koloni ‘colonially’	-koloni ‘colonialist’

In the words given, it is the adverbialisation derivational prefix that is used to derive the adverb from the base form. Therefore, ***R*** (basic form) becomes $\boldsymbol{Af_{1D}R}$ (derivative) when adverbialization takes place. In other words:

ADVP→ $Af_{1D}R$

R ⟶ $Af_{1D}R$ (the basic form becomes a derivative on the addition of an Adverbialisation derivational prefix).

Where:

Af_{1D}→ Adverbialisation derivational prefix

R→ Either a noun or an adjectival root

$Af_{1D}R$→ Derived adverb

The basic form of the word (***R***) is seen to be quite different from the derived form; that is,

R ⟶ $Af_{1D}R$ (basic form becomes a derivative).

The morphological rule given applies to both adverbialised nouns as well as adjectives in Kiswahili as shown on ***table 4. 13***:

Table 4. 13: Adverbialisation derivational prefixes

Basic form	**Derivational affix**	**Derivative form**
(i) Adjective -jinga 'fool'	ki- or vi-	***Ki***jinga (adverb)
(ii) Noun - koloni 'colonialist'	ki-	***Ki***koloni (adverb)

In ***table 4. 13***, we see that the basic form differs from the derived one; with regard to the syntactic category, the morphological structure and the meaning. The difference between the two at the morphological level is motivated by the presence of the adverbialisation derivational prefix, which is morphosyntactic in Kiswahili.

L2 The following sentences are used to establish morphology-syntax interface at the syntactic level:

C2 (37) Maria a- li- fany- a kazi ***ki-*** zembe.
Mary AGRs- PAST- do VS work DER- lazy
'Mary worked lazily.'

C2 (38) Jani hu- ongoz- a wa- tu ***ki-*** koloni.
Jani HAB- lead VS PL- person DER- colonial
'Jani leads people colonially.'

C2 (39) Yohana hu- waz- a ***ki-*** jinga.
John HAB- think- VS DER- ADJ
'John thinks foolishly.'

C2 (40) Juma hu- fany- a kazi ***ki-*** ume.
Juma HAB- do- VS work DER- man
'Juma works manly.'

Below are the sentences that bear the basic forms:

C2 (37) (i) Maria ni ***m- zembe***.
Mary COP- SG- lazy
'Mary is lazy.'

C2 (38) (i) Jani ni ***m- koloni***.
Jani COP- SG- colonial
'Jani is a colonialist.'

C2 (39) (i) Yohana ni ***m- jinga***.

John COP- SG- fool

'John is foolish.'

C2 (40) (i) Juma ni ***mwanam- ume***.

Juma COP- SG- man

'Juma is a man.'

The structures with the derived forms in C2 (37)- C2 (40) are quite different from the ones with the basic forms in C2 (37) (i) - C2 (40) (i). As earlier mentioned, the difference is triggered by the adverbialisation derivational prefix, which is morphosyntactic in Kiswahili. At the morphological level, this prefix alters the morphological structure of the derived word, its syntactic category as well as its meaning. At the syntactic level, we see that the same adverbialisation derivational affixes influence the whole sentence structure with regard the type of linguistic elements that are to occur in the structure as well as their syntactic distribution. For instance, the derivative being an adverb, it demands that it occurs within the VP position as a modifier of the head verb and not in the adjectival or NP position as it were for the basic forms. Therefore the adverbialisation derivational affix has relevance to both morphology and syntax in Kiswahili.

From the analysis, we see that*: the derivational prefix that is used in the adverbialisation process in Kiswahili influences the word on which it is marked with respect to its syntactic category, its morphological structure as well as the meaning. When functioning at the sentence level, the same prefix influences the entire syntactic structure with regard to the type of the linguistic elements that are to occur in the structure as well as their syntactic distribution.*

Violation of the morphological and syntactic requirements of the adverbialisation derivational affix negatively affects the well-formedness of the entire structure as demonstrated in C2 (38) (i), which is repeated with a structure that bears a derivative:

C2 (38) (i) Jani ni ***m- koloni***.

Jani COP- SG- colonial

'Jani is a colonialist.'

(ii) *Jani ni ***ki- koloni***.

Jani COP- DER- colonial

'Jani is colonially.'

C2 (38) (ii) is ungrammatical because the structure that bears the derived form has violated the syntactic requirements of the adverbialisation derivational affix. by occurring in an inappropriate syntactic position, that which is meant for the basic form; that is, the NP position. In its present syntactic environment, it is occurring as either an adjective or as a noun (these two categories occupy the same syntactic position in their predicative function; that is, after the copula verb 'be'). Therefore, as much as the adverbialisation derivational prefix has had morphological consequences on the word, its relevance at the syntactic level has not been realised.

L3 The morphosyntactic structures in C2 (37) - C2 (40) are generated from an NP and a VP; and within the VP is the derived adverb that modifies the head verb. Therefore, the morphosyntactic rule that describes them is:

S→ N+ (AGRs)+ T+ V+ (N) + $\boldsymbol{Af_{1D}R}$

Where:

Af_{1D}→ Adverbialisation derivational prefix

R→ Root (either a noun or an adjective)

(AGRs) → Optional subject agreement marker (for instance, it does not occur with the habitual tense marker)

(N) → Optional noun (Its occurrence depends on the type of the structure. For instance, it does not occur in C2 (39).

The instruction given above means that a morphosyntactic process that is triggered by the adverbialisation derivational prefix occurs when there is a noun and a VP present. Within the VP, the verb occurs as the head, while the derived adverb as its modifier. The occurrence of the AGRs and the second noun is optional; their occurrence depends on the type of structure in question. The type of elements that occur at the syntactic level and their distribution are dependent on $\boldsymbol{Af_{1D}}$, which is morphosyntactic in Kiswahili.

L4 The generated morphosyntactic structures in C2 (37) - C2 (40) are represented below:

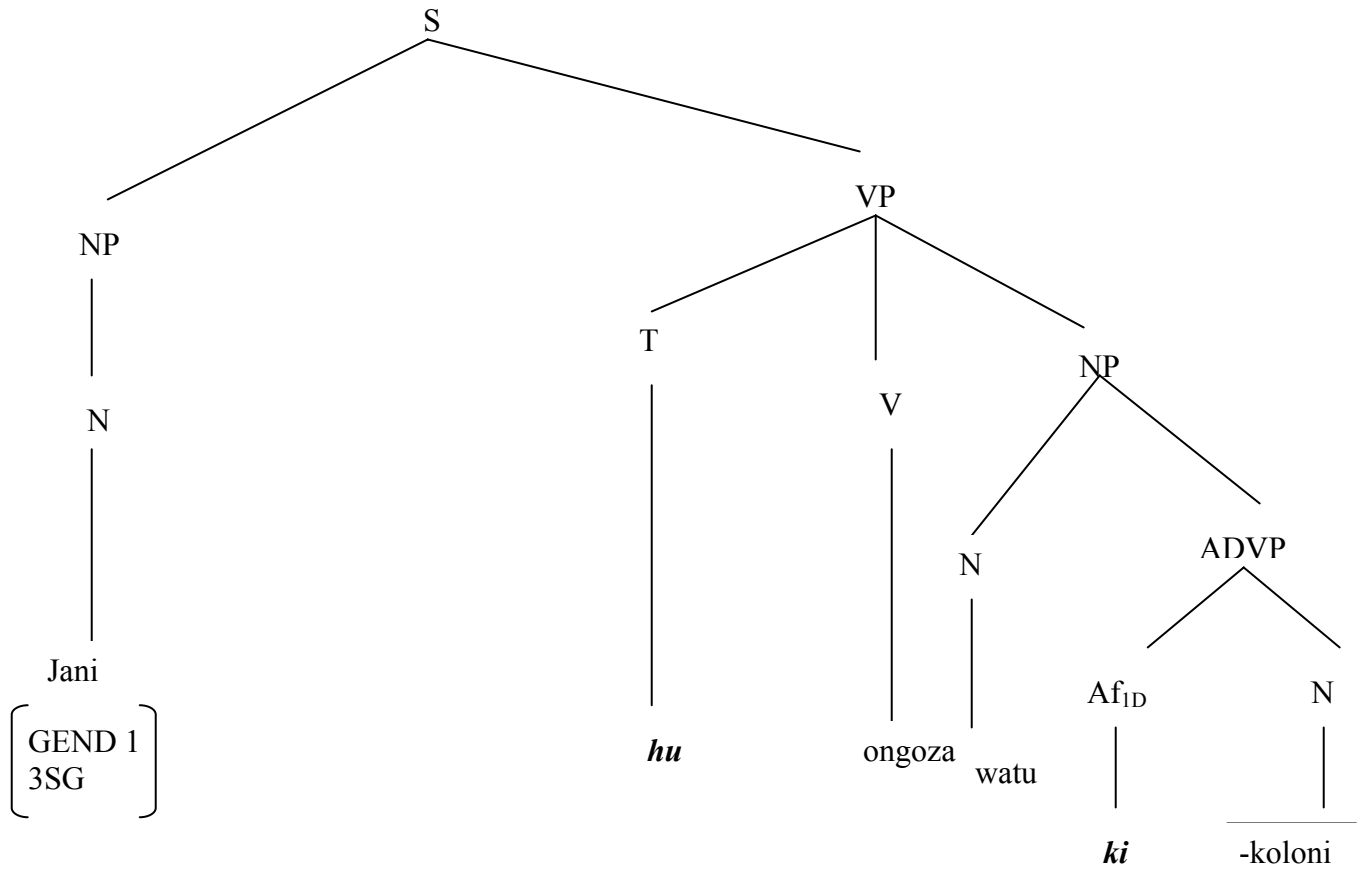


Figure 4. 13: Adverbialisation Derivational prefix used to derive an adverb

Just as with the preceding morphosyntactic representation, it is the adverbialisation derivational affix that determines the word class of the derivative at the morphological level; and at the syntactic level, the same feature has syntactic consequences, it demands that certain types of linguistic elements occur and in very specific syntactic positions.

Any of the above derived structures, together with any other that is triggered by similar adverbialisation derivational affixes can be represented on the PM in ***figure 4. 13***. As earlier mentioned, the structure of the basic form of the word and that of the whole sentence is influenced by the $\boldsymbol{Af_{1D}}$, which is morphosyntactic in Kiswahili. The phrase marker given makes explicit what happens in the Kiswahili speaker's mind when constructing such morphosyntactic structures that involve the adverbialisation derivational affix in Kiswahili. This conclusion follows from the transformational generative theory of grammar that is being applied in the

study.

4. 3. 1. 2. 1. 4 Conversion

This is a derivational process by which a word belonging to one word class gets used as part of another word class without the addition of a derivational affix as it was for the preceding derivatives. This process involves zero affixation. It is also referred to as reclassification or functional shift.

In this sub-section, we have shown through the analysis that though the conversion process does not make use of derivational affixes, this process is morphosyntactic in Kiswahili. At the morphological level, the conversion process affects the syntactic category, and the meaning of the derived word. At the syntactic level, this process influences the whole syntactic structure with regard to the type of linguistic elements that are to occur in the structure and their syntactic distribution.

Below are the derived forms that have been used to analyse morphology-syntax interface that is triggered by the process of conversion:

(i) hema 'tent'
(ii) kaa 'charcoal'
(iii) laki 'one hundred thousand'
(iv) shuka 'sheet'
(v) taka 'litter'
(vi) maskini 'the poor'
(vii) tajiri 'the rich'

The above derived forms occur with their basic counterparts as shown below:

Noun (derived)	**Verb (basic)**
A2 (51) hema 'tent'	hema 'pant'
A2 (52) ka a 'charcoal'	kaa 'sit'
A2 (53) laki 'one hundred thousand'	laki 'welcome'
A2 (54) shuka 'sheet'	shuka 'descent'
A2 (55) taka 'litter'	taka 'want'
Noun (derived)	**Adjective (basic)**
A2 (56) maskini 'the poor'	maskini 'poor'

A2 (57) tajiri ‘the rich’ tajiri ‘rich’

The derived word bears no derivational affix; contrary to the preceding examples that make use of derivational affixes. It is also observed that words that are derived through the process of conversion are mainly nouns. These are derived from verbs and adjectives. Consequently, the derivatives are generated as below:

NP→ $Af_{\varnothing}R$.

R ⟶ $Af_{\varnothing}R$.

Where:

$Af_{\varnothing}$→ zero affix

$Af_{\varnothing}R$→ Unaffixed root (basic form)

R→ either verb or adjectival root

The rule means that an NP is generated from an un affixed base form, that is, $Af_{\varnothing}$. According to the words in A2 (51) – A2 (57), this base form is either an adjectival or a verbal root. As observed from the words, the two sets are similar with regard to their morphological structure. Therefore, at the morphological level, the derived words occur as shown on ***table 4.14*** below

Table 4. 14: Conversion process: Morphosyntactic

Type of reclassified base form	**Derivational affix**	**derivative**
verb (i) ***hema*** ‘pant’ (ii) kaa ‘sit’	∅ (zero affix) ∅ (zero affix)	**Noun** (i) ***hema*** ‘tent’ (ii) ka a ‘charcoal’
Adjective (i) ***tajiri*** ‘rich’ (ii) ***maskini*** ‘poor’	∅ (zero affix) ∅ (zero affix)	**Noun** (i) ***tajiri*** ‘the rich’ (ii) ***maskini*** ‘the poor’

Table 4. 14, shows that at the morphological level, the process of conversion (though with zero affixation) changes the syntactic category and the meaning of the base form. So, the conversion process is relevant to the word.

L2 Below are sentences generated from the derived words; they are used to illustrate morphology-syntax interface that is triggered by the conversion process:

C2 (41) Maria a- li- let- a ***hema.***

Mary AGRs- PAST- bring VS tent

'Mary brought a tent.'

C2 (42) ***Tajiri*** a- me- aga dunia.

rich AGRs- PERFT- die

'The rich has died.'

C2 (43) ***Taka*** zi- me- chom- w- a.

litter PL- PERFT- burn- PASS- VS

'The litter has been burnt.'

C2 (44) Baba a- me- nunu- a ***shuka***.

Father AGRs- PERFT- buy- VS sheet

'Father has bought a sheet.'

C2 (45) Maria a- me- shind- a ***laki*** moja.

Mary AGRs- PERFT- win VS hundred thousand- one

'Mary has won one hundred thousand.'

C2 (46) Zainabu a- na- beb- a ***ma- kaa.***

Zainabu AGRs- PROG- carry- VS PL- charcoal

'Zainabu is carrying charcoal.'

Structures that bear basic forms occur as below:

C2 (41) (i) Maria ***a- na- hema*** baada ya ku- kimbia.

Mary AGRs- PROG- pant DER after DER- running

'Mary is panting after running.'

C2 (42) (i) Daudi ni ***tajiri.***

David COP- rich

'David is rich.'

C2 (43) (i) M- toto ***a- na- tak- a*** maziwa.

SG- child AGRs- PROG- want VS milk

'The child wants milk.'

C2 (46) (i) Zainabu ***a- me- ka- a*** kwa ki- ti.

Zainabu AGRs- PERFT- sit- VS PP- SG- chair

'Zainabu is sitting on the chair.'

C2 (45) (i) Maria ***a-*** ***li-*** ***laki*** wa- geni.

Mary AGRs- PAST- welcome PL- visitor

'Mary welcomed visitors.'

The two sets of sentences (the one with the derived form and the one with the basic form) are different in respect to the linguistic elements that have occurred in the structure and their syntactic distribution. This difference is motivated by the conversion process, which is morphosyntactic in Kiswahili. The process affects the syntactic category and the meaning of the word (derived); and when the derived word functions syntactically, it influences the entire sentence structure with regard to the type of the linguistic elements that are to occur in the structure and their syntactic distribution. Specifically, since the derived words are nouns, they occur in the NP position and not in the VP or ADJP position, where the base forms occur. Consequently, we observe a morphosyntactic process that is triggered by the conversion process.

For the morphosyntactic processes in C2 (41) - C2 (46) we observe that: *the process of conversion is morphosyntactic in Kiswahili; it results into words that are different from the base forms in terms of the syntactic category and the meaning. In their syntactic function, the very words (derivatives) have different syntactic requirements*. Violation of the morphological and syntactic requirements of the conversion process negatively affects the grammaticality of the entire sentence structure as demonstrated below; where C2 (41) (i) is repeated with a structure that bears the derived form:

C2 (41) (i) Maria ***a-*** ***na-*** ***hema*** baada ya ku- kimbia.

Mary AGRs- PROG- pant after DER- run

'Mary is panting after running.'

(ii) * Maria ***hema*** baada ya ku- kimbia.

Mary tent after DER- run

'Mary tent after running.'

C2 (41) (ii) is ungrammatical because the structure that bears the derived form has violated the syntactic requirements of the conversion process by having the same distribution as the base form. Since the derived form is an NP, it has to occur in the NP position and not in the VP position as in C2 (41) (ii).

L4 The morphosyntactic processes established in C2 (41) - C2 (46) are generated from:

(i) A noun, a VP and a derived noun as in C2 (41), C2 (44), C2 (45) and C2 (46).

(ii) A derived noun and a VP as in C2 (42) and C2 (43). Therefore the rule that accounts for the morphosyntactic processes established in C2 (41)- C2 (46) is:

S→ N/ ***Af∅R*** + AGRs+ T+ V+ (***Af∅R***)

Where:

Af∅R→ an un affixed root (either derived from the verb or the adjective). The derivative occurs either in the subject or the object position.

The rule means that a morphosyntactic structure that is triggered by the conversion process is generated from either a derived or an underived noun, and a VP, which is either intransitive or transitive, with a derived or an underived noun in the object position. The occurrence of the optional derived noun in the object position, that is, (***Af∅R***) depends on the transitivity of verb. The rule describes morphosyntactic structures whose derivative is either based on a verb or an adjective; and for structures whose derivative occurs either in the object or the subject position. The same rule describes an infinite set of similar morphosyntactic structures. This is in line with the transformational generative theory of grammar that views language as a set of instructions/ finite rules that account for an infinite number of structures.

L4 The PM below represents the morphosyntactic process in C2 (43) that is triggered by the conversion process:

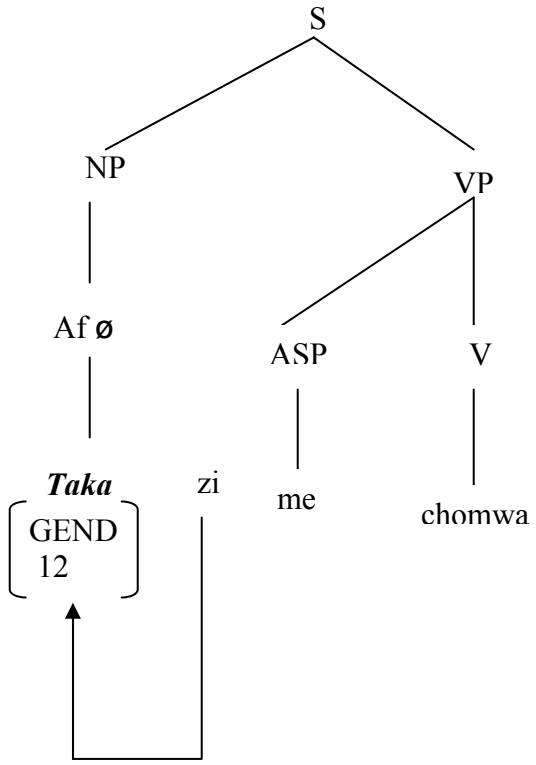


Figure 4. 14: Conversion process: Triggers morphology-syntax interface

Structures in C2 (42) and C2 (43) in which, the derivative occurs in the subject position are represented on the PM on ***figure 4. 14***. However, for those in which the derivative occurs in the object position as in C2 (41), C2 (44), C2 (45) and C2 (46), the representation is given on ***figure 4. 15***.

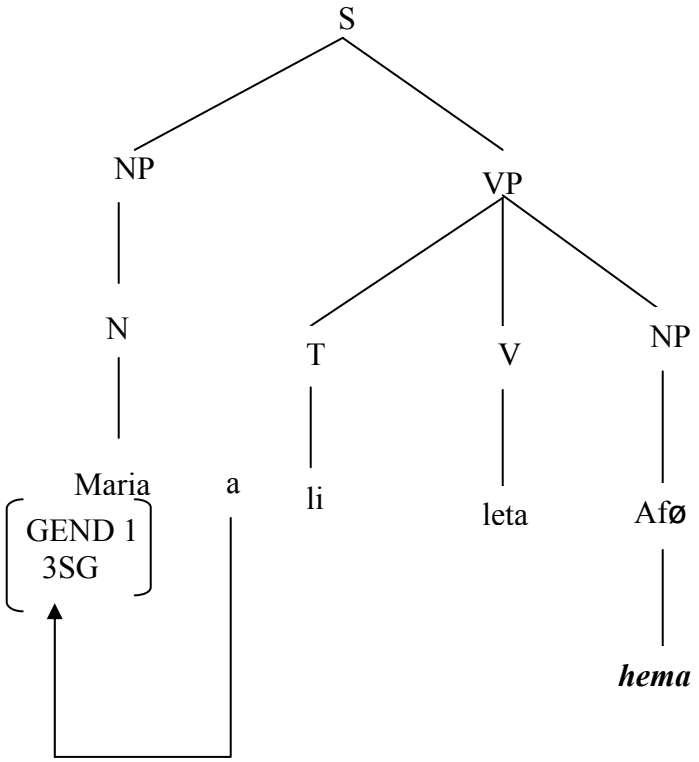


Figure 4. 15: Conversion process: Morphosyntactic

The two PMs are used to represent an infinite number of morphosyntactic structures that are triggered by the conversion process, which is morphosyntactic in Kiswahili.

4. 3. 1. 2. 2 Compounding

Compounding is a word formation process that involves the creation of new words through a more syntactic combination of pre-existing independent bases. Compound words contrast with simple words and with words that are formed through derivational and inflectional processes.

Compounding in Kiswahili resembles derivational processes in that both processes involve the creation of new lexemes, with a new meaning and a new structure. The only difference is that, while derivational processes involve the operation on a single lexeme by the use of affixes, compounding involves two lexemes being operated on.

In this sub-section, it is shown that compounding process is morphosyntactic in Kiswahili in

that at the morphological level, the process has consequences on the word; and at the syntactic level, the influenced word affects the entire sentence structure with regard to the type of the linguistic elements that are to occur in the structure and their syntactic distribution.

L1 Below are the compound words that are used to illustrate morphology-syntax interface that is triggered by compounding process.

(i) mwandishi habari 'news writer'

(ii) mshonaji nguo 'dress maker'

(iii) njugu karanga 'roasted nuts'

(iv) mchimba kisima 'a well digger'

All the compound words are generated from simple lexemes. Below are compound words with their simple lexeme (from which they are generated) counterparts:

Compound words (derived)	**Simple words (Basic form)**	
Noun	**Verb**	**Noun**
A2 (58) mwandishi habari 'newswriter'	andika 'write' +	habari 'news'
A2 (59) mshonaji nguo 'dress marker'	shona 'make' +	nguo 'dress'
A2 (62) mchimba kisima 'a well digger'	chimba 'dig'+	kisima 'well'
A2 (60) njugu karanga 'roasted nuts'	karanga 'roast'+	njugu 'ground nuts'

The compound nouns in A2 (58) - A2 (60) are generated from a verb and a noun. When we compare the two sets of words, that is, the simple words and the derived compound; we see that at the morphological level, the morphological structure, the meaning and the syntactic category of the derived form is changed as a result of the compounding process. Therefore, when compounding of the simple words takes place, the following happens:

$R_1 + R_2 \rightarrow NP_C$

Where:

$R_1 + R_2 \rightarrow$ First and second root

$NP_C \rightarrow$ Compound noun (generated from two roots)

The instruction means that a compound noun is generated from two roots (simple words), which according to the data given are: a noun and a verb.

Based on the set of words given, this is what happens at the morphological level (see ***table 4. 15*** below).

Table 4. 15: Compounding: A morphosyntactic process

Type of basic form	**Simple words**	**Compound word**
Verb+ Noun	andika+ habari	mwandishi habari
	karanga+ njugu	njugu karanga
	chimba+ kisima	mchimba kisima
	shona+ nguo	mshonaji nguo

From ***table 4. 15***, three things emerge:

(i) The compound word is generated from different categories of the base forms. Consequently, compounding involves change of syntactic category.

(ii) The morphological structure of the base forms is different from that of the compound word; while the compound is made up of a single lexeme, the base form has two lexemes.

(iii) The meaning of the base form is not necessarily the same as that of the compound word.

Consequently, we observe that though compounding does not involve affixation as it was with the derivational or with the inflectional processes, the process (compounding) is relevant to morphology.

L2 Below are the sentences bearing the compound words given above. Based on these sentences, an illustration of morphology-syntax interface that is triggered by compounding process is made.

C2 (47) Mama a- li- nunu- a ***njugu karanga***.

Mother AGRs- PAST- buy VS ground nuts roast

'Mother bought ground nuts.'

C2 (49) Juma ni ***mw- andi- shi habari***.

Juma COP SG- write- DER news

'Juma is a news writer.'

C2 (50) ***Wa- chimb- a- ji vi- sima*** wa- me- enda w- ote.

3PL- dig- VS- DER- PL- well- AGRs- PERFT- go AGRs- all

'All well-diggers have gone.'

C2 (51) Maria ni ***m- shon- a- ji nguo***.

Mary COP SG- mend- VS- DER cloth

'Mary is a dress maker.'

Below are sentences that bear the basic forms (simple words) that are counterparts of the derived forms in C2 (47), C2 (49), C2 (50) and C2 (51).

C2 (47) (i) Mama a- na- ***karanga njugu***.

Mother AGRs- PROG- roast ground nuts

'Mother is roasting ground nuts.'

C2 (49) (i) Juma a- na- ***andik- a habari.***

Juma AGRs- PROG- write- VS news

'Juma is writing news.'

C2 (50) (i)***Wa- na- o- chimb- a vi- sima*** wa- me- end- a.

PL- PROG- REL- dig- VS PL- well PL- PERFT- go- VS

'Those who dig wells have gone.'

C2 (51) (i) Maria a- na ***shona nguo***.

Mary AGRs- PROG- mend cloth

'Mary is mending cloths.'

The two sets of sentences; that is, those that bear the derived words (the compound words) and those that bear the basic forms are quite different from each other in terms of the type of the linguistic elements that have occurred in the syntactic structure as well as their syntactic distribution. To start with, at the syntactic level, the underived forms (basic forms) occur as two separate lexemes; a predicate with its internal argument that complements it. However, in the structures with the derived compounds, the compound word functions as a single lexeme, though made up of two separate words. Being endocentric compounds, each one of them is made up of a head and a modifier that specifies the attributes of the head. The head, which is a noun, is derived from a verb by the use of nominalisation derivational affixes, which are morphosyntactic as illustrated in ***section 4. 3. 1. 2. 1. 1***. The changes that occur in the compound word (change in its morphological structure, its syntactic category, its meaning and function) makes the compound words differ from the base forms as demonstrated below on the phrase marker:

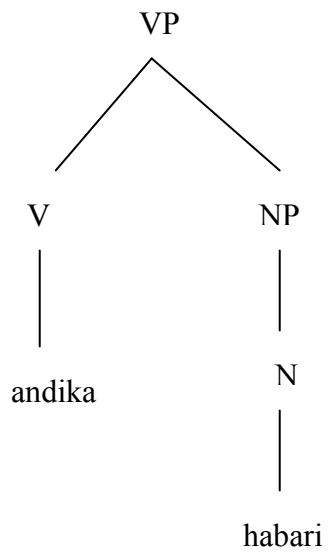


Figure 4. 16 Base forms from which the compound word is derived.

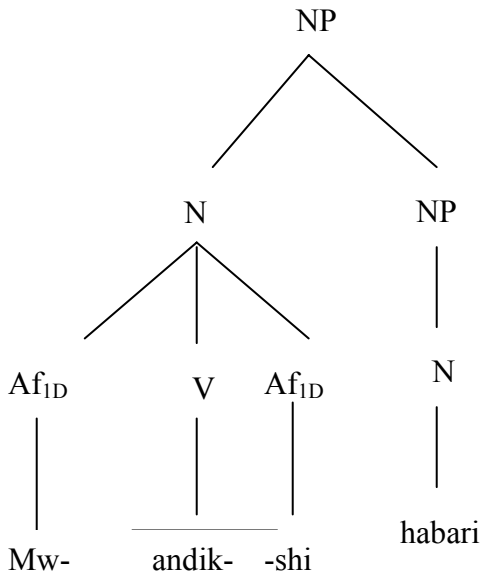


Figure 4. 17:The structure of a compound word.

The structures in ***figure 4. 16*** and ***4. 17*** are quite different from each other. Given that they belong to different syntactic categories, their distribution is different. While the VP occurs in the VP position, the compound noun occurs in the NP position. Likewise, the types of the linguistic

elements that they occur with in the structure are quite different. This structural difference means that compounding affects the word with regard to its morphological form, the meaning as well as the syntactic category (as had been demonstrated before); and at the syntactic level, compounding process affects the whole sentence structure. This is a demonstration of morphology-syntax interface that is triggered by compounding process, which is morphosyntactic in Kiswahili. Likewise, from the representation in ***Figure 4. 17,*** we see that it is the derivational affixes, that is***,*** Af_{1D} (***mw-*** and ***-shi***) that determines the category of the derived word, that is, ***mwandishi*** 'writer'. As earlier mentioned, our assumption is that the derivational affix is found in the lexicon and not just the root.

Apart from the compounding process being morphosyntactic, morphosyntactic structures in C2 (49), C2 (50) and C2 (51) show that at the morphological level, the gender and number features that are marked on the head noun within the compound word determines it (the compound word) with regard to its morphological structure, its syntactic category as well as its meaning. When the compound word functions syntactically, the same features (gender and number) percolate onto the other linguistic elements in the entire syntactic structure. This is especially so because these compounds are synthetic; that is their heads are derived by affixation from the verb. For instance in C2 (50), the gender and number feature that is marked on the head of the compound ***wa-chimba*** 'diggers' percolates on to the verb ***wa-meenda*** 'they have gone' as well as the indefinite pronoun ***w-ote*** 'all'; they all agree with the feature that is marked on the head of the compound noun. This is a demonstration of the relevance of compounding process on the syntactic structure.

In the morphosyntactic processes that we have analysed as being triggered by the compounding process, so far we have seen that: *compounding in Kiswahili motivates changes in the derived form of the word with regard to its morphological structure, its meaning as well as its syntactic category; and at the syntactic level, the process affects the whole sentence with regard to the syntactic position in which the derived compound has to occur, the type of linguistic elements to occur with it in the syntactic structure as well as their syntactic distribution.* Violation of the requirements of the compounding process negatively affects the entire sentence structure as illustrated below, where C2 (47) (i) is repeated with a structure that bears the derived form:

C2 (47) (i) Juma a- na- ***andik- a habari.***

Juma AGRs- PROG- write- VS news

'Juma is writing news.'

(ii) *Juma mw- a***ndik- shi habari.**

Juma DER- write- DER- news

' Juma writer news.'

C2 (47) (ii) is ungrammatical because syntax has failed to be sensitive to the fact that the compound word has to occur in a different syntactic position from that which is occupied by the basic word form, that is, the VP position. In other words, the nature and distribution of elements at the syntactic level has not been put into account. For the structure to be grammatical the compound word has to occur either in the predicative position with the copula verb linking the NP in the subject position and the compound noun in the predicative position or alternatively, the compound noun can occur in the subject position with a VP following it.

L3 Whereas the structures with simple underived words are generated from a simple or a compound noun in subject position, and a VP that bears either an NP complement or an optional adverb as its modifier; those with compound words are generated from a noun, a copula or main verb and a compound noun. Therefore, two rules account for the above structures and these are:

(i) S→ N+ AGRs+ T+ V+ N+ (ADVP)

(ii) S→ N/ $(R_1+R_2)_C$ + COP/ AGRs+ T+ V + $\{R_1+R_i)_C$

Where:

COP→ Copular

$\{R_1+R_2\}_C$→ Compound noun that is made up of two roots.

Whereas (i) describes the structures with the underived words in C2 (47) (i), C2 (49) (i), C2 (50) (i) and C2 (51) (i), rule (ii) describes those with the derived words (compounds) in C2 (47), C2 (49), C2 (50) and C2 (51).

The two rules are used to describe many more structures in Kiswahili; both with simple and compound words.

L4 Below is a generalised phrase marker that represents morphosyntactic processes in C2 (49), that is triggered by compounding process.

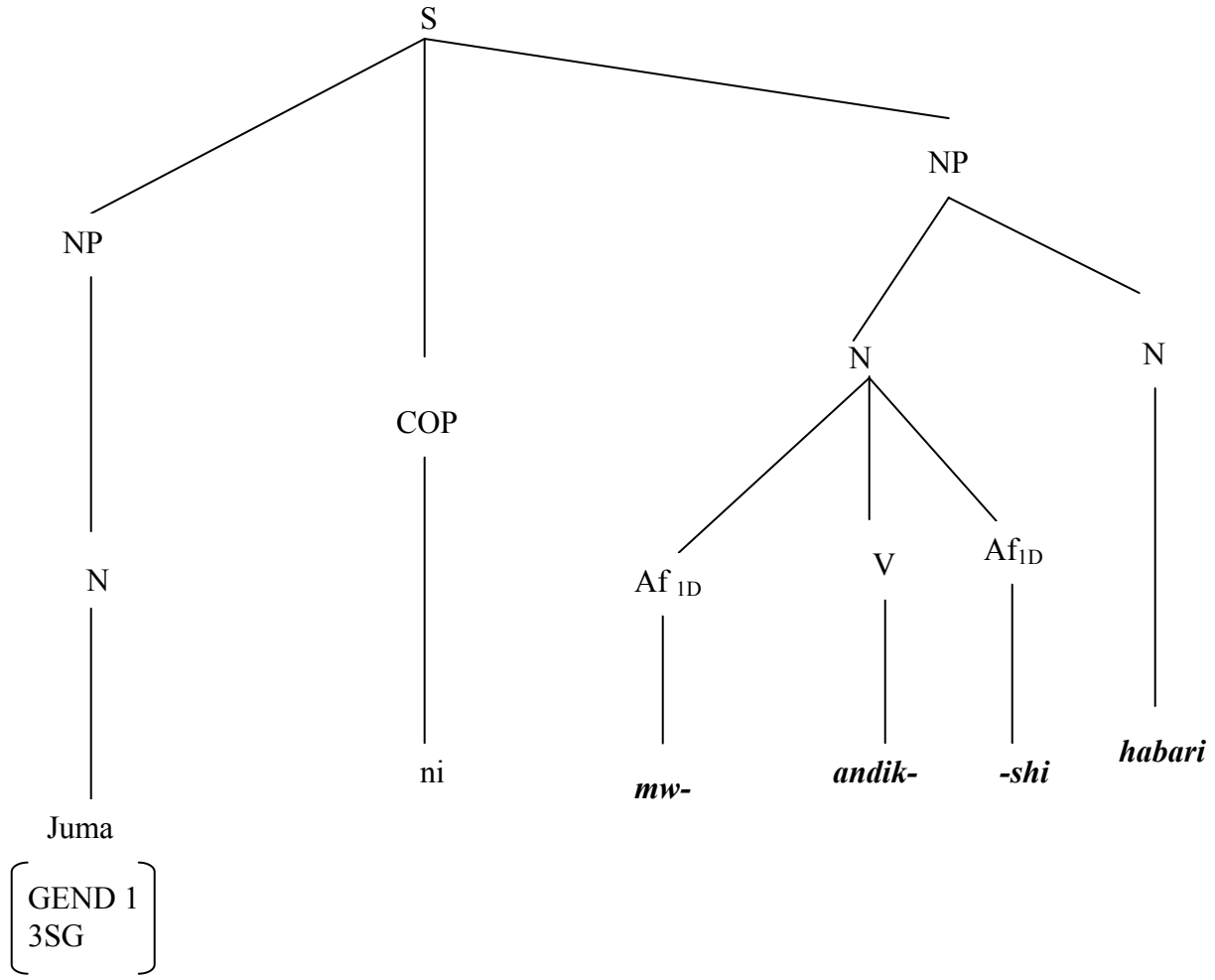


Figure 4. 18: Compounding process in which the compound is in the predicative position:

In ***Figure 4. 18***, we see that the verb node changes into an NP node. This change is motivated by the presence of the derivational affix; that is, $\boldsymbol{Af_{1D}}$ that is morphosyntactic in Kiswahili.

For morphosyntactic structures in which the compound word occur in the subject position, the representation is as below

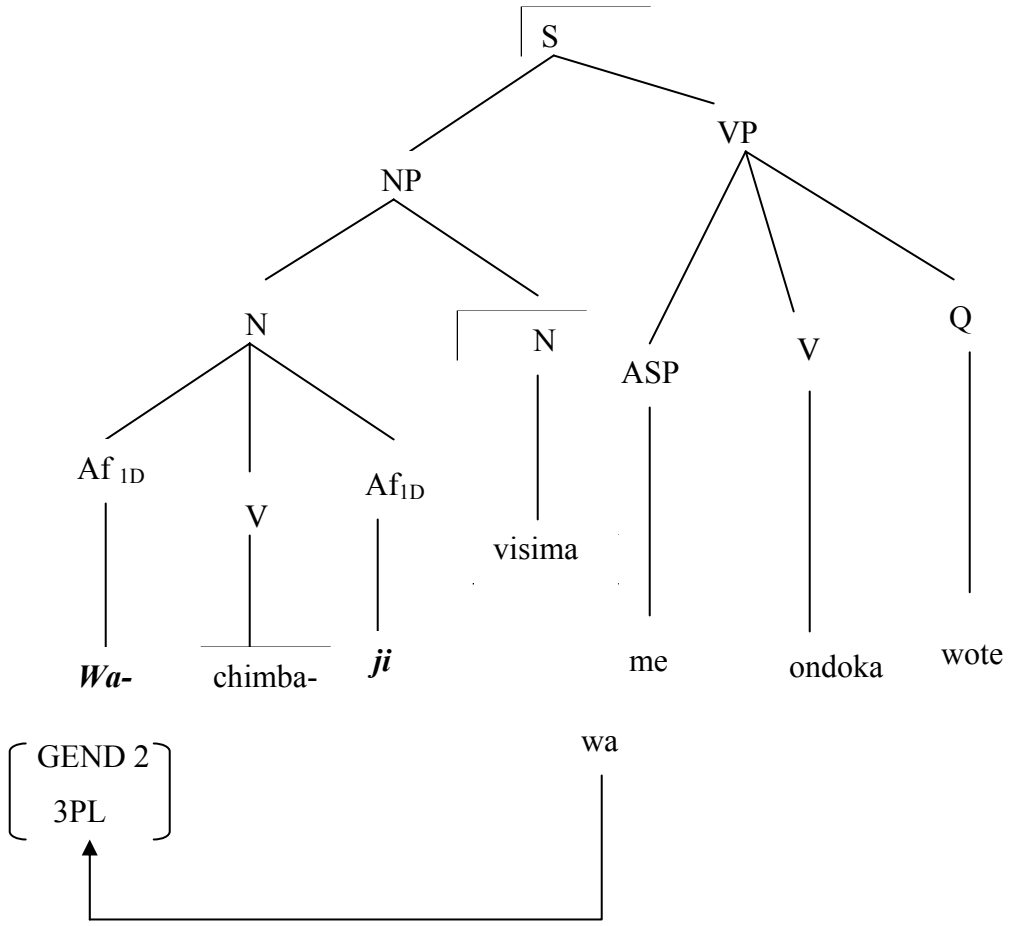


Figure 4. 19: Compounding process in which the compound word is in the subject position

An infinite number of morphosyntactic structures that involve compounding can be represented on ***Figure 4. 18*** and ***4. 19***. This is in line with the transformational generative theory of grammar whose emphasis is to extract unity/ similarity from diversity/ differences. This applies to the languages of the world as well as to different structures within a language, which may appear different from each other but they have shared attributes, which can be represented in oneness.

For structures that involve simple underived words, below is their representation on ***figure 4. 20:***

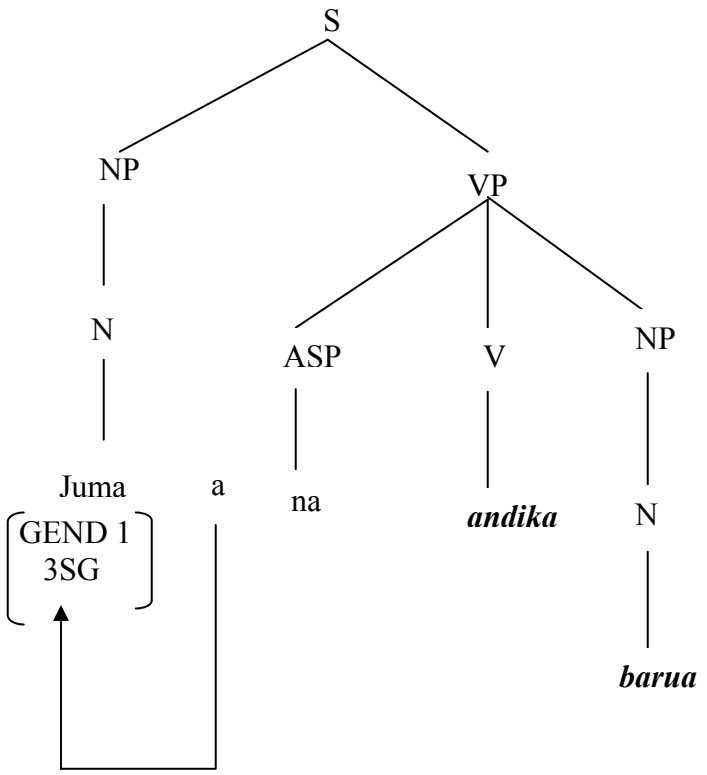


Figure 4. 20 The structure bearing the basic forms from which the compound word is derived.

A comparison of ***figures 4. 18*** and ***4. 20 shows*** that the verb root ***andik-*** 'write' changes into a noun ***mw-andi-shi*** 'writer' when the nominalisation derivational affixes are added onto it (the verb). It is the nominalisation derivational affixes that determine the syntactic category of the derivative and not the root (basic form). In the present study, this generalisation has been made on all the derived forms; that is, in Kiswahili, it is the derivational affixes that determine the syntactic category of the derived word. Consequently, it is these affixes (for instance in the structure on ***figure 4. 19***) that trigger the change from the VP node to an NP node. The properties of the nominalisation derivational affixes are similar with those that are born by the NP in the subject position; that is, the AGENTIVE. Therefore, the AGENTIVE properties that are already available (within the NP in the subject position) make it possible for nominalisation of the verb to take place in ***figure 4. 19.***

Figure 4. 20 can be used to represent the underived structures like the ones in C2 (47) (i), C2 (49) (i), and C2 (51) (i); together with many others that share attributes, with specification of their syntactic categories.

4. 3. 1. 2. 3: Idiomization

Just as with compounding, idiomization is a word formation process that does not make use of explicit-word formation affixes but instead, whole lexical items are used. As Katamba (1993: 291) has pointed out, 'Idioms raise very interesting questions about the interaction of morphology and syntax.' Katamba's argument is based on the fact that idioms are made up of lexical items just as syntactic phrases and yet they function as single words.

In this sub-section, it is shown that idiomization is a word-formation process that has morphological as well as syntactic consequences in Kiswahili.

L1 Below are the words that are used to illustrate the effect of idiomization at the morphological level:

(i) fyata ulimi 'shut up' (V)

(ii) ng'oa nanga 'take off' (V)

(iii) salimu amri 'admit defeat' (V)

(iv) shika doria 'be in charge' (V)

(v) kula mwata 'get trouble' (V)

The structure of the idiom words show that they are all made up of simple words, mainly a verb and a noun. Therefore the idiom words occur with their basic counterparts as below:

Idioms	**Basic forms**
A2 (67) fyata ulimi 'shut up' (V)	fyata (V + ulimi (N)
A2 (63) ng'oa nanga 'take off' (V)	ng'oa (V) + nanga (N)
A2 (64) salimu amri 'admit defeat' (V)	salimu (V) + amri(N)
A2 (65) shika doria 'be in charge' (V)	shika (V) + doria (N)
A2 (66) kula mwata 'get trouble' (V)	kula (V) + mwata (N)

From the structure of the basic forms and that of the idioms, the following emerge:

(i) The structure of the base forms is different from that of the idiom word. Whereas each base form is made up of two different lexemes, the idiom word is made up of two words that function as a single lexeme.

(ii) The syntactic category of the basic form is different from that of the idiom word. The basic forms belong to two different syntactic categories; one is a verb and the other is a noun. On the other hand, the idiom word is a verb.

(iii) The meaning of the independent basic form is different from that of the idiom word.

The implication of the above is that at the morphological level, idiomization affects the word (derived form) with regard to its morphological structure, syntactic category and its meaning. The above idioms are generated as below:

$V_{IDM} \rightarrow R_1 + R_2$

Where:

$V_{IDM} \rightarrow$ idiomised verb

$R_1 + R_2 \rightarrow$ first and second root (which in this case is a verb and a noun)

The instruction means that the idiom word is generated from two independent roots, which in this case are; a verb and a noun. As much as the basic forms occur as independent lexemes, when they occur as idioms, they function as single lexemes. Therefore, what is happening in the structures above is as below:

V+ N $\longrightarrow$ V; that is, a verb and a noun becomes a verb in the environment in which idiomization has taken place.

L2 Below are the sentences (that are based on the words in A2 (63) - A2 (67), that have been used to establish morphosyntactic processes that are triggered by the idiomization process that is morphosyntactic in Kiswahili.

C2 (52) Neema [VP ***a- li- salimu amri***].
Neema AGRs- PAST- greet order
'Neema admitted defeat.'

C2 (53) Maria [VP ***a- li- u- fyata ulimi***] darasani.
Mary AGRs- PAST- AGRo- quiet- tongue class POSTP
'Mary kept quiet in class.'

C2 (54) Wa- linzi [VP ***wa- li- shik- a doria***] usiku kucha.
PL- guard PL- PAST- hold- VS security night all
'The guards guarded the whole night.'

C2 (55) M- zee [VP ***a- me- kul- a mwata***] mw- aka m- mzima.
SG- old man AGRs- PERFT- eat- VS trouble SG- year SG-all

'The old man has had trouble the whole year.'

From the structures, we observe that idiomization, which determines the morphological structure, the syntactic category and the meaning of the idiom word at the morphological level, is also relevant to syntax. This conclusion is based on the fact that the idiom word influences the whole sentence structure with regard to the type of the linguistic elements that have to occur in the structure and their syntactic distribution. Since the idiom word is a VP, it requires that it occurs in the VP position; and if it has to occur with any other elements (since a verb can occur alone in Kiswahili as long as the basic requirements of a pronominal marker, tense/ aspect marker and a verb root are met), then they have to be either one or two NPs in subject and object position respectively, or one NP in the subject position and an optional adverb within the VP. For instance, the idiom word ***kula mwata*** 'get trouble' in C2 (55) demands that at the syntactic level, an animate occurs as the external argument and not an inanimate that lacks feelings. Likewise, if any linguistic element has to follow this idiom, then it has to be an adverbial. Such restrictions indicate the relevance of idiomization process to the word as well as to the entire syntactic structure. The other idioms also have their own syntactic requirements that have to be met.

A statement that is true to diomization processes in Kiswahili is that***:*** *idiomization influences the word with regard to its morphological structure, its syntactic category and its meaning. At the syntactic level, the idiom word influences the whole sentence structure in Kiswahili with regard to the type of linguistic elements that have to occur in the structure and their syntactic distribution*. The morphological and syntactic requirements for the idiomization process have to be observed, otherwise the whole structure becomes ill-formed as illustrated below, where C2 (55) occur as C2 (55) (i):

C2 (55)! U- fagio[VP ***u- me- kul- a mwata***] mw- aka m- mzima.

SG- broom AGRs- PERFT- eat- VS trouble SG- year SG-all

'The broom has had trouble the whole year.'

The structure in C2 (55) (i) is semantically anomalous because of the fact that a broom lacks feelings and therefore it is not possible for it to have or be in trouble. The idiom word ***kula mwata*** 'get trouble' requires an animate as its external argument and not an inanimate. So as much as the structure is grammatical, it is semantically anomalous.

L3 The morphosyntactic structures in C2 (52) - C2 (55) are generated from a noun, an idiom verb phrase and either an optional adverbial phrase or an optional postposition. Consequently,

the rule that describes them is as follows:

S→ N+ AGRs+ T+ (AGRo)+ $\{R_1 + R_2\}_{IDM}$+ (ADVP) (POSTP)

Where:

$\{R_1 + R_2\}_{IDM}$→ Idiom word.

(AGRo) → Optional object agreement marker

(ADVP) → Optional adverbial phrase

(POSTP)→ Optional postpositional phrase

The instruction means that a morphosyntactic structure is generated from a noun and an idiom word, with or without either an ADVP or a postposition following. Being a verb, the idiom word occurs in the VP position. The morphosyntactic rule is as it is because the idiom word functions as a single lexeme. The rule describes many more morphosyntactic processes that are triggered by idiomization process. This is in line with the transformational generative theory of grammar.

L4 The PM in ***figure 4. 21*** represent the morphosyntactic processes established above. Similar morphosyntactic structures can be represented on the same phrase marker.

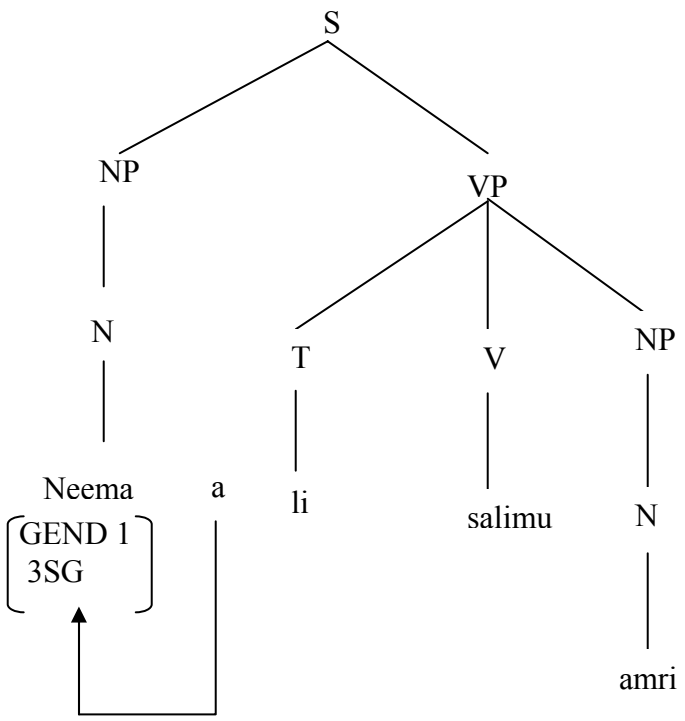


Figure 4. 21: Morphosyntactic processes involving idiomization

The representation reveals that the idiom (for instance a verb as in the representation) occurs in its rightful syntactic position regardless of the internal composition of the idiom word. It is this verb that determines the type of noun to occur in the subject position as well as in the object position (if any). This is because syntax sees it (the idiom word) as a single word.

Among the idioms given, there is a group of idioms that are very much restricted in their function in the sense that the nouns within these idiom words occur in conjunction with very specific verbs, and not just any. Likewise, they occur in very specific environments, with very specific elements; and as such they have syntactic consequences. Examples of such idioms are:

(i) shika (doria) 'be in charge'

(ii) kula (mwata) 'get trouble/ be in trouble'

The nouns that are in these idioms occur after very specific verbs (as shown) and not just any. Such restrictions are not semantic or pragmatic but rather they are purely lexical-syntactic. It just happens to be an arbitrary syntactic fact about the distribution of these linguistic items, that for instance, ***doria*** in Kiswahili is virtually never used in any other position except immediately after

the verb ***shika*** 'hold'. Syntax obeys such lexical restrictions. This shows how far the form of the word (idiom) determines syntax. Consequently, there is interplay between the level of morphology and syntax that is triggered by the idiomization process, which is morphosyntactic in Kiswahili.

Conclusion

In the preceding sub-sections, we have shown that derivational morphology, compounding and idiomization are word formation processes that trigger morphology-syntax interface in Kiswahili. Each word formation process has been analysed at the morphological and syntactic level in order to establish the morphosyntactic processes that are triggered by these word formation processes. With regard to derivational morphology, it has been shown through illustrations that it is the derivational affix has morphological and syntactic consequences in Kiswahili. It has also been shown that it is the derivational affix that determines the word class of the derivative. The implication here is that the lexicon has both roots and affixes that combine together (using morphological rules) to form derived words. Specific morphosyntactic rules that describe the established morphosyntactic processes have been given in line with the transformational generative theory of grammar. Finally, each morphosyntactic process has been represented on a PM for easier interpretation. Likewise, compounding and idiomization as morphosyntactic processes have been analysed. It has been shown that the two processes have morphological and syntactic consequences in Kiswahili.

4. 3. 1. 3: Class Non- Changing Word Formation Processes

Class non- changing word formation processes are those processes that do not result into change of class as it was with the class- changing word formation processes analysed in section 4. 3. 1. 2. In this section, we have analysed the passive, the causative, the applicative and the stative affixes as being morphosyntactic because, these affixes have morphological as well as syntactic consequences in Kiswahili. Based on transformational generative theory that we are applying, the derived structures are analysed in this study as transforms. A transform is a level of structure (somewhat abstract) that is derived by the application of a transformation. A transformation is a rule-governed operation that converts a basic structure into an acceptable but less elementary one. Transformational rules are therefore used to explain the systematic

relationship between the various types of clauses and structures. Typical transformations, that are based on transformational rules produce structures and show the regular grammatical relationship between such pairs.

Apart from the passive, the causative, the stative and the applicative affixes, the interrogative properties have also been analysed as being relevant to morphology and syntax in Kiswahili. Each of the categories has been analysed at the morphological, syntactic, rule and representational level.

4. 3. 1. 3. 1 Passive Morphology

According to Chalker and Weiner (1994: 285), the passive is:

> *That which designates the VOICE of the verb whereby the grammatical subject 'suffers', 'experiences' or 'receives' the action of the verb. The passive contrasts with the active VOICE, which attributes the action of the verb to the person or thing from which it logically proceeds.*

In this sub-section, the T. G. G's approach in which passives are derived from their active counterparts is adapted. Consequently, the active voice forms the deep structure, while the passive voice forms the surface structure. The two structures are shown to be related through movements.

In this study, the passive morphology is shown to be morphosyntactic in Kiswahili in that it has relevance to the word as well as to the entire sentence structure.

L1 Below are the words used to analyse the effect of the passive affix at the morphological level:

(i) lambwa 'be licked'

(ii) okotwa 'be picked'

(iii) onwa 'be seen'

(iv) paswa 'be ironed'

(v) somwa 'be read'

(vi) andikwa 'be written'

The passives in (i) – (vi) occur with their active counterparts as shown below:

Passive	**Active**
A2 (90) lamb***w***a 'be licked'	lamba 'lick'
A2 (91) okot***w***a 'be picked'	okota 'pick'

A2 (92) on***w***a ‘be seen’ ona ‘see’

A2 (93) pas***w***a ‘be ironed’ pasa ‘iron’

A2 (94) som***w***a ‘be read’ soma ‘read’

A2 (95) andik***w***a ‘be written’ andika ‘write’

Comparing the two forms (active and passive), we see that the passive morpheme ***-w-*** alters the morphological structure and the meaning of the word (verb) at the morphological level. So, the derivative is formed from a verb root, a passive marker and a verb suffix. Consequently,

VP→ $RAf_{1D}VS$

Where:

R→ verbal root

Af_{1D} → passive derivational affix

VS → verbal suffix

The instructions show that RVS ⟶ $RAf_{1D}VS$. In other words, every RVS (active verb) will become $RAf_{1D}VS$ on passivisation in Kiswahili. The difference between the two is attributed to the effect of the passive morpheme on the derived form of the verb. Below is what has taken place:

Table 4. 16: Passive morpheme on the verb

Morphosyntactic category	**Basic form (active)**	**Morphosyntactic feature**	**Passive form**
Passive morphology	RVS	Af_{1D} (-***w***-)	$RAf_{1D}VS$

Table 4. 16 shows that the structure of ***$RAf_{1D}VS$*** (passive form) is different from that of ***RVS***; that is, the active form. This difference is motivated by the presence of ***Af_{1D}***, that is, the passive marker -***w***-, which has relevance to morphology and syntax in Kiswahili.

L2 Below are the sentences that have been used to illustrate morphology-syntax interface that is triggered by the passive morphology; they are based on the words that are given above:

C2 (75) Ji- we li- li- okot- ***w-*** a na Juma.

SG- stone AGRs- PAST- pick PASS VS by Juma

'The stone was picked by Juma.'

C2 (76) Sukari i- li- lamb- ***w-*** a na m- toto.

sugar AGRs- PAST-lick- PASS- VS by SG- child

'Sugar was licked by the child.'

C2 (77) Ki- tabu ki- na- som- ***w-*** a na mw- anafunzi.

SG- book AGRs- PROG- read- PASS- VS by SG- student

'The book is being read by the student.'

C2 (78) Nguo i- na- pas- ***w-*** a na Maria.

cloth AGRs- PROG- iron- PASS- VS by Mary

'The cloth is being ironed by Mary.'

C2 (79) Panya a- li- on- ***w-*** a na paka.

rat AGRs- PAST- see- PASS- VS by cat

'The rat was seen by the cat.'

The structures in C2 (75) - C2 (79) are all passives that are derived from some underlying forms. Below are the same passive constructions, together with their active counterparts:

C2 (75) (S-S) Ji- we$_i$ li- li- okot- ***w-*** a t_i na Juma.

SG- stone AGRs- PAST- pick PASS VS t_i by Juma

'The stone was picked by Juma.'

C2 (75) (i) D-S: Juma a- li- okot- a jiwe.

Juma AGRs- PAST- pick- VS stone

'Juma picked the stone.'

C2 (76) S-S Sukari$_i$ i- li- lamb- ***w-*** a t_i na m- toto.

sugar AGRs- PAST-lick- PASS- VS t_i by SG- child

'Sugar was licked by the child.'

C2 (76) (i) D-S M- toto a- li- lamb- a sukari.

SG- child AGRs- PAST- lick- VS sugar

'The child licked sugar.'

C2 (77) S-S Ki- tabu$_i$ ki- na- som- ***w-*** a t_i na mw- anafunzi.

SG- book AGRs- PROG- read- PASS- VS ti by SG- student

'The book is being read by the student.'

C2 (77) (i) D-S Mw- anafunzi a- na- som- a ki- tabu.

SG- student AGRs- PROG- read- VS SG- book

'The student is reading a book.'

C2 (78) S- S Nguo$_i$ i- na- pas- ***w***- a t_i na Maria.

cloth AGRs- PROG- iron- PASS- VS ti by Mary

'Cloths are being ironed by Mary.'

C2 (78) (i) D-S Maria a- na- pas- a nguo.

Mary AGRs- PROG- iron- VS cloth

'Mary is ironing cloths.'

C2 (79) S-S Panya$_i$ a- li- on- ***w***- t_i a na paka.

rat AGRs- PAST- see- PASS- t_i VS by cat

'The rat was seen by the cat.'

C2 (79) (i) D-S Paka a- li- on- a panya.

cat AGRs- PAST- see- VS rat

'The cat saw the rat.'

From the derivative and basic forms, it is observed that the two structures are quite different from each other. This difference is motivated by the presence of the passive morphology, which is morphosyntactic in Kiswahili. Specifically, the passive marker alters the morphological form and the meaning of the verb, which in turn affects the whole sentence structure at the syntactic level by causing movement of elements, deleting others, and creating new ones. For instance, in C2 (75) - C2 (79), the direct object has moved to occupy the subject position at the S-S, while the argument in the subject position has been demoted to an optional adjunct, hence reducing the valence of the verb. Likewise, in each structure, a preposition ***na*** 'by', a new ***AGRs*** as well as a passive marker -***w***- has been introduced in the structure. Thus the passive verb has morphological and syntactic consequences, for it motivates the syntactic organisation of the entire sentence structure. Whereas in T. G. G the passive is analysed as being derived from the active construction through the application of transformational rules, later generative theories have analysed the passive verb as having the same argument structure as the active one. In this case, the passive affix is analysed as the external argument, bearing the theta role of AGENT (Chomsky, 1981 and 1982). Baker's (1985) analysis has also shown the passive affix as being a fully fledged argument of the passive verb that is assigned a theta role in order to satisfy the theta criterion and the projection principle. Based on this analysis, the passive affix is seen to render

the 'by phrase' redundant by virtue of having the same features as those of the by phrase; that is, the AGENTIVE. Just as with the T. G. G, Baker's analysis of the passive (though different) has shown that this affix has morphological and syntactic consequences in Kiswahili (see Mwangi 2001 for a detailed analysis).

The morphosyntactic structures in C2 (75) - C2 (79) have revealed that *the passive morpheme alters the morphological structure and the meaning of the verb; and at the syntactic level, this morpheme affects the whole sentence structure by rearranging the linguistic elements in the structure, deleting others and adding some new ones.* Violation of the syntactic requirements of the passive morpheme negatively affects the grammaticality of the whole structure as illustrated below, where the basic form in C2 (76) (i) is repeated with the ungrammatical structure, C2 (76) (ii):

C2 (76) (i) D-S M- toto a- li- lamb- a sukari.
SG- child AGRs- PAST- lick- VS sugar
'The child licked sugar.'

(ii) S-S *M- toto a- li- lamb- ***w***- a sukari.
SG- child AGRs- PAST- lick PASS- VS sugar
'The child was licked sugar.'

The S-S in C2 (76) (i) is ungrammatical because the syntactic requirements of the passive morpheme have not been observed. The fact that the derivative has the same distribution as the base form has had negative implications on the entire sentence. It is impossible for the S-S to remain unaltered on the application of the passive rule, which is transformational in this study.

L3 The deep structures in C2 (75) (i) - C2 (79) (i) are formed from an NP, a VP and another NP, while the surface structures in C2 (75) - C2 (79) are formed from the moved NP (that was initially in the object position at the D-S), a passive VP, and an optional agentive (PP). Consequently, the rule is:

NP_1+ AGRs+ T+ V+ NP_2 $\longrightarrow$ NP_{2i}+ AGRs+ T+ V+ ***PASS***+ t_i+ (P+ NP_1)

Where:

$NP_{2i} \rightarrow$ A second NP that shares references with the trace (t_i)

$t_i \rightarrow$ trace

(P+ NP_1) $\rightarrow$ an optional PP

PASS→ Passive marker

The grammar shows the structural change that has taken place in C2 (75) (i) - C2 (79) (i) and C2 (75) - C2 (79) on the application of the transformational rule. This change is triggered by the passive affix, which we have analysed as having morphological and syntactic consequences in Kiswahili. The rule that is given above describes many other structural relations that hold between the deep and the surface structures.

L4 The deep structure and the surface structure are represented on ***Figure 4. 23*** and ***Figure 4. 24*** respectively:

D-structure

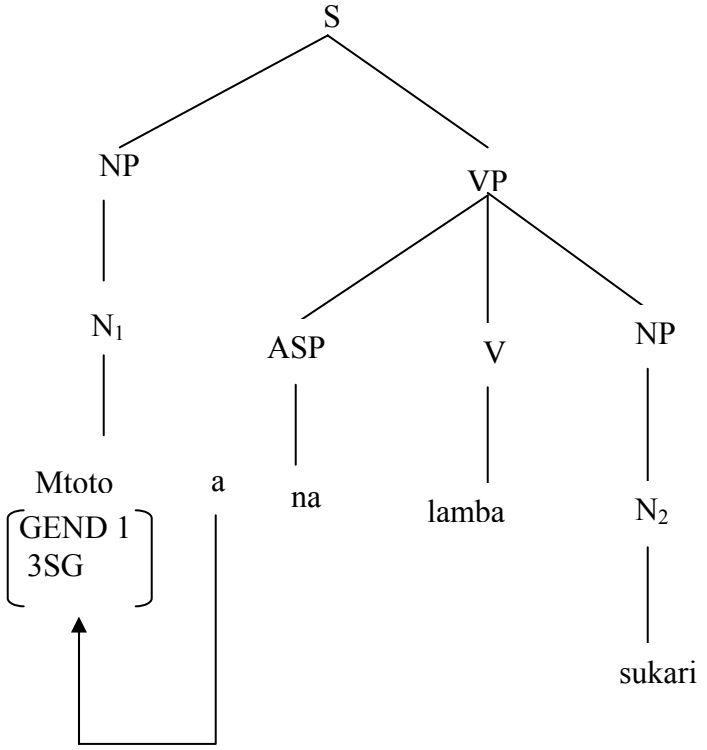


Figure 4. 22: D- structure: Basic form of the passive construction

Given the structure in ***figure 4. 22*** above, it is the passive morpheme -***w***- introduced to it, which motivates the transformation. The resultant structure after the transformation has taken place is as in ***figure 4. 23*** below:

S-structure

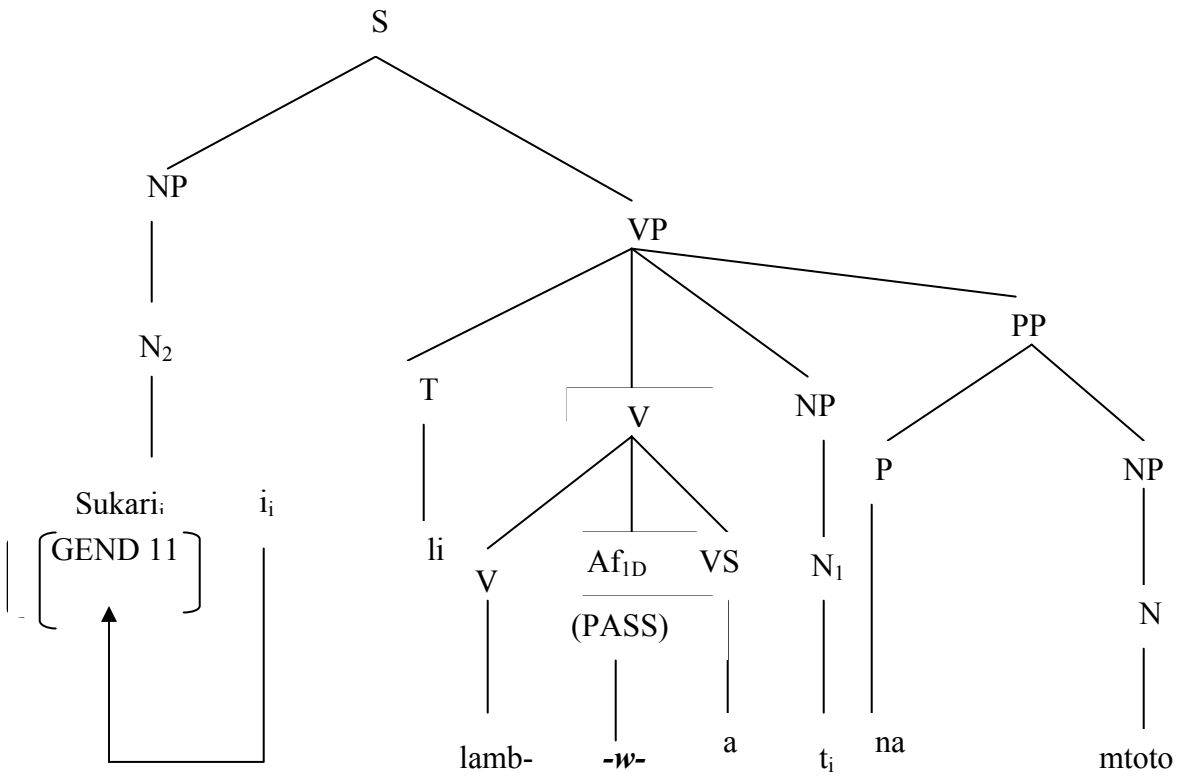


Figure 4. 23: Passive affix: morphosyntactic

Basically, this is what happens: when the passive verb like ***lambwa*** 'be licked' is taken from the lexicon and projected into the syntax, no argument appears in the subject position because the external argument of the verb ***lamba*** 'lick' gets absorbed (removed) by the passive morphology, leaving an empty subject position. However, since the passive verb is unable to assign abstract case to its complement (in this case ***sukari*** 'sugar'), the complement ***sukari*** 'sugar' must move to the empty position in the structure where abstract case can be assigned. This is done in order to avoid the violation of the Case Filter Principle, which states that 'All overt NPs must be assigned abstract case'. Having passed the principle, this NP can now be theta marked. The only possible position for the complement to move to is the subject position that is empty. When the moved NP lands in this position, it is assigned Nominative case. The moved element leaves behind a trace[11] (t) that is co-indexed with the antecedent (the moved element). Together, they form a chain.

11. In the present study, the term trace is adopted from the Government and Binding theory.

Any structure that is similar to the ones that are given in C2 (75) (i) - C2 (79) (i) and C2 (75) - C2 (79) can be represented on figures (***4. 22***) and (***4. 23***) respectively. The structural difference within the verb as well as within the sentence in the two is triggered by the passive morpheme; which has been shown to have morphological and syntactic consequences in Kiswahili.

The rule that was given above makes explicit the structural changes that occur when a passive morpheme is affixed onto the verb. It at the same time shows the relationship that holds between different structures that may be superficially distinct and yet similar within the underlying. This is quite important since the transformational generative theory that has been adapted in the study, seeks to move away from structural diversity to structural unity. This is partly achieved through a transformational grammar, which captures the relationship that holds between structures that are otherwise diverse superficially.

4. 3. 1. 3. 2: Causative Morphology

The causative is the form of a verb that involves the introduction of a causer. With regard to causation, Spencer (1991: 24) says; "It is the device for creating a verb form meaning 'to cause X to verb' from the verb 'X-verbs'."

Kiswahili makes use of both periphrastic and morphological causatives, with the later being commonly used. In this sub-section, the causative morphology is analysed as a category that has relevance to morphology as well as syntax in Kiswahili. Both types are analysed, starting with the morphological causative.

L1 The following words are used to show the effect of the causative affix on the word (verb).

(i) somesha 'teach/ cause to read'

(ii) pandisha 'cause to climb'

(iii) lalisha 'cause to sleep'

(iv) imbisha 'cause to sing'

(v) chezesha 'cause to play'

The above are causative verbs and they occur with their basic forms as below:

Causative form	**Basic form**
A2 (96) som***esh***a 'teach'	soma 'read'
A2 (97) pand***ish***a 'cause to climb'	panda 'climb'
A2 (98) lal***ish***a 'cause to sleep'	lala 'sleep'

A2 (99) imb***ish***a 'cause to sing' imba 'sing'

A2 (100) chez***esh***a 'cause to play' cheza 'play'

From the two forms, basic and the causative, it is observed that the causative marker in Kiswahili is ***-ish-*** or ***-esh-.*** It is also observed from the derivatives that the causative morpheme in Kiswahili alters the morphological structure and the meaning of the word (verb) on which it is marked. The choice of either the causative marker ***-ish-*** or ***-esh-*** depends on the penultimate vowel that is marked on the basic verb. If the penultimate vowel is ***-o-*** or ***-e-,*** then the causative morpheme will be ***-esh-.*** But if the penultimate vowel is either ***-i-, -a-*** or ***-u-,*** then the causative marker will be ***-ish-***. This illustrates vowel harmony in Kiswahili. From the structures, we see that the derivatives are formed from the verb root, the causative marker and a verb suffix. Consequently:

VP→ $RAf_{1D}VS$ (on causation).

Where:

R→ Verbal root

Af_{1D} → causative derivational affix

VS → Verbal suffix

The morphological rule shows that ***RVS*** ⟶ $\boldsymbol{RAf_{1D}VS}$ on causation; that is, a verbal root becomes causative in the environment in which a causative morpheme is added onto it. The difference between the two forms; that is, ***RVS*** and $\boldsymbol{RAf_{1D}VS}$ is motivated by the presence of the causative marker, which is morphosyntactic in Kiswahili. Changes within the verbal structure are represented below:

Table 4. 17: Causative marking on the derived form

Morphosyntactic category	**Basic form**	**morphosyntactic feature**	**Causative word**
causative morphology	RVS	Af_{1D} (-esh/ -ish)	$RAf_{1D}VS$

Table 4. 17 show that at the morphological level, the causative affix has relevance on the word.

L2 The sentences (that are based on the words in A2 (96) – A2 (100) that are used to analyse

morphology- syntax interface that is triggered by the causative morpheme are:

(i) Yohana a- na- m- som- esh- a Maria.
John AGRs- PROG- AGRo- teach CAUS- VS Mary
'John is teaching Mary.'

(ii) Baba a- na- m- pand- ish- a Suleimani m- ti.
Father AGRs- PROG- AGRo- climb- CAUS- VS Suleiman SG- tree
'Father is causing Suleiman to climb a tree.'

(iii) Mama a- na- m- lal- ish- a m- toto.
Mother AGRs- PROG- AGRo- sleep- CAUS- VS SG- child
'Mother is causing the child to sleep.'

(iv) Mw- alimu a- na- wa- imb- ish- a wa- nafunzi.
SG- teacher AGRs- PROG- PL- sing- CAUS- VS PL- student
'The teacher is causing the students to sing.'

The structures in (i) - (iv) are all causatives that are derived from some underlying forms on the application of a causative rule that is transformational. Below, we give the same derived forms together with their underlying forms in order to establish the relationship that holds between the two.

C2 (86) (i) D-S: Maria a- na- som- a.
Mary AGRs- PROG- read- VS
'Mary is reading.'

C2 (86) S-S: Yohana a- na- m- som- ***esh***- a Maria.
John AGRs- PROG- AGRo- teach CAUS- VS Mary
'John is teaching Mary.'

C2 (87) (i) D-S: Suleimani a- na- pand- a m- ti.
Suleimani AGRs- PROG- climb- VS SG- tree
'Suleiman is climbing a tree.'

C2 (87) S-S: Baba a- na- m- pand- ***ish-*** a Suleimani m- ti.
Father AGRs- PROG- AGRo- climb- CAUS- VS Suleiman SG- tree
'Father is causing Suleiman to climb a tree.'

C2 (88) (i) D-S: M- toto a- na- lal- a.
SG- child AGRs- PROG- sleep- VS

'The child is asleep.'

C2 (88) S-S: Mama a- na- m- lal- ***ish-*** a m- toto.

Mother AGRs- PROG- AGRo- sleep- CAUS- VS SG- child

'Mother is causing the child to sleep.'

C2 (89) (i) D-S Wa- nafunzi wa- na- imb- a.

PL- student AGRs- PROG- sing- VS

'The students are singing.'

C2 (89) S-S: Mw- alimu a- na- wa- imb- ***ish-*** a wa- nafunzi.

SG- teacher AGRs- PROG- AGRo- sing- CAUS- VS PL- student

'The teacher is causing the students to sing.'

At the syntactic level, we see that the structure of the basic form and that of the derived are quite different. Specifically, at the S-S, the structure of the verb has been altered by adding the causative marker ***-ish-*** or ***-esh-***. The affixation of the causative marker on the verb has introduced a new participant (the causer) that was absent at the D-S. Consequently, the valence of the verb has increased by one. Likewise, the distribution of the initial arguments has been changed. Specifically, the argument that was initially in subject position at the D-S now appear post-verbally as the direct object in the causative construction, functioning as the causee because it is the one that suffers the action or the state. This object is assigned the accusative case. The argument that was in the direct object position at the D-S now occur as a second direct object (secondary) with an oblique case assigned to it. The new argument; that is, the causer, now occur in subject position at the S-structure. This structural change is triggered by the causative morpheme that has relevance to morphology and syntax.

The morphosyntactic processes that are triggered by the causative morphology shows that: *The causative affix in Kiswahili changes the morphological structure and the meaning of the verb and at the syntactic level, this morpheme puts a restriction on the type of linguistic elements that are to occur in the structure and their syntactic distribution. Specifically, this morpheme motivates the increase in the valence of the verb as well as the rearrangement of linguistic elements.* Violation of the requirements of the causative affix negatively affects the whole sentence structure as in C2 (87) (ii) below:

C2 (87) (i) D-S: Suleimani a- na- pand- a m- ti.

Suleimani AGRs- PROG- climb VS SG- tree

'Suleiman is climbing a tree.'

(ii) S-S: !Suleimani a- na- pand- ***ish-*** a m- ti.

Suleimani AGRs- PROG- climb- CAUS- VS SG- tree

'Suleiman is causing the tree to climb.'

The structure in C2 (87) (ii) is ill-formed because it has violated the causative affix requirement that demands that when the causative affix is affixed on the verb, the causer has to be introduced. According the structures in C2 (87) (i) and C2 (87) (ii) above, this has not happened. This requirement is based on the assumption that the causative affix has the same lexical entry as that of the verb and as such it requires an argument for it to theta mark in order to satisfy the theta criterion principle. In other words, the verb and the causative affix are separate lexical items, each with a separate argument structure (see Mwangi 2001: 155). Therefore, the fact that the verb has undergone causation requires that a causer occur in the structure in order to receive the theta role that is to be assigned by the causative marker. As we can see, the causative verb ***pandisha*** 'make one to climb' requires three arguments; the CAUSER, the one who climbs and that which is climbed. Whereas the basic form of the verb ***panda*** 'climb' assigns theta roles to the last two arguments, the causative marker assigns its theta role to the first argument; that is, the causer. Likewise, the initial subject that occurred at the D-S has not moved to its appropriate position; that is, the direct object position at the S-S.

L3 The relationship between the two types of structure; that is, the deep structure and the surface structure is captured through the following rule:

NP_1+ AGRs+ T/ ASP+ V+ (NP_2) $\longrightarrow$ NP_N+ AGRs+ T/ ASP+ AGRo+ V_{CAUS}+ NP_1+ (NP_2)

Where:

$NP_N \rightarrow$ New argument (causer)

$V_{CAUS} \rightarrow$ Causative verb

$NP_1 \rightarrow$ First NP

(NP_2)$\rightarrow$ Optional second NP, whose occurrence depends on the transitivity of the verb.

The rule shows the structural changes that occur when causation takes place. In the present study, these changes are motivated by the presence of the causative marker that has been analysed as having morphological and syntactic consequences in Kiswahili. As earlier mentioned, at the S-S, there is a new argument (an AGENT in the matrix clause) that is introduced. Likewise, within the verb, there is an object agreement marker (AGRo) and a

causative marker (CAUS) that are introduced. Finally, NP_1 that initially occupied the subject position (as an AGENT) at the D-S, now occur as a direct object; while NP_2 that initially occupied the direct object position (as THEME) at the D-S, now occur as a secondary direct object, with the same theta role. Basically, there is increase in the argument structure of the derived verb at the S-S. The observed difference is a reflection of the structural difference between the basic and the derived form, which is triggered by the causative morphology that has relevance to morphology and syntax in Kiswahili..

The basic and the derived structures analysed in C2 (86) – C2 (89) are represented below:

D-structure

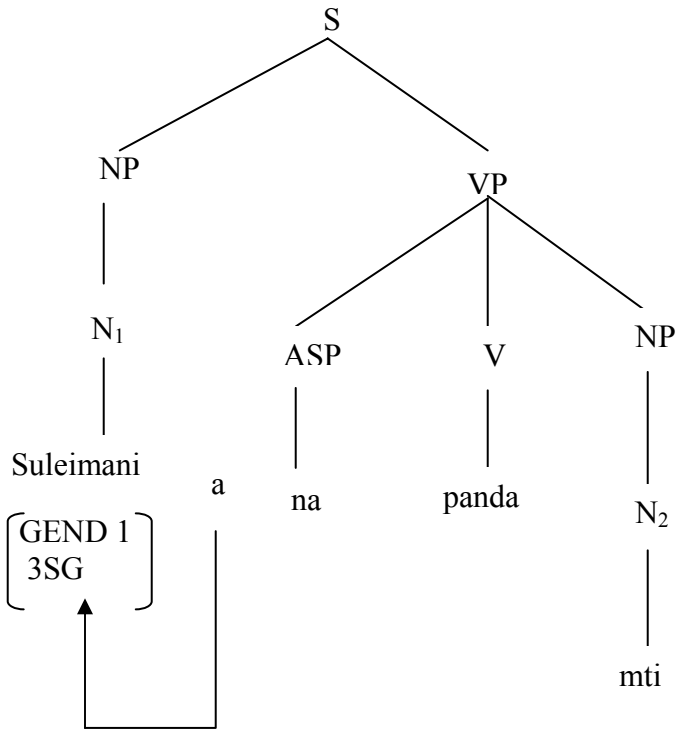


Figure 4. 24: D-structure of a causative construction

S-structure

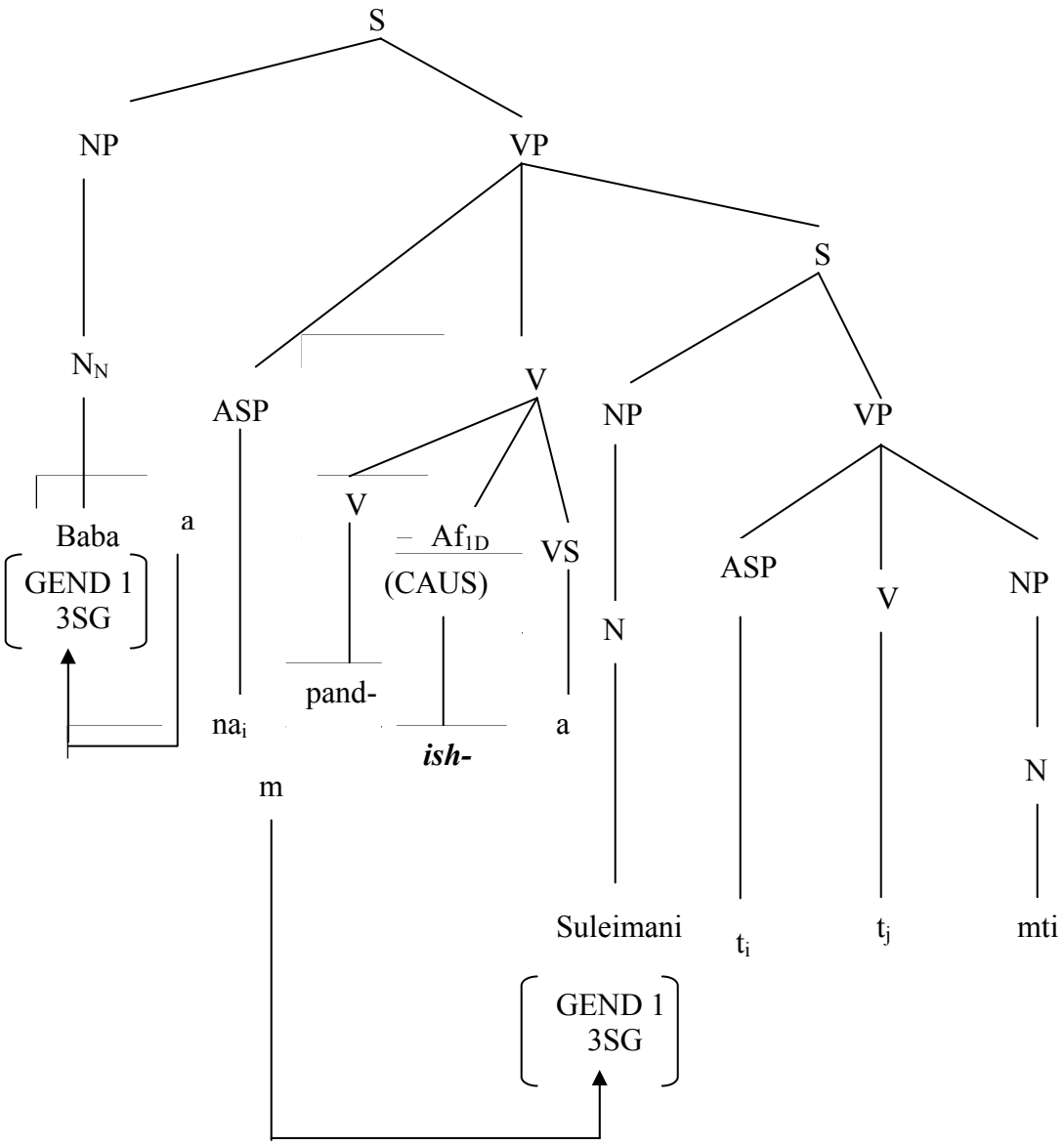


Figure 4. 25: Causative morpheme: Morphosyntactic

As earlier mentioned, T. G. G does not take care of the various agreement features that are typical of agglutinating languages like Kiswahili. Consequently, we have used the arrow notation on the phrase markers to show the relationship between the AGRs or AGRo with the subject or object (respectively) that motivates their occurrence.

The phrase markers on ***figure 4. 24 and 4. 25*** show the structural difference between the deep structure and the surface structure. In the present study, this difference is shown to be triggered by the presence of the causative marker that has morphological and syntactic consequences in Kiswahili. Based on the same phrase marker; that is, ***figure 4. 25***, we see that at the surface structure, the verb (together with the aspectual marker) moves from its lower clause to join the causative affix that is in the matrix clause. This movement is significant because the causative affix cannot stand alone at the S- structure; it requires a verb to adjoin to. It is the causative affix that triggers movement in the S- structure. An infinite number of morphosyntactic structures that are triggered by the causative affix can be represented on the PM that on ***figure 4. 25***.

Apart from the morphological marking of the causative, Kiswahili also makes use of periphrastic causatives that are marked by the lexical item ***fanya*** 'make/ cause'. Just as with morphological causative, the lexical item ***fanya*** is quite productive in Kiswahili. In the present study, this causative lexical item is shown to have morphological and syntactic consequences in Kiswahili. This is because it affects the verbal structure as well as the whole sentence structure.

L2 Below are the surface structures that are based on the deep structures in C2 (86) (i) - C2 (89) (i).

C2 (86) (i) D-S: M- toto a- na- lal- a.
SG- child AGRs- PROG- sleep- VS
'The child is asleep.'

(ii) S-S: Mama a- na- m- ***fany- a*** m- toto a- lal- e.
Mother AGRs- PROG- AGRo- CAUS VS SG- child AGR- sleep- SUBJ
'Mother is causing the child to sleep.'

C2 (87) (i) D-S: Suleimani a- na- pand- a m- ti.
Suleimani AGRs- PROG- climb- VS SG- tree
'Suleiman is climbing a tree.'

(ii) S-S: Baba a- na- m- ***fany- a*** Suleimani a- pand-
Father AGRs- PROG- AGRo- CAUS- VS Suleiman AGRo- climb-
e m- ti.
SUBJ SG- tree
'Father is causing Suleiman to climb a tree.'

C2 (88) (i)D-S Wa- nafunzi wa- na- imb- a.

PL- student AGRs- PROG- sing- VS

'The students are singing.'

(ii) S-S: Mw- alimu a- na- wa- ***fany-*** ***a*** wa- nafunzi wa-

SG- teacher AGRs- PROG- AGRo- CAUS- VS PL- student AGRo-

imb- e.

sing- SUBJ

'The teacher is causing the students to sing.'

Looking at the structures given above, we see that the surface structure differs from the deep structure in non-trivial ways:

(i) At the morphological level, the structure of the verb is changed as well as its mood. For instance in C2 (86) (i), the verb ***analala*** 'he/ she is asleep' becomes ***alale*** 'to sleep'. There is also change from indicative to subjunctive mood. This applies to all the verbs in C2 (86) (i) - C2 (89) (i).

(ii) A causer is introduced and it is assigned the theta role of AGENT. It occupies the subject position at the S- structure.

(iii) The initial AGENT at the D-structure now occurs as a secondary AGENT occupying the object position.

(iv) The initial argument in the direct object position (at the D- S) becomes a secondary object, though still retaining its initial thematic role of THEME.

(v) Two verbs now occur at the S-structure instead of one. This change is motivated by the lexical causative verb ***fanya*** 'do/ cause/ make' that occur in the structure as the first verb. This verb has morphological and syntactic consequences in Kiswahili.

L3 The rule that describes the relationship between the deep structures and the surface structures above is:

NP_1+ AGRs+ T/ ASP+ V_1+ (NP_2) $\longrightarrow$ NP_N+ AGRs+ T/ ASP+ AGRo+ $\boldsymbol{V_{CAUS2}}$+ NP_1+ AGRo+ V_1 + (NP_2)

Where:

$V_{CAUS2} \rightarrow$ Causative verb (second verb)

$V_1 \rightarrow$ First verb

$NP_N \rightarrow$ New NP (causer)

$NP_1 \rightarrow$ The first noun phrase

$(NP_2) \rightarrow$ Optional second NP, whose occurrence depends on the transitivity of the verb.

The rule captures the relationship between the two structures; that is, the deep structure and the surface structure.

The structural difference that is manifested through the grammar above is triggered by the causative verb ***fanya*** that has morphological and syntactic consequences in Kiswahili. An infinite set of similar relationships can be explained using the rule that is given above.

4. 3. 1. 3. 3 Applicative Morphology

The Applicative is as a result of prepositional incorporation into the verb. In applied verb constructions (applicative), the affix on the verb fulfils the same function as the preposition in an analytic construction. In other words, the applicative affix and the preposition have the same argument structure.

In this sub-section, the applicative morphology is shown to be a morphosyntactic category. This is because this category has relevance to morphology as well as syntax.

L1 The words that are used to illustrate the effect of the applied affixes at the morphological level are as below:

(i) katia 'cut for'

(ii) somea 'read for'

(iii) chukulia 'take for'

(iv) chezea 'play for'

(v) fulia 'wash for'

(vi) tembelea 'walk for'

The words in (i) – (vi) are derivatives because they are marked for the applicative morphology. They therefore occur with their basic forms as below:

Applicative form	**Basic form**
A2 (106) kat***i***a 'cut for'	kata'cut'
A2 (107) som***e***a 'read for'	soma 'read'
A2 (108) chuku***li***a 'take for'	chukua 'take'
A2 (109) chez***e***a 'play for'	cheza 'play'
A2 (110) fu***li***a 'wash for'	fua 'wash'

The two sets of words show that the applicative morpheme in Kiswahili is ***-i-, -e-, -li-,*** or ***-le***. These morphemes function in the same capacity as the preposition '***for'*** in English, only that they are affixed on the verb. The applicative morpheme ***-i-*** or ***-li-*** is used if the penultimate vowel on the base form is ***-i-, -u-*** or ***-a-,*** while the applicative morpheme ***-e-*** or ***-le-*** is used if the penultimate vowel on the basic form of the verb is either ***-e-*** or ***-o-.*** We see that at the morphological level, the applicative morpheme alters the morphological form and the meaning of the verb, as much as the category remains the same. The morphological rule that describes the passive and the causative verb also describes the above applied verbs; that is,

VP→ $RAf_{1D}VS$ (on prepositional incorporation).

Where:

R→ Verbal root

Af_{1D} → Applicative derivational affix

VS → Verbal suffix

The morphological rule shows that ***RVS*** ⟶ $\boldsymbol{RAf_{1D}VS}$ on prepositional incorporation; that is, a verbal root becomes an applied verb in the environment in which an applied morpheme is added onto it. The two forms are quite different from each other and this difference is triggered by the applied morpheme, which has morphological and syntactic consequences. The applicative marking on the verb occur as shown below:

Table 4. 18: The Applicative marking within the verb

Morphosyntactic category	**Basic form**	**Morphosyntactic feature**	**Applicative form**
Applicative morphology	RVS	Af_{1D} (***-i-, -li, -e, -le***)	$RAf_{1D}VS$

Table 4. 18 explicitly show that the basic form ***RVS*** is different from the applied form $\boldsymbol{RAf_{1D}VS}$. The change in the derived verbal structure is motivated by the applicative morphosyntactic features; ***-i-, -li-, -e-*** or ***-le-.***

L2 The following are sentences from which an illustration of morphology-syntax interface that is triggered by the applicative morphology is made:

(i) Dani a- li- m- kat- i- a Hamadi m- ti.

Dani AGRs- PAST-AGRo- cut APPL- VS Hamadi SG- tree

'Dani cut a tree for Hamadi.'

(ii) Mama a- na- m- fu- li- a m- toto bulangeti

Mother AGRs- PROG- AGRo- wash APPL- VS SG- child blanket

'Mother is washing a blanket for the child.'

(iii) Juma a- na- m- chez- e- a Yohana.

Juma AGRs- PROG- AGRo- play- APPL- VS John

'Juma is playing for John.'

(iv) Rehema a- na- m- som- e- a Mariamu ki- tabu.

Rehema AGRs- PROG- AGRo- read- APPL- VS Mariam SG- book

'Rehema is reading a book for Mariam.'

The surface structures in (i) – (iv) are derived from some basic forms that occur as below:

C2 (81) (i) D-S: Dani a- li- kat- a m- ti.

Dani AGRs- PAST- cut- VS SG- tree

'Dani cut a tree.'

C2 (81) S-S: Dani a- li- m- kat- ***i-*** a Hamadi m- ti.

Dani AGRs- PAST-AGRo- cut APPL- VS Hamadi SG- tree

'Dani cut a tree for Hamadi.'

C2 (82) (i) D-S: Mama a- na- fu- a bulangeti.

Mother AGRs- PROG- wash- VS blanket

'Mother is washing a blanket.'

C2 (82) S-S: Mama a- na- m- fu- ***li-*** a m- toto bulangeti

Mother AGRs- PROG- AGRo- wash APPL- VS SG- child blanket

'Mother is washing a blanket for the child.'

C2 (83) (i) D-S: Juma a- na- chez- a.

Juma AGRs- PROG- play- VS

'Juma is playing.'

C2 (83) S-S Juma a- na- m- chez- ***e-*** a Yohana.

Juma AGRs- PROG- AGRo- play- APPL- VS John

'Juma is playing for John.'

C2 (85) (i) D-S Rehema a- na- som- a ki- tabu.

Rehema AGRs- PROG- read- VS SG- book

'Rehema is reading a book.'

C2 (85) S-S Rehema a- na- m- som- ***e***- a Mariamu ki- tabu.

Rehema AGRs- PROG- AGRo- read- APPL- VS Mariam SG- book

'Rehema is reading a book for Mariam.'

The derived structures in C2 (81) - C2 (85) and the basic structures in C2 (81) (i) - C2 (85) (i) differ from each other with regard to their syntactic structure and the meaning. Specifically, on the application of the applicative rule, which is transformational, the verbal structure and its meaning is changed in the sense that the verb takes new ***AGRo*** as well as an applied affix (***APPL***). At the syntactic function, the entire structure is changed in the sense that: the applied affix that is added onto the verb alters the subcategorisation frame of the verb; the valence of the verb increases by one. Specifically, a new argument, that is, the BENEFACTOR is introduced in the structure. This is possible because the applicative affix has the same argument structure as the preposition in an analytic construction. This new argument functions as a direct object with the oblique case assigned to it. In order to satisfy the theta criterion principle, the new argument at the surface structure receives the theta role that is born by the applied affix, which is inherited by the verb. The distribution of the elements is also changed in the sense that the argument that initially occurred as the direct object at the D-S, now occur as a secondary object at the S-S; and for an intransitive verb that did not have an internal argument at the D-S, it now acquires an argument in the object position at the S-S. The applied morpheme brings about substantive changes in the meaning of the derived verb as well as in the meaning of the derived sentence structure. In the present study, these changes are seen to be a demonstration of the relevance of the applied morpheme to morphology and syntax in Kiswahili.

The morphosyntactic structures in C2 (81) - C2 (85) show that: *the applicative morpheme is morphosyntactic in Kiswahili; this affix changes the morphological structure and the meaning of the verb. At the syntactic level, the same applied morpheme influences the entire sentence structure by moving elements from one syntactic position to the other, introducing new ones as well as, changing its meaning.* Violation of the syntactic requirements of the applied morpheme, negatively affects the whole sentence structure as demonstrated below, where C2 (82) (i) occur with an ungrammatical S-structure, C2 (82) (ii):

C2 (82) (i) D-S: Mama a- na- fua bulangeti.

Mother AGRs- PROG- wash blanket

'Mother is washing a blanket.'

(ii) S-S: *Mama a- na- fu- ***li-*** a bulangeti

Mother AGRs- PROG- wash APPL- VS blanket

'Mother is washing for a blanket.'

The ungrammaticality of the structure in C2 (82) (ii) is as a result of the violation of the requirements of the applicative morphology at the syntactic level. The fact that the applied morpheme has relevance to morphology and syntax means that it must influence the sentence structure as well and not just the verbal structure as in C2 (82) (ii) above. In this case, a BENEFACTOR has to occur; otherwise the theta role that is born by the applied affix remains unassigned; and this is what has happened in C2 (82) (ii).

L3 The structures in C2 (81) (i) - C2 (85) (i) are made up of an NP and a transitive verb, whereas those in C2 (81) - C2 (85) consist of an NP, an applied verb, a BENEFACTOR and another NP (depending on the transitivity of the basic form of the verb). Therefore, the rule that describes the structures is:

NP_1+ AGRs+ T/ ASP+ V+ $NP_2 \rightarrow NP_1$+ AGRs+ T/ ASP+ ***AGRo***+ V_{APPL}+ NP_N+ NP_2

Where:

$V_{APPL} \rightarrow$ Applied verb

$NP_N \rightarrow$ New argument (BENEFACTOR)

From the rule, we observe that whereas at the D-structure there are two arguments, at the S-structure, there are three arguments; hence the increase in the verbal valence by one. Likewise, the verbal structure at the S-S is different from the one at the D-S; the former has a new AGRo as well as an applicative marker, which are missing at the D-S. As earlier explained, the difference is motivated by the applied morpheme, which is morphosyntactic in Kiswahili.

The rule that is given above describes an infinite number of structures that involve the applied morpheme. This is in line with the transformational generative theory being applied. Below are the representations:

D-structure

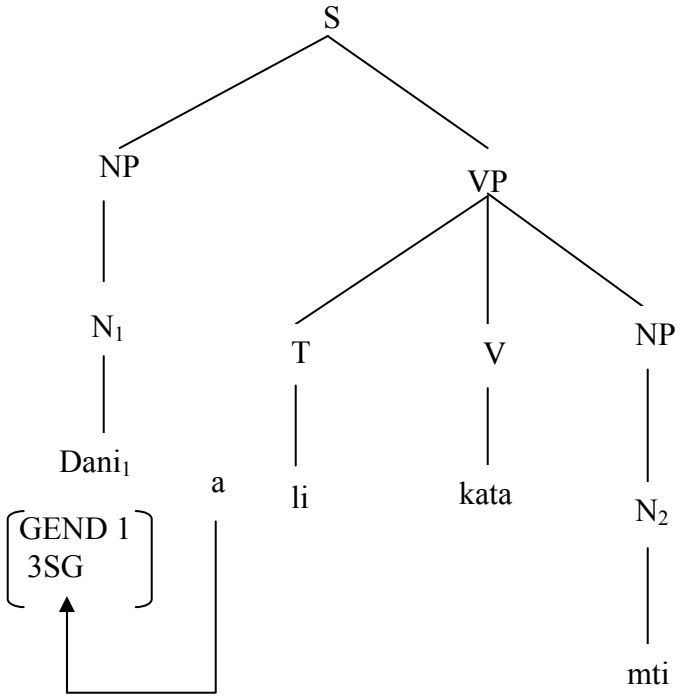


Figure 4. 26 The D-structure of an applicative construction

S-structure

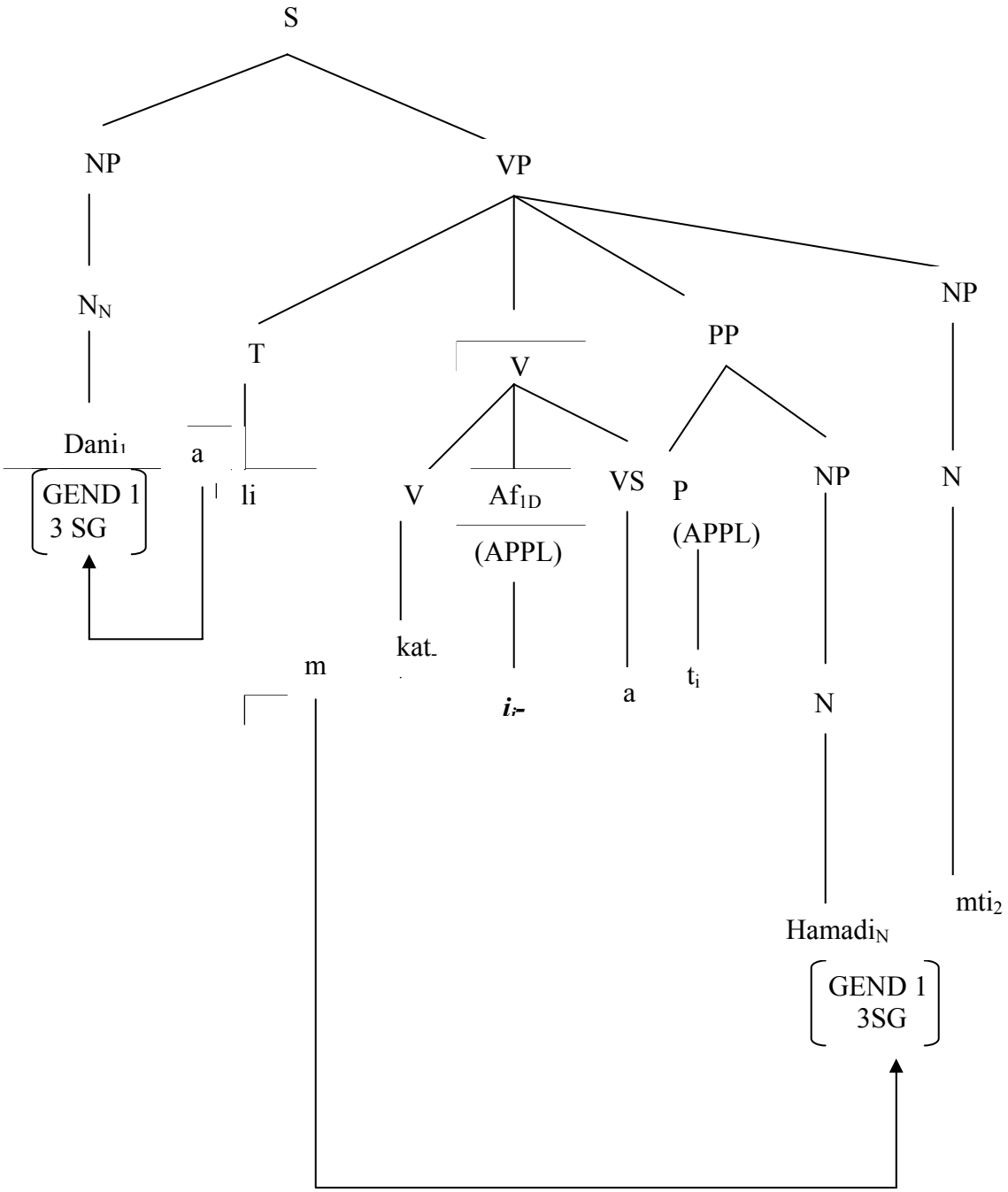


Figure 4. 27: The applicative morpheme: Morphosyntactic

The representation on Figure 4. 27, shows that at the surface structure, the applied affix is

attached to the verb because it cannot stand alone. Likewise, we see that the applied affix moves from its position as the head of the prepositional phrase to be affixed onto the verb, at the S-structure. The moved applied affix leaves behind a trace, which is used to preserve the structure.

An infinite number of constructions in which the applicative morpheme triggers morphology-syntax interface can be represented on the phrase markers in ***Figure 4. 26*** and ***Figure 4. 27***. From the representations, it is evident that the applicative morpheme influences the verb as well as the entire sentence structure.

4. 3. 1. 3. 4 The Stative Morphology

The stative verb is used to indicate a state or condition; it signals a stationary condition or absence of activity or a state of being without reference to the agent or actor. In the study, this category is shown to trigger morphology-syntax interface in Kiswahili.

The following words are used to analyse the effect of the stative morpheme at the morphological level:

(i) imbika 'singable'
(ii) someka 'readable'
(iii) chekeka 'laughable'
(iv) funikika 'coverable'
(v) lika 'eatable'
(vi) sahaulika 'forgettable'
(vii) tembeleka 'walkable'

All the derived words in (i) – (vii) are marked for the stative. Consequently, they occur with their basic counterparts as below:

Stative form	**Basic form**
A2 (101) imb***ik***a 'singable'	imba 'sing'
A2 (102) som***ek***a 'readable'	soma 'read'
A2 (103) chek***ek***a 'laughable'	cheka 'laugh'
A2 (104) funik***ik***a 'coverable'	funika 'cover'
A2 (105) l***ik***a 'edible'	(ku)la 'eat'

From the words in A2 (101) -A2 (105), we see that Kiswahili mainly uses the stative morphemes ***-ik-*** and ***-ek-***. Whereas the former occurs if the penultimate vowel is ***-i-, -a-,*** or ***-u-,***

the later occurs if the penultimate vowel is either ***-o-*** or ***-e-.*** Apart from the two, there are a few stative verbs that make use of the stative morpheme ***-lik***- and ***-lek***-Comparing the two forms; it is observed that at the morphological level, the stative morpheme alters the morphological structure and the meaning of the derived form of the verb. Therefore, the structure of the stative is as below:

VP→ $RAf_{1D}VS$ (the stative).

Where:

R→ Verbal root

Af_{1D} → stative derivational affix

VS → Verbal suffix

In the morphological rule, RVS ⟶ $RAf_{1D}VS$ on the application of the stative rule. The structure that is on the right hand side of the arrow differs from that which is on the left hand side. The difference in the two structures is motivated by the stative morpheme, which is analysed as having morphological and syntactic consequences in Kiswahili. The change at the morphological level is represented as below:

Table 4. 19: Effect of the stative morphology at the morphological level

Morphosyntactic category	**Basic form**	**Morphosyntactic feature**	**Stative form**
Stative morphology	RVS	Af_{1D} (***-ik-, -ek-, -lik-*** and ***-lek***-)	$Af_{1D}RVS$

Table 4. 19 shows that the stative form is different from the basic form. As it can be observed, it is the morphosyntactic feature of the stative; that is, ***-ik-, -ek-, -lik***- or ***-lek***- that motivates this difference.

L2 Based on the words in (i) – (vii), the following sentences are used to establish morphology-syntax interface that is triggered by the stative morpheme:

(i) Barua i- na- som- ek- a.

letter AGRs- PROG- read- STAT- VS

'The letter is readable.'

(ii) Shimo li- li- funik- ik- a.

SG-hole AGRs- PAST- cover- STAT- VS

'The hole was coverable.'

(iii) Wi- mbo u- na- imb- ik- a.

SG- song AGRs- PROG- sing- STAT- VS

'The song is singable.'

(iv) Cha- kula ki- na- l- ik- a.

SG- food AGRs- PROG- eat- STAT- VS

'Food is edible.'

The structures in (i) - (iv) are marked for the stative. They occur as below with their basic forms:

C2 (91) (i) D-S: Zena a- na- som- a barua.

Zena AGRs- PROG- read- VS letter

'Zena is reading a letter.'

C2 (91) S-S: Barua$_i$ i- na- som- ***ek-*** a t_i.

letter AGRs- PROG- read- STAT- VS t_i.

'The letter is readable.'

C2 (92) (i) D-S: Wa- vulana wa- li- funik- a shimo.

PL- boy AGRs- PAST- cover VS SG- hole

'The boys covered a hole.'

C2 (92) S-S: Shimo$_i$ li- li- funik- ***ik-*** a t_i.

SG-hole AGRs- PAST- cover- STAT- VS t_i.

'The hole was coverable.'

C2 (93) (i) D-S: Maria a- na- imb- a wi- mbo.

Maria AGRs- PROG- sing- VS SG- song

'Mary is singing a song.'

C2 (93) S-S: Wi- mbo$_i$ u- na- imb- ***ik-*** a t_i.

SG- song AGRs- PROG- sing- STAT- VS t_i

'The song is singable.

C2 (94) (i) (D-S) Yohana a- na- kul- a cha- kula.

John AGRs- PROG- eat- VS SG- food

'John is eating food.'

C2 (94) (S-S): Cha- kula$_i$ ki- na- l- ***ik***- a t_i.

SG- food AGRs- PROG- eat- STAT- VS t_i

'Food is edible.'

At the syntactic level, the two structures differ from each other. Whereas at the D-structure the agent of the action is mentioned, at the S-structure, it is not mentioned; instead the logical object at the D-S is topicalised and it is now functioning as the syntactic subject at the S-S. So, the stative affix, just as the passive affix deletes the AGENT. However, the difference between the two is that, while, the AGENT is recovered in passive constructions, the AGENT in the stative constructions is not recovered. Likewise, the subject agreement features change at the S-structure in order to agree with the derived subject. The stative marker is marked on the verb, thereby, changing the verbal structure. So, we see that the stative morpheme is morphologically and syntactically pertinent. This morpheme has the ability to alter the verb valence by changing its subcategorization frame; the morpheme also causes movement within the structure as well changing the meaning of the derived structure.

With regard to the same, Baker (1988a) has analysed the stative affix as an argument that is incorporated or merged into the verb. Even based on this analysis, the stative morpheme is still seen as being pertinent to morphology and syntax because it effects changes in the morphological structure of the verb as well as in its meaning; and at the syntactic level; this morpheme motivates structural and semantic changes in the entire sentence.

Based on the T. G. G. analysis, all the morphosyntactic processes established in C2 (91) - C2 (94) reveal that *the stative morpheme changes the morphological structure and the meaning of the word and at the syntactic level, this morpheme motivates the movement of elements in the structure, the addition of new ones as well as deletion of others***.** The stative constructions given above conform to the requirements of the stative morpheme in Kiswahili. Violation of the stative requirements negatively affects the entire sentence structure as demonstrated below:

C2 (91) (i) D-S: Zena a- na- som- a barua.

Zena AGRs- PROG- read- VS letter

'Zena is reading a letter.'

(ii) S-S: *Zena a- na- som- ***ek-*** a barua.

Zena AGRs- PROG- read- STAT- VS letter

'Zena is readable a letter.'

The structure in C2 (91) (ii) is ungrammatical because the syntactic requirements of the stative morphology have not been obeyed. This is despite the fact that the principle has been obeyed at the morphological level. Based on Baker's (1988a) analysis, where the stative is also analysed as an argument that is incorporated into the verb, we argue that the ungrammaticality in the structure is as a result of the 'doubling' of the external argument since the two; that is, the stative affix and the external argument ***Zena*** have the same reference. So, the stative rule must have consequences on the structural organization at the syntactic level.

The structures in C2 (91) - C2 (94) and those in C2 (91) (i) - C2 (94) (i) show that on the application of the stative rule, which is transformational, the structural organization of the elements change. Therefore, the rule that describe the relationship that holds between the two structures is:

NP_1+ AGRs+ T/ ASP+ V+ $NP_2 \rightarrow NP_{2i}$+ AGRs+ T/ ASP+ $V_{\boldsymbol{STAT}}$+ t_i

Where:

$NP_{2i} \rightarrow$ Second NP that is co-indexed with the trace

$V_{STAT} \rightarrow$ Stative verb

Based on the rule, we observe that the initial THEME; that is, NP_2 at the D-structure is moved to the subject position at the S-structure; and instead, a trace remains in the vacated position to mark the base generating site of the moved NP. The initial AGENT; that is, NP_1 at the D-S is deleted; and the verbal morphology is changed. All these changes are motivated by the presence of the stative morphology that has relevance to morphology and syntax in Kiswahili. The rule describes an infinite number of similar constructions in Kiswahili.

L4 The structures in C2 (91) (i) - C2 (94) is represented as below on a phrase marker:

D-structure

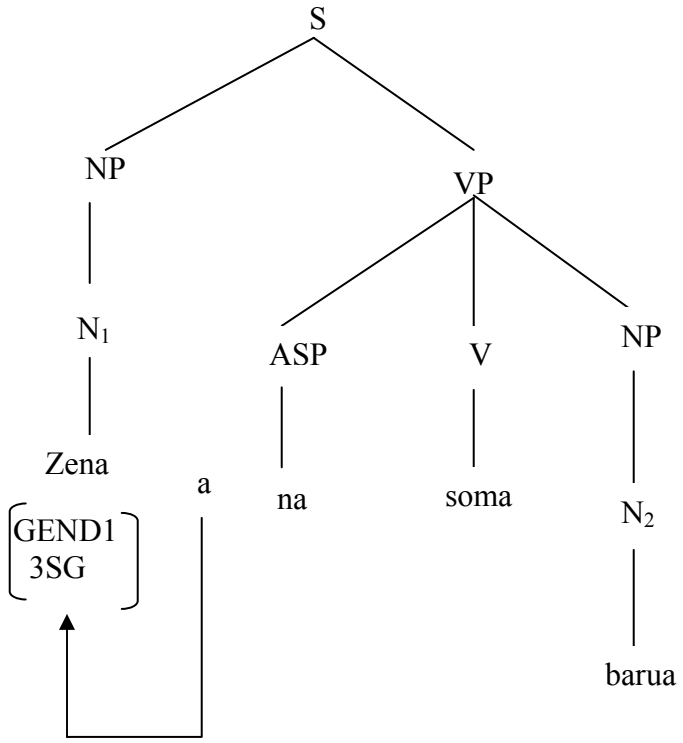


Figure 4. 28: The D-structure of the stative construction

S-structure

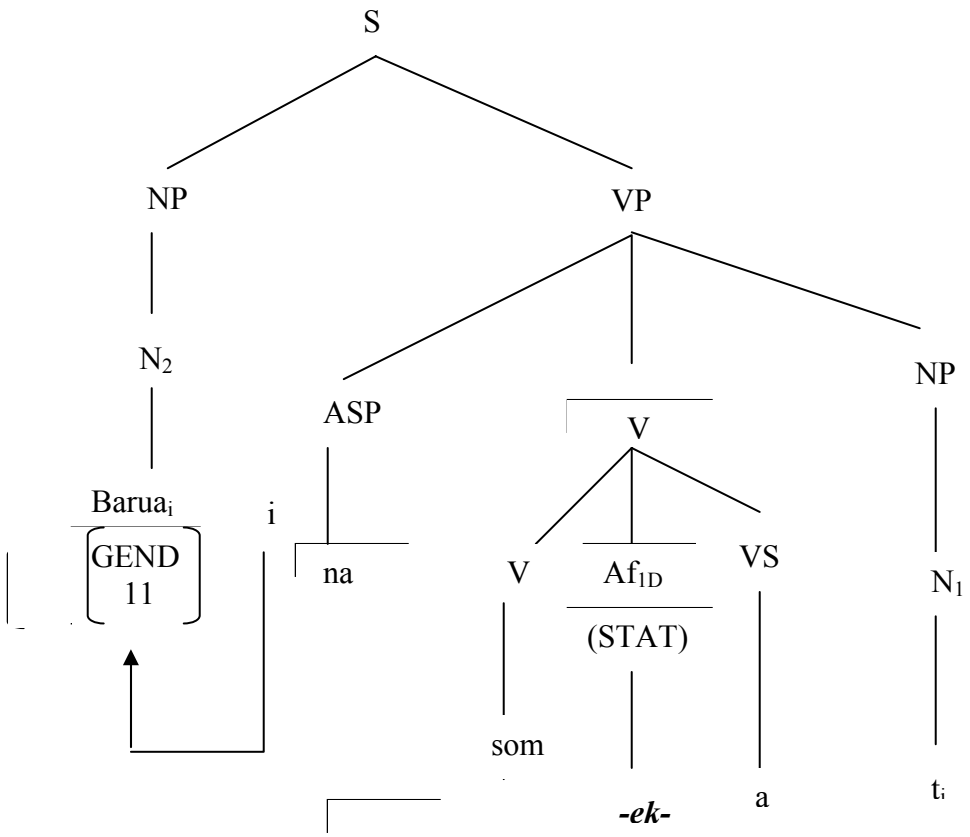


Figure 4. 29: The stative morpheme: Morphosyntactic

In ***figure 4. 29***, we see that the stative affix ***-ek*** has occurred and yet this was not part of the D-structure. In the present study, we argue that the affix ***-ek*** is an argument of the verb ***soma*** 'read' and that its occurrence at the S-structure necessitates the deletion of the AGENT that was initially present at the D-structure. This argument follows from Baker's (1988) analysis of the stative morphology, where the stative affix is analysed an argument of the verb.

The above two representations show exactly what happens when the stative rule, which is transformational is applied on the D-S in Kiswahili. Based on the transformational generative theory that is being applied, this is a reflection of what happens in the mind of a Kiswahili speaker when constructing such sentences.

4. 3. 1. 3. 5 Interrogative Properties

Interrogative pronouns are words used to ask for information. In this sub-section, the study has shown that in the more natural way of asking, interrogative words do not move in Kiswahili. This contrasts with languages like English where the interrogative word moves. However, in the less natural way of asking[12], interrogative words do move in Kiswahili.

In this sub-section, two types of analyses are made:

(i) Based on structures in which the interrogative word does not move when they function syntactically.

(ii) Based on structures in which the interrogative word moves in its syntactic function.

Though not morphologically marked, the present study has shown that the interrogative properties have relevance to the word as well as to the entire sentence in Kiswahili.

L1 The following interrogative pronouns are used to analyse the effect of the interrogative properties at the morphological as well as the syntactic level:

A2 (111) nani 'who'

A2 (112) nini 'what'

A2 (113) ngapi 'how many'

A2 (114) lini 'when'

Despite the fact that the interrogative words are not marked by affixation, the properties of these words are shown to be morphosyntactic in the study in that at the morphological level, each of the interrogative word; that is, (i)- (v) is determined (inherently marked) with regard to the property of interrogation. This is shown on the ***table 4. 20***.

12. Though unnatural, in spontaneous speech, Kiswahili speakers use such constructions more often than can be imagined.

Table 4. 20: Interrogative property: Relevant to morphology and syntax

Interrogative word	**Interrogative property**	**Effect at morpholgical level**
nani 'who'	asks about persons	nani < person>
nini 'what'	about choice	nini < choice>
-ipi 'which/ who/ where'	about choice	ipi < choice>
ngapi 'how many'	about number	ngapi < number>
lini 'when'	about time	lini < time>

Table 4. 20 shows that at the morphological level, the interrogative word is determined with regard to the interrogative property. This property has syntactic consequences.

L2 Below are the interrogative sentences that are used to establish morphology-syntax interface that is triggered by the interrogative property:

C2 (96) M- sichana a- na- end- a ***wapi***?
SG- girl AGRs- PROG- go- VS where
'Where is the girl going?'

C2 (97) Mw- alimu a- na- kuj- a ***lini***?
SG- teacher AGRs- PROG come VS when
'When is the teacher coming?'

C2 (98) ***Nini*** a- na- ***cho***- haribu Maria?
What AGRs- PROG- AGRo- spoil Mary
'What is Mary spoilling.'

C2 (99) ***Nani*** u- na- ***ye***- m- tafut- a?
Who 2SG- PROG- REL-AGRo- search- VS
'Who are you looking for.'

C2 (100) U- na vi- tabu ***vi***- ***ngapi***?
2SG POSS PL- book PL- how many
'How many books do you have?

Two types of interrogative sentences can be identified from the above:

(i) Those in which the interrogative word is found in the object position as in C2 (96), C2 (97), and C2 (100).

(ii) Those in which the interrogative word is found in the subject position as in C2 (98) and C2 (99).

The structures in C2 (96), C2 (97), and C2 (100), are examples of interrogative constructions in which the interrogative word does not move and as such, the structure that is present at the D-S, also occur at the S-S. However, in spite of this, the study argues that the interrogative property is morphosyntactic in Kiswahili. This is because it is the property (its semantics) of the interrogative word that determines the occurrence of the other linguistic elements in structure; especially within the verb.

On the other hand, for the interrogative structures that are used in the more unusual way of asking as in C2 (98) and C2 (99), they too are sensitive to the interrogative properties of the word. Apart from the linguistic elements moving in the structure as well as the addition of new linguistic elements, the interrogative properties influence the structure of the verb as illustrated below, where C2 (98) and C2 (99) occur with their basic forms:

C2 (98) (i) D-S: Maria a- na- harib- u ***nini***?
Mary AGRs PROG- spoil VS what
'What is Mary spoilling?'

C2 (98) S-S: Ni n***ini***$_I$ a- na- ***cho***- haribu t_i Maria.
COP what AGRs- PROG- AGRo- spoil t_i Mary
'What is Mary spoiling?'

C2 (99) (i) D-S: U- na- m- tafut- a ***nani***?
2SG- PROG- AGRo- search- VS who
'Whom are you looking for?'

C2 (99) S-S: Ni n***ani***$_i$ u- na- ***ye- m-*** tafut- a t_i?
COP who 2SG- PROG- REL-AGRo- search- VS t_i
'Who are you looking for?'

An observation of the structures in C2 (98) and C2 (99) shows that the D-S and the S-S differ from each other. In these structures, the interrogative properties of the word affect the entire sentence structure. Specifically, there is structural change in that the interrogative word moves from the object of the verb position to the subject position at the S-S. Likewise, the verbal morphology is changed; there is the object agreement marker (AGRo) or/ and the relative marker that agree with the interrogative word that is in the subject position at the S-structure. For

instance in C2 (98), the occurrence of the AGRo ***-cho-*** on the verb is dependent on the interrogative word ***nini*** 'what' that occurs in the subject position. On the other hand, the occurrence of the AGRo ***-m-*** as well as the relative marker ***-ye-*** in C2 (99) above is motivated by the presence of the interrogative word ***nani*** 'who'. There is also the copular verb ***ni*** that is introduced at the beginning of the sentence, it gives the derived structure prominence or emphasis. Furthermore, the occurrence of the copular verb ***ni*** at the beginning of the interrogative structures is an indication that these (interrogative pronouns) are 'marked' structures (and that is why they are referred to as the interrogative pronouns that are used in the unusual way of asking). So, we see that the interrogative pronouns have syntactic consequences in Kiswahili.

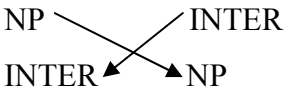
Below is an illustration of the structural change within the verb that is triggered by the interrogative properties:

Table 4. 21: Effect of interrogative property on the verb

Interrogative word	**AGRo/ REL**
nini	-cho-
wapi	-ko-
lini	-po-
nani	-ye- (REL) / m (SG) -o- (REL)/ wa- (PL)
ngapi	-o-

Table 4. 21 shows that interrogative structures involve contrastive focus and this is what necessitates relativization. The type of the AGRo and the REL (relative) marker that occur within the verb are dependent on the type of the interrogative word under consideration. Its property motivates their occurrence.

Apart from the verbal morphology being influenced by the interrogative properties, the other linguistic elements in the structure are rearranged as below:



All these changes are triggered by the interrogative properties, which have relevance to morphology and syntax in Kiswahili.

The morphosyntactic processes established above show that: *the interrogative properties determines the word (the interrogative) with regard to the same properties; and at the syntactic level, these properties influence the whole sentence structure by determining the morphological elements that are to occur within the verb; the properties also bring about the rearrangement of the initial linguistic elements as well as the introduction of new ones.* Violation of the morphological and syntactic requirements of the interrogative properties, negatively affects the entire structure as illustrated below, where C2 (98) (i) is repeated with its derivative in C2 (98) (ii):

C2 (98) (i) D-S Maria a- na- harib- u ***nini***?
Mary AGRs PROG- spoil- VS what
'What is Mary spoiling?'

C2 (98) (ii) S-S *Ni n***ini** a- na- harib- u Maria?
COP what AGRs PROG- spoil- VS Mary
'What is Mary spoiling[13]?'

The S-structure is ungrammatical because the requirement has only been partly obeyed at the syntactic level. Not only do the interrogative properties rearrange elements in the structure, they also alter the verbal morphology. The later has not been done. For the structure to be grammatical, the word structure, that is, the verb has to be altered too, in accordance with the nature of the interrogative word in question.

L3 Whereas the structures at the D-S are made up of an NP, a VP and an interrogative pronoun (this applies also to those structures that do not move); those at the S-S are made up of a copula verb, an interrogative pronoun, a VP, an NP and specific traces that mark the site where moved elements are generated. The rule that describes the relationship that holds between the structures in C2 (96) (i) – C2 (100) (i) and C2 (96) – C2 (100) is:

NP+ AGRs+ T/ ASP+ V+ $PRON_{INTER} \rightarrow$ COP+ $PRON_{INTERi}$+ AGRs+ T/ ASP+ REL (AGRo)+ V+ t_i +NP

Where:

[13] *Though the English translation is well-formed, in Kiswahili, the structure is ungrammatical.*

$PRON_{INTR} \rightarrow$ Interrogative pronoun

$t_i \rightarrow$ trace

The rule shows the structural relationship that holds between the two structures. As we can see, there is substantive structural difference in the two structures. The difference in the structures is motivated by the interrogative properties that are analysed as being morphosyntactic in Kiswahili. Traces are included in the rule in order to recover the theta relations that hold between the various elements. Through trace marking, the projection principle is observed. This is the principle that states: “The argument structure of a predicate is projected through the syntactic derivation and remains unaltered at all syntactic levels of representation." (Spencer, 1991: 298).

Despite the fact that movement has taken place, every argument subcategorised for by the predicate at the D- structure is preserved at the S-structure.

The rule describes a variety of relationships between the D-structures and the S-structures in constructions that are triggered by the interrogative property. The difference between the two structures is explained as being a consequence of the effect of the interrogative property that is morphosyntactic. This is especially so in interrogative structures that involves movement.

L4 The structures are represented as below on phrase markers:

D-structure

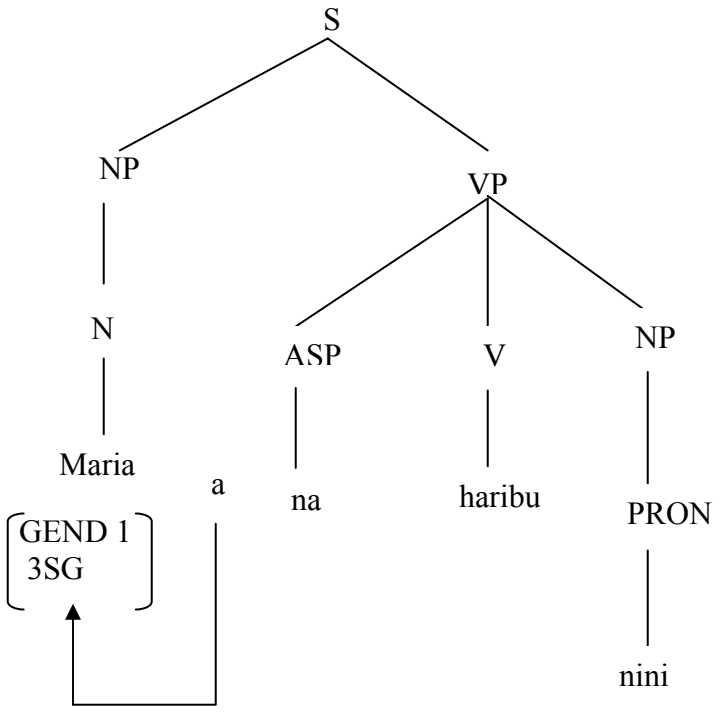


Figure 30: D- structure of interrogative construction

S- structure

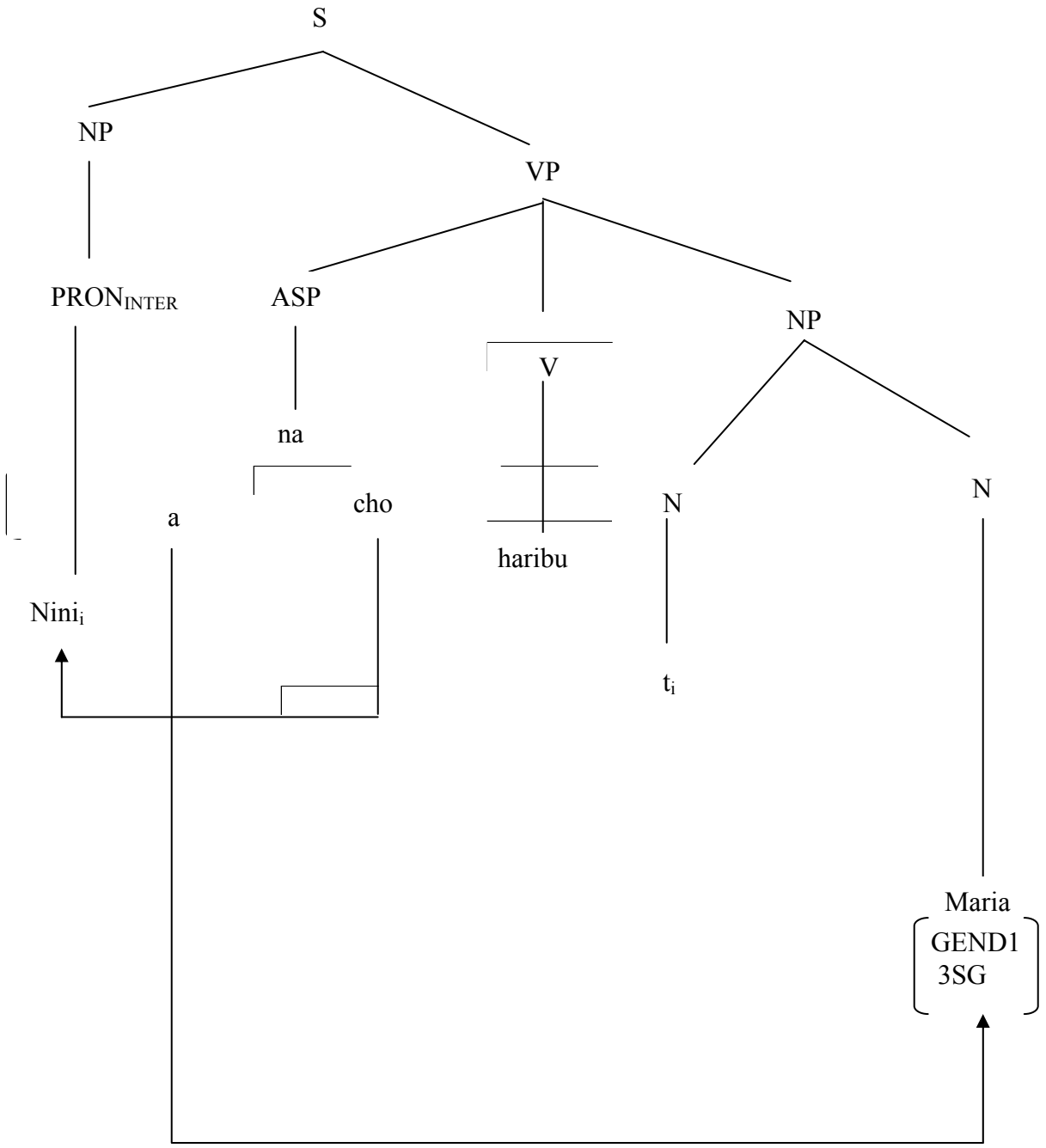


Figure 4. 31:Interrogative properties: Morphosyntactic

The relative marker ***cho-*** is not taken care of by the phrase markers that are used in T. G. G. Just as with the AGRs and the AGRo, an arrow is used to show that the occurrence of this relative marker is dependent on the properties of the interrogative word ***nini*** 'what'. These properties are pertinent to morphology as well as syntax.

Whereas ***figure 4. 30*** represents the D-structures together with the S-structures that do not involve movement of the interrogative word, ***figure 4. 31*** represent the S-structure that is the outcome of the application of a transformational rule. The later makes explicit the interface between morphology and syntax that is triggered by the interrogative properties in Kiswahili. Several other structures, both basic and derivatives can be represented on the two phrase markers.

Conclusion

From the preceding analysis, it has been established that the passive, the causative, the stative, the applicative affix and the interrogative properties trigger morphology-syntax interface in Kiswahili. It has been demonstrated in the discussion that each of these categories has morphological and syntactic consequences. From the analysis we have seen that apart from the verbal morphology that trigger interface, the interrogative properties also trigger morphology-syntax interface in Kiswahili. Specific morphosyntactic rules that describe the relationship that holds between the D-structures and the S-structures have been given. This is in accordance with the transformational generative theory that is being applied. Finally, representations on phrase markers have been given for easier interpretation of what goes on in the speaker's mind when constructing the various structures in Kiswahili.

4. 3. 1. 4 Lexical Information

Lexical information is the inherent property of a given lexical item as specified within the lexicon[14]. Four categories of lexical information that is relevant to morphology and syntax are

[14.] *The lexicon is not necessarily a dictionary where a complete set of the vocabulary of a language is listed. In this study, the lexicon is a theoretical component consisting of lexical entries, which contains not only the semantic information but also phonological, morphological and syntactic information, which an ordinary dictionary may not have.*

analysed in this sub-section; and they are: categorial information, subcategorization information, selectional and thematic information. Each of the categories is analysed at the morphological, syntactic, rules and the representational level.

For each of the categories, it has been shown that the lexical information that is provided in the lexicon (of a given linguistic item) is morphosyntactic in Kiswahili in that it (the information) has relevance to the word as well as the entire syntactic structure. Below is the analysis of each.

4. 3. 1. 4. 1 Categorial Information

The information concerning the syntactic category of a given lexical item is given in the lexicon as stated by Radford (1993: 339):

> *Part of the syntactic information contained in the lexical entry for any item is the specification of the categorial status of the item concerned, in terms of a matrix of major and minor categorial features.*

Thus, every lexical item in the lexicon belongs to a specific syntactic category; either the category of noun, verb, adjective, adverb or the preposition.

L1 Below are the words used to demonstrate the relevance of categorial information at the morphological and syntactic level:

(i) soma 'read'

(ii) mwalimu 'teacher'

(iii) zuri 'good'

(iv) haraka 'quickly'

(v) kwa 'to/ by/ with/ at'

(vi) nguo 'cloth'

Within the lexicon, these words are marked for categorial information as below:

A2 (68) soma 'read' [+ verb]

A2 (69) mwalimu 'teacher' [+ noun]

A2 (70) zuri 'good' [+ adjective]

A2 (71) haraka 'quickly' [+ adverb]

A2 (72) kwa 'to/ by/ with/ at' [+ preposition]

A2 (73) nguo 'cloth' [+ noun]

At the morphological level, the syntactic category of each word is determined. This is because of the presence of the categorial information that is provided in the lexicon for each one of them. So, at the morphological level, the words occur as shown on ***table 4. 22*** below:

Table 4. 22: Categorial information on individual words

Word	**Categorial information**	**Morphosyntactic category**	**Word+ categorial information**
soma 'read'	[+ verb]	[+V]	soma [+V]
mwalimu 'teacher'	[+ noun]	[+N]	mwalimu [+ N]
zuri 'good'	[+ adjective]	[+Adj]	zuri [+Adj]
haraka 'quickly'	[+ adverb]	[+Adv]	haraka [+Adv]
kwa 'by/ with'	[+ preposition]	[+Prep]	kwa [+Prep]
nguo 'cloth'	[+ noun]	[+N]	nguo [N]

Table 4. 22 shows that, at the morphological level, the categorial information, which the study perceives as being morphosyntactic, states the syntactic category of the word and as such, its meaning is also determined. In other words, the categorial information is relevant to the word.

L2 When the words function syntactically, syntax becomes sensitive to the categorial information that is specified for each word. Specifically, the syntactic positions in which these words have to occur as well as the type of the linguistic elements that have to occur with them in the syntax are determined by the categorial information that is specified for individual words. Consequently, this information has syntactic consequences. The following sentences are used to establish morphology-syntax interface that is triggered by the categorial information:

C2 (56) ***Mw- alimu*** a- na- ***som- a***.

N ***V***

SG- teacher AGRs- PROG- read- VS

'The teacher is reading.'

C2 (57) ***Nguo*** hii ni ***nzuri.***

N ***ADJ***

cloth DEM- COP- good

'This cloth is good.'

C2 (58) A- li- maiza kazi ***haraka.***

ADV

POS (3SG)- PAST- finish work quickly

'He/ she finished work very quickly.'

C2 (59) A- me- end- a ***kwa*** Jani.

PREP

POS (3SG)- PERFT- go- VS to Jani

'He/ she has gone to Jani's.'

The sentences show that at the syntactic level, each word occurs in a very specific syntactic position as specified in the lexicon. For instance, in the above examples, a noun occurs in the NP position, a verb in VP position, e. t c. The distribution is predetermined by the categorial information, which is morphosyntactic in Kiswahili. Likewise, the same information determines the linguistic elements that are to occur in the structure. This is more relevant especially in cases of conversion processes, where words are reclassified, In such cases; it is the category of the word in question that determines the occurrence of the other linguistic elements. For instance in C2 (46) and C2 (46) (i), *kaa* 'charcoal' as a ***noun*** and as a ***verb (kaa*** 'sit'***)***; occurs in different syntactic positions. Whereas ***kaa*** 'charcoal' as a noun occurs in the NP position, ***kaa*** 'sit' as a verb occurs in the VP position. Similarly, the two linguistic items occur with different linguistic elements in the structure, based on the categorial information that is specified for each one of them. So, this information has morphological and syntactic consequences. The structures in C2 (46) and C2 (46) (i) are repeated below for illustration:

C2 (46) Zainabu a- na- beb- a ***ma- kaa.***

Zainabu AGRs- PROG- carry- VS PL- charcoal

'Zainabu is carrying charcoal.'

C2 (46) (i) Zainabu ***a- me- ka- a*** kwa ki- ti.

Zainabu AGRs- PERFT- sit- VS PP- SG- chair

'Zainabu is sitting on the chair.'

The two structures show the difference in the distribution of the linguistic element ***kaa*** as well as the difference in terms of the linguistic elements that have occurred in the structures.

The analysis of the morphosyntactic processes in C2 (56) - C2 (59) shows that *the categorial*

information is morphosyntactic in Kiswahili. This information states the syntactic category of individual words and by so doing, their meaning is determined. At the syntactic level, the same categorial information determines their syntactic distribution as well as the type of linguistic elements that are to occur with them. Consequently, the entire syntactic structure is affected. Violation of syntactic requirements of the categorial information negatively affects the grammaticality of the whole sentence structure as demonstrated below, where C2 (57) (i) is the ungrammatical form of C2 (57) above:

C2 (57) * ***Nzuri*** hii ni ***nguo***.

ADJ ***N***

cloth- DEM- COP- good

'Good this is cloth.'

The structure in C2 (57) (i) is ungrammatical because the syntactic requirements for the categorial information of the lexical item ***nzuri*** 'good' has been violated. The adjective ***nzuri*** 'good' needs to occur in the ADJP position and not in the NP position as it is in the example above. Therefore, in C2 (57) (i), the categorial information of the adjective has not been represented at the syntactic level. This violation at the syntactic level has negatively affected the structure.

L3 The morphosyntactic structures established above are generated from an optional noun, a copula verb or a main verb, and either an adjective, a noun, an adverb or a PP. Therefore, the rule that describes the morphosyntactic processes in C2 (56) - C2 (59) is:

$$S \rightarrow (NP) + \left\{ \begin{array}{c} COP \\ AGRs + T + V \end{array} \right\} + \left\{ \begin{array}{c} ADJP \\ NP/\ ADVP/\ PP \end{array} \right\}$$

There are two rules within the above rule:

Rule (i) A sentence is generated from a noun phrase, a copula verb and an adjectival phrase as in C2 (57).

Rule (ii) A sentence is generated from an optional NP, a main verb and either an NP, an ADVP or a PP as in C2 (56), C2 (58) & C2 (59).

In both rules, the distribution of individual lexical items is predetermined by the lexical information that is provided in the lexicon.

The rules can be used to describe an infinite set of sentences in Kiswahili that involve the

morphosyntactic category of categorial information.

L4 The morphosyntactic processes in C2 (56) that is triggered by the categorial information is schematised on ***figure 4.32:***

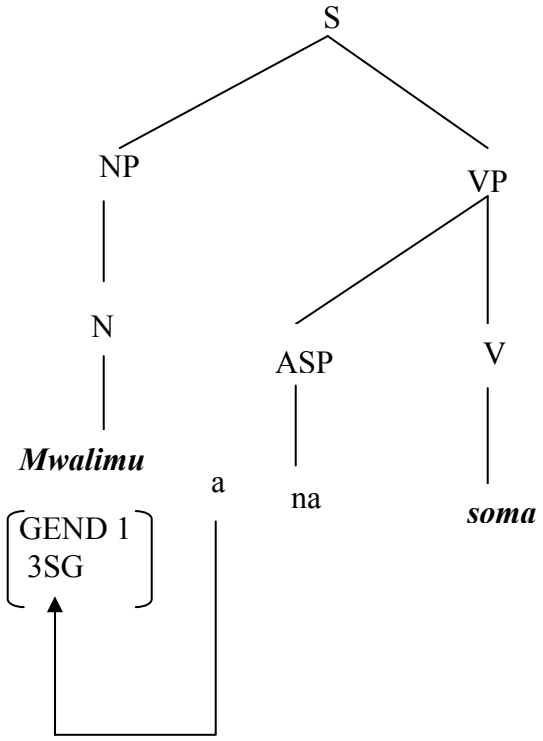


Figure 4. 32: Categorial Information: Morphosyntactic

Figure ***4. 32*** can be modified depending on the transitivity of the verb in order to accommodate different types of morphosyntactic structures. The representation shows that lexical items occur in very specific syntactic positions based on the categorial information that is specified in the lexicon concerning them. The categorial information given concerning the individual lexical items has syntactic consequences on the entire sentence structure in that it determines the type of linguistic elements that have to occur in the structure as well as their syntactic distribution.

4. 3. 1. 4. 2 Subcategorization Information

Within the lexicon, subcategorization information is also provided. This is the information concerning the number of complements that a given predicate occurs with. With regard to the

same, Radford (1988: 339) says that:

> *Part of the syntactic information contained in the lexical entry for any item is the specification of the categorial status of the item concerned, in terms of matrix of major and minor categorial features. Also information about the range of complements which a given item permits i.e. a given item subcategorises a particular range of complements.*

Radford's statement is summarised through the subcategorization principle which states that:

> *Any lexical item of the category X will be subcategorised with respect to the range of the idiosyncratic complements (sister constituents) which it permits within the X-bar (maximal) containing it.* Radford (1988: 368).

In this sub-section, we have shown that the subcategorisation information is relevant to the word as well as to the entire syntactic structure.

Below are the words that have been used to illustrate the effect of the subcategorisation information at the morphological as well as syntactic level:

(i) lala 'sleep'

(ii) gonga 'hit'

(iii) lamba 'lick'

(iv) safiri 'travel'

(v) hama 'transfer'

(vi) -pa 'give'

Within the lexicon, each of the words given above is marked for specific subcategorization information. In other words, the lexicon provides information for each of the predicate with regard to the number of the complements that they are to take. So, at the morphological level, these words are marked for the subcategorization information as below:

A2 (74) lala 'sleep'

subcategorization frame: [- ∅]

A2 (75) gonga 'hit'

subcategorization frame: [- NP]

A2 (76) lamba 'lick'

subcategorization frame: [- NP]

A2 (77) safiri 'travel'

subcategorization frame: [-PP, PP]

A2 (78) weak 'put'

subcategorization frame: [- NP, PP]

A2 (79) -pa 'give'

subcategorization frame: [- NP, NP]

From the words, we observe that at the morphological level, the word is determined with regard to the information concerning the number of the complements that each one of them is to take. In other words, at the morphological level, the subcategorization property of each word is determined. This is in line with the projection principle, which states that:

> *Representations at each syntactic level i.e. LF, D-S and S-S are projected from the lexicon; in that they observe the subcategorization properties of the lexical categories*. Chomsky (1981: 36).

Therefore, at the morphological level, the above words are marked for the subcategorization information as shown on the table below:

Table 4. 23`: Subcategorization information: Morphosyntactic

Word	**Subcategorisation information**	**Effect of subcategorisation information**
lala	[- ∅]	lala [-∅]
gonga	[-NP]	gonga [-NP]
lamba	[-NP]	lamba [-NP]
safiri	[PP, PP]	safiri [PP, PP]
weka	[-NP, PP]	weka [- NP, PP]
-pa	[NP, NP]	-pa [-NP, NP]

Table 4. 23, shows that at the morphological level, the subcategorization information states the properties of the word with regard to the linguistic elements it requires as complements, when functioning syntactically. In other words, the subcategorisation frame of the word is determined at the morphological level.

L2 Based on the subcategorization frame of each of the above words, the following sentences have been used to establish the morphosyntactic processes that are triggered by the subcategorization information:

(i) M- toto a- na- lal- a.

SG- child AGRs- PROG- sleep VS

'The child is asleep.'

(ii) Maria a- li- gonga u- kuta.

Mary AGRs- PAST- hit SG- wall

'Mary hit the wall.'

(iii) Jani a- li- m- pa m- toto maziwa.

Jani AGRs- PAST- AGRo- give SG- child milk

'Jani gave milk to the baby.'

(iv) M- kulima a- li- safiri kutoka shamba- ni hadi duka- ni.

SG- farmerAGRs- PAST- travel from farm- POSTP to shop- POSTP

'The farmer travelled from the farm to the shop.'

(v) Mama a- na- weka sukari kwa chai.

Mother 3SG- PROG- put sugar in tea.

'Mother is putting sugar in the tea.'

The above sentences are marked for the subcategorisation information as shown below:

C2 (31) Mama ***a- na- weka sukari kwa chai.*** Valence= 2

Mother 3SG- PROG- put sugar in tea.

'Mother is putting sugar in the tea.'

C2 (60) M- toto ***a- na- lal- a***. Valence = 0

SG- child AGRs- PROG- sleep VS

'The child is asleep.'

C2 (61) Maria ***a- li- gonga u- kuta***. V= 1

Mary AGRs- PAST- hit SG- wall

'Mary hit the wall.'

C2 (62) Jani ***a- li- m- pa m- toto maziwa.*** V= 2

Jani AGRs- PAST- AGRo- give SG- child milk

'Jani gave milk to the baby.'

C2 (63) M- kulima ***a- li- safiri- kutoka shamba- ni hadi duka- ni***.V=2

SG- farmer AGRs- PAST- travel from farm- POSTP to shop- POSTP

'The farmer travelled from the farm to the shop.'

The structures C2 (31), C2 (60) - C2 (63) show that the subcategorization information, which

states the properties of the word (with regard to the subcategorisation frame) at the morphological level, has syntactic relevance. At the syntactic level, this information is seen to influence the entire sentence structure with regard to the number of the linguistic elements that have to occur in the structure as complements as well as their syntactic distribution. Consequently, interface between morphology and syntax that is triggered by the subcategorization information is observed.

The morphosyntactic processes established in C2 (31), C2 (60) - C2 (63) show that*: the subcategorization information states the properties of the word with regard to the number of the linguistic elements that are to occur with in the structure as complements and at the syntactic level, this information affects the entire sentence structure by putting a restriction on the type of elements that are to occur in the structure and their syntactic distribution.* Violation of the subcategorization information that is provided for a given predicate negatively affects the entire sentence structure as demonstrated below, where C2 (61) is repeated as C2 (61) (i):

C2 (61) (i) *Maria ***a-*** ***li-*** ***gonga***. V= 0

Mary AGRs- PAST- hit

'Mary hit.'

The structure in C2 (61) (i) is ungrammatical because the subcategorization information of the predicate ***gonga*** 'hit' has not been syntactically represented. The verb ***gonga*** 'hit' requires one complement to complete it and the fact that this complement has not occurred, has negatively affected the grammaticality of the whole sentence structure.

L3 The morphosyntactic structures in C2 (31), C2 (60) - C2 (63) are made up of a noun phrase with an intransitive verb, a transitive verb or a ditransitive verb. The type of the verb in question determines the number and the type of the linguistic elements that are to occur in the structure as complements. Below is the rule that describes them:

$S \rightarrow NP + AGRs + T/ ASP + V_{INTR/ MTR/ DTR}$

Where:

$V_{INTR/ TR/ DTR} \rightarrow$ A verb that is intransitive, monotransitive or ditransitive.

This rule describes an infinite set of morphosyntactic structures, with an intransitive, transitive or a ditransitive verb in Kiswahili. As observed in the rule, it is the subcategorization information of the verb that determines the structure of the whole sentence. The study argues that this information is morphosyntactic in Kiswahili since it is relevant to the word as well as to the

entire sentence structure.

L4 The morphosyntactic structure in C2 (60) is represented on the PM on ***figure 4. 33*** below:

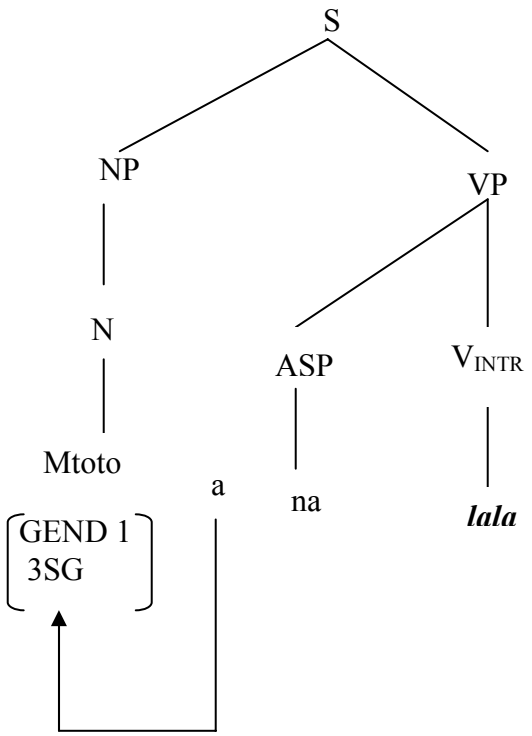


Figure 4. 33: Subcategorial information: Morphosyntactic

For morphosyntactic processes that occur in ditransitive structures like C2 (62), the representation is as below:

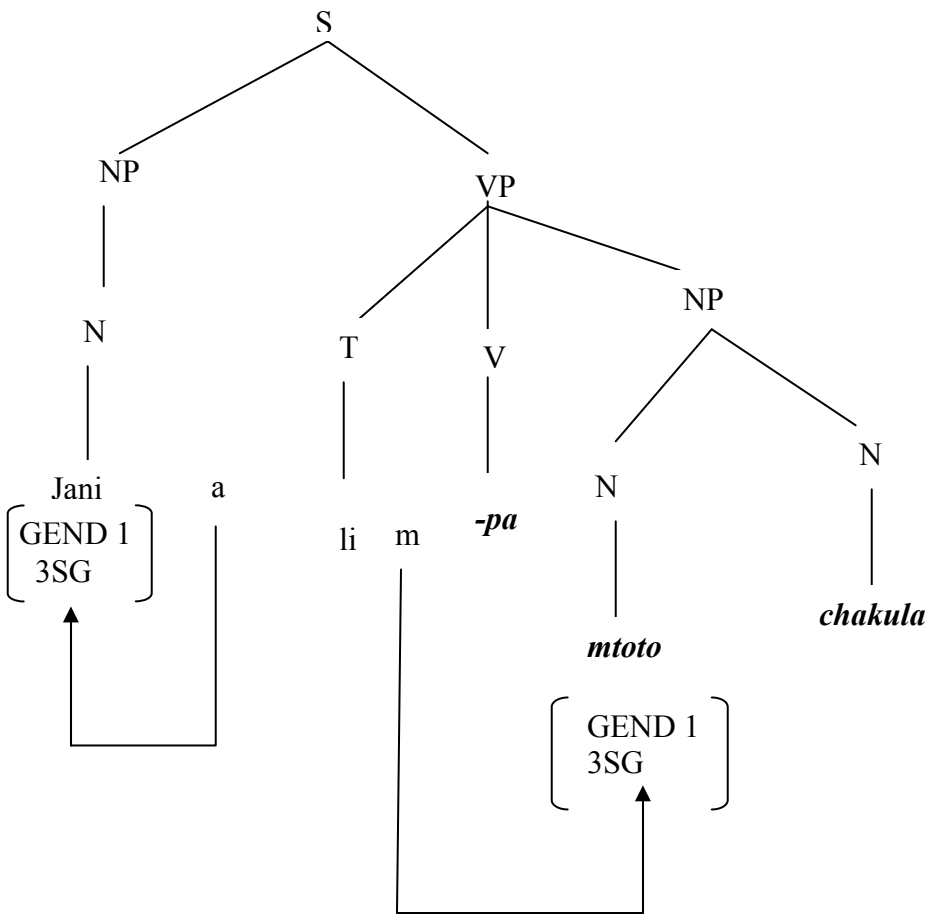


Figure 4. 34: Subcategorial information: Morphosyntactic

The PM on ***figure 4. 33*** represents any structure that involves the subcategorization information for intransitive verbs, while the one on ***figure 4. 34*** represent those that have ditransitive verbs. In both structures, it is the information that is stated in the lexicon for a given predicate that determines the subcategorization properties of the verb as well as the structure of the entire sentence. It is this morphological and syntactic consequence of the subcategorization information that makes it (the information) morphosyntactic.

The projection principle has been observed in the examples given above (see the definition of the principle above).

Apart from the fact that this principle has been observed, the structures in C2 (31), C2 (60) - C2

(63) show that all the information provided in the lexicon concerning individual lexical items is preserved even through transformations. With regard to the same, Cook & Newson (1988: 166) say:

> *Lexical information is not only projected into the structure at some initial point in the derivation of the structure but it is also projected throughout all levels of structural representation.*

In other words, a position that is required by the projection principle at the D-structure is maintained at the S-structure. Likewise, a position projected as a certain category at the D-structure is also to be present at the S-structure; that is, an NP- position remains an NP-position, a VP-position remains a VP-position e. t. c. This means that the features assigned at the D-structure do not change; they are preserved. The principle also imposes constraints on movement. For instance phrasal projections have to move to positions that are labelled phrasal.

Below is an example, where C2 (61) (i) is the passive form of C2 (61) above.

C2 (61) (i) ***<u>u- kuta</u> u- li- gong- w- a*** t_i na Maria V= 1

SG- wall AGRs- PAST- hit- PASS VS t_i by Mary

'The wall was hit by Mary.'

In C2 (61), as much as the complement ***ukuta*** 'wall' has moved to occupy the subject position at the surface structure, it is still assigned the theta role of PATIENT and it is regarded as the internal argument of the verb and not as the external argument. Trace is an empty category that marks the position that is vacated by the moved complement. The presence of a trace helps preserve the structure after movement has taken place. Therefore in structure C2 (61) (ii), the subcategorization information of the verb ***gonga*** 'hit' is still preserved.

Another principle that is observed when analysing the subcategorisation information is the Strict Adjacency Principle; which states that "An NP complement of a verb must be strictly adjacent to its governing verb." Radford (1988: 350).

The principle is illustrated in the example below, where C2 (31) is repeated here as C2 (31) (i):

VERB: ***weka*** 'put'

Subcategorization frame: [- NP, PP] as in:

C2 (31) (i) Mama ***a- na- weka sukari kwa chai.*** Valence= 2

Mother 3SG- PROG- put sugar in tea.

'Mother is putting sugar in the tea.'

In C2 (31) (i) above, the NP immediately follows the verb, which it complements and not the PP. The PP, which is also the verb's complement, follows the NP. If the Strict Adjacent Principle is violated, the structure becomes ill-formed.

C2 (31) (i) *Mama ***a- na- weka kwa chai sukari..*** Valence= 2

Mother 3SG- PROG- put in tea sugar.

'Mother is putting in the tea sugar.'

In all the examples given in this sub-section, the subcategorization information for individual words is seen to have morphological and syntactic consequences in Kiswahili. This is because the information determines the word with regard to the subcategorization property and at the syntactic level; the same information influences the whole sentence structure with regard to the linguistic elements that are to occur in the structure as complements of the predicate and their syntactic distribution.

4. 3. 1. 4. 3 Selectional Restriction

Apart from the categorial and the subcategorial information, the lexicon also includes the information about semantic selection of individual predicates. In this sub-section, it is shown that the semantic information that is given for a linguistic item (predicate/ word), states the semantic property of the word; and at the syntactic function, the same information affects the entire sentence structure with regard to the type of linguistic elements that are to occur in the structure and their syntactic distribution. Specifically, the linguistic elements that are to occur in the structure have to bear very specific semantics depending on the specified semantic property of the word. In this study, it is shown that the semantic information of individual words is relevant to both morphology and syntax in Kiswahili. In other words, it is not just the number of complements that are taken by a predicate that matter, but also the type, based on their semantics. Whereas subcategorial information is structural, selectional information is semantic.

L1 Below are the words that are used to illustrate the effect of the semantic information at the morphological level:

(i) shika 'hold'

(ii) zimia 'faint'

(iii) lima 'dig'

(iv) fagia ‘sweep’

(v) lia ‘cry’

(vi) -pa ‘give’

All the words in (i) – (vi) are marked for semantic information in the lexicon. This information puts a restriction on the type of linguistic elements (with regard to their semantics) to be taken by individual predicates. Therefore, at the morphological level, the words are marked as below:

A2 (80) shika ‘hold’

Selectional Restriction: <+ ANIMATE, ± ANIMATE>

(Subject) (Object)

A2 (81) zimia ‘faint’

Selectional Restriction: <+ ANIMATE>

(Subject)

A2 (82) lima ‘dig’

Selectional Restriction: < ±ANIMATE, - ANIMATE>

(Subject) (Object)

A2 (83) fagia ‘sweep’

Selectional Restriction: < + HUMAN, - ANIMATE>

(Subject) (Object)

A2 (84) lia ‘cry’

Selectional Restriction: < + HUMAN>

(Subject)

The words show that at the morphological level, the semantic information provided for individual lexical items state the semantic properties of the word (this is with regard to the semantics born by the linguistic elements to be selected by the predicate). So, at the morphological level, these words are marked for semantic properties as shown on ***table 4. 24*** below:

Table 4. 24: Semantic properties of individual words

Word	**Semantic information: morphosyntactic**	**Resultant word**
shika 'hold'	< + ANIMATE, ±ANIMATE>	shika <+ ANIMATE, ±ANIMATE>
zimia 'faint'	<+ ANIMATE>	zimia < ANIMATE>
lima 'plough'	< ± ANIMATE, -ANIMATE>	lima < ± ANIMATE, -ANIMATE>
fagia 'sweep'	< + HUMAN, -ANIMATE>	fagia <HUMAN, -ANIMATE>
lia 'cry'	< + HUMAN>	lia <HUMAN>
-pa	< + ANIMATE, ±ANIMATE, ±ANIMATE >	-pa < + ANIMATE, ±ANIMATE, ±ANIMATE >

Table 4. 24 shows that at the morphological level, the word is determined with regard to the semantic property. This property (information) is relevant at the syntactic level since it determines the type of linguistic elements to occur and not just the number.

L2 Based on the words given above, the following sentences have been used to analyse morphology-syntax interface at the syntactic level:

(i) Maria a- li- shika m- toto/ ki- su .
Mary AGRs- PAST- hold SG- child/ SG- knife
'Mary held the child/ knife.'

(ii) Mama/ m- bwa a- li- zimia.
Mother/ SG- dog AGRs- PAST- faint
'Mother/ the dog fainted.'

(iii) Mama a- na- fagi- a nyumba.
Mother AGRs- PROG- sweep- VS house
'Mother is sweeping the house.'

(iv) M- toto a- na- lia.

SG- child AGRs- PROG- cry

'The child is crying.'

(v) Baba a- na- lim- a.

Father AGRs- PROG- dig- VS

'Father is digging.'

The sentences given in (i) - (v) are marked for semantic information as below:

C2 (64) [***Maria***] a- li- ***shika*** [***m- toto/ ki- su***]

+ HUMAN ***+ HUMAN/ INANIMATE***

Mary AGRs- PAST- hold SG- child/ knife

'Mary held the child/ knife.'

C2 (65) [***Mama/ m- bwa***] a- li- ***zimia***.

+ ANIMATE

Mother/ SG- dog AGRs- PAST- faint

'Mother/ the dog fainted.'

C2 (67) [***Mama***] a- na- ***fagi- a*** [***nyumba***].

+HUMAN ***-ANIMATE***

Mother AGRs- PROG- sweep- VS house

'Mother is sweeping the house.'

C2 (68) [***M- toto***] a- na- ***lia***.

+HUMAN

SG- child AGRs- PROG- cry

'The child is crying.'

C2 (69) [***Baba***] a- na- ***lim- a***.

+HUMAN

Father AGRs- PROG- dig- VS

'Father is digging.'

The sentences in C2 (64), C2 (65), C2 (67), C2 (68) and C2 (69) show that the semantic information of the predicate has relevance to the word as well as to the whole sentence structure. Specifically, we see that at the syntactic level, the semantic information influences the entire sentence structure by restricting the type of linguistic elements that have to occur in the structure;

they must be very specific with regard to their semantic features. This means that the semantic information is pertinent to the sentence. This is in contradiction to Chomsky's autonomous syntax principle. The principle states that "N0 syntactic rule can make reference to pragmatic, phonological or semantic information" (Radford 1988: 31).

All the morphosyntactic processes established in C2 (64), C2 (65), C2 (67), C2 (68) and C2 (69) indicates that**:** *the semantic information provided for every predicate in the lexicon states the word with regard to its semantic properties; and this information must be observed at the syntactic level*. *Specifically*, *very specific linguistic elements that bear very specific semantic properties (that are dependent on the semantics of the predicate) have to occur in the structure.* If syntax fails to observe the requirements of a predicate's semantic requirements, the whole structure becomes negatively affected as demonstrated below, where C2 (65) is repeated here as C2 (65) (i):

C2 (65) (i):![***M-ti***] u- li- ***zimia.***

-ANIMATE

SG- tree AGRs- PAST- faint

'The tree fainted.'

Though C2 (65) (i) is grammatical in the sense that it has fulfilled the requirements of an intransitive verb by occurring with only one argument in the subject position, it is semantically anomalous. The verb ***zimia*** 'faint' requires that the subject position argument be an animate and not an inanimate as in example C2 (65) (i) above. The anomaly is caused by misrepresentation of the semantic information of the verb ***zimia*** 'faint' at the syntactic level. This demonstrates the relevance of the semantic information to the syntax.

L3 The morphosyntactic structures established in C2 (64), C2 (65), C2 (67), C2 (68) and C2 (69) are generated from an NP with either an intransitive verb as in C2 (65), C2 (68) and C2 (69) or a monotransitive verb as in C2 (64) and C2 (67); with each argument marked for very specific semantic information that is dependent on the meaning of the verb in question. Therefore, the rule that describes them is as below:

S→ ***N***+ AGRs+ T/ ASP+ ***V***+ (***N***) + (***N***)

Where:

N→ either ± ANIMATE, ± HUMAN or ± CONCRETE.

The rule means that the sentences in C2 (64), C2 (65), C2 (67), C2 (68) and C2 (69) are formed

from either:

(i) a noun and an intransitive verb or

(ii) a noun and a monotransitive verb

Each of the nouns is marked for the following semantic properties:

< ± ANIMATE> either animate or inanimate

< ±HUMAN> either human or non-human

< ± CONCRETE> either concrete or abstract

Of relevance is the fact that the semantic property of each noun (within the structures above) is dependent on the semantic property of the verb in question, which is specified in the lexicon (at the morphological level). So, the rule describes any of the structures given in C2 (64), C2 (65), C2 (67), C2 (68) and C2 (69); together with many others that are triggered by the semantic information, which is morphosyntactic.

L4 The morphosyntactic process established in C2 (67) is represented on the phrase marker on ***figure 4. 35*** below:

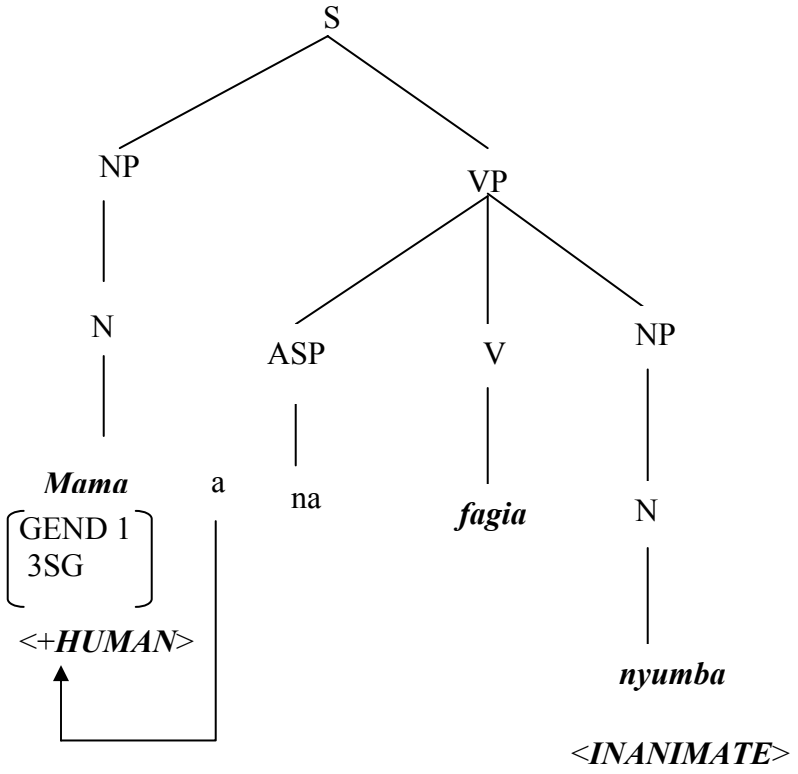


Figure 4. 35: Selectional information: Morphosyntactic

For the noun node, the semantic property of the individual noun is dependent on the meaning of the predicate in question. This means that ***Figure 4. 35*** can be used to represent an infinite set of morphosyntactic constructions that are triggered by the semantic information. This is by adjusting the semantic property of the noun, in line with the selectional properties of the verb under consideration.

4. 3. 1. 4. 4 Thematic Information

This is the information about the number and type of theta roles that a predicate assigns. Every predicate has a thematic structure, that is, it is specified with regard to the number of theta roles to assign. With regard to the same, Williams (1981a: 37) says: 'Lexical entries will contain specification of the thematic role played by each argument of the predicate.'

In this sub-section, it is shown that thematic information of the predicate has morphological and syntactic consequences in Kiswahili.

L1 Below are the words used to illustrate the effect of thematic information on morphology and syntax.

(i) haribu 'destroy'

(ii) kaa 'sit'

(iii) furahi 'be happy'

(iv) andika 'write'

(v) kula 'eat'

The words in (i) – (v) are marked for thematic information as below:

A2 (85) haribu 'destroy'

θ - Grid: <AGENT, THEME>

A2 (86) kaa 'sit'

θ- Grid:<AGENT, LOCATION>

A2 (87) furahi 'be happy'

θ- Grid: <EXPERIENCER>

The words in A2 (85) - A2 (87) show that every predicate is marked for a specific number and type of theta roles to assign as specified in the lexicon. Therefore, at the morphological level, the word (in this case the verb) is determined with regard to the property of thematic information. This implies that at the syntactic level, the occurrence of the other linguistic

elements in the structure is dependent on the thematic information that is specified for a given predicate; that is, the arguments that are to occur in the syntactic structure must be able to receive the particular theta roles. This is made explicit on ***table 4. 25*** below:

Table 4. 25: Thematic information: Morphosyntactic

Word	**θ Grid**	**Resultant word**
haribu 'spoil'	<AGENT, THEME>	haribu < AGENT, THEME>
kula 'eat'	<AGENT>	kula <AGENT>
kaa 'sit'	< AGENT, LOCATION>	kaa <AGENT, LOCATION>
furahi 'be happy'	< EXPERIENCER>	furahi < EXPERIENCER>
andika 'write'	<AGENT, THEME>	andika < AGENT, THEME>

Table 4. 25 show that at the morphological level, the thematic information of the word (verb) is determined. Therefore, just by looking at the θ-Grid, one is able to predict the type and the number of arguments that are to occur with the predicate at the syntactic level.

L2 The following sentences are used to establish morphology-syntax interface that is triggered by the thematic information.

C2 (70) ***Maria*** a- li- ***harib- u*** ***ki- tabu***.

AGENT ***THEME***

Mary AGRs- PAST- spoil- VS SG- book

'Mary spoiled the book.'

C2 (71) ***M- toto*** a- li- ***kaa*** ***kwa ki- ti.***

AGENT ***LOCATIVE***

SG- child AGRs- PAST sit on SG- chair

'The child sat on the chair.'

C2 (72) ***Baba*** a- me- furahi.

EXPERIENCER

Father AGRs- PERFT- happy

'Father is happy.'

At the syntactic level, we see that the thematic information provided for individual lexical

items at the morphological level is represented. Specifically, a predicate's thematic information influences the entire sentence structure by putting a restriction on the type of the linguistic elements that are to occur as arguments in the structure. The arguments have to be those that can take the theta role(s) that are assigned by the individual predicates. For instance, in example C2 (70) - C2 (72) above, the thematic information of each predicate has motivated the occurrence and distribution of the arguments in the structure. This is an indication of the relevance of the thematic information to morphology and syntax in Kiswahili.

A statement that is true to the thematic information as a morphosyntactic property in Kiswahili is that: *the thematic information that is provided for individual predicates in the lexicon states the properties of the word with regard to the θ- Grid in Kiswahili; and at the syntactic level; this information has to be represented; that is, the linguistic elements that occur in the structure must be able to receive the specified theta roles*. This requirement is in line with the theta criterion, which states that, 'Each argument bears one and only one theta role and each theta role is assigned one and only one argument.' Chomsky (1981a: 36).

Cook & Newson (1988: 167) agree with the above theory and relates it to the projection principle. The two authors say:

> *Between them, the projection principle and theta criterion ensures that lexical information is fed into the syntax and once it is there, it is not altered or ignored.*

Violation of the thematic requirements of a given predicate, negatively affects the grammaticality of the structure as demonstrated below; where C2 (70) occurs as C2 (70) (i):

C2 (70) (i) ***Maria*** a- li- haribu ***ki- tabu kalamu***.

AGENT THEME ?

Mary AGRs- PAST- spoil SG- book pen

'Mary spoiled the book the pen.'

The structure in C2 (70) (i) is ungrammatical because there is an extra argument that has not been assigned any theta role. The verb ***haribu*** 'spoil' has only two theta roles to assign; the AGENT to the external argument, and the THEME to the internal one. So, if an extra argument occurs in the structure, then it won't be assigned any theta role. This is the case in C2 (70) (i) and as such, the principle has been violated at the syntactic level. The ungrammaticality of the structure illustrates the relevance of thematic information at the syntactic level.

L3 The morphosyntactic structures in C2 (70) - C2 (72) are generated from an argument in the

subject position that receives either an AGENT or EXPERIENCER θ-role, a verb that assigns θ-roles to the arguments and another argument that either receives a THEME or LOCATIVE θ-role. The types of θ- roles that are assigned to the arguments in the structure are dependent on the nature of the predicate; that is, they depend on the thematic information that is specified for the predicate in the lexicon. Therefore, the rule that describes the morphosyntactic processes in C2 (70) - C2 (72) is:

S→ AGENT/ EXP+ AGRs+ T/ ASP+ ***V***+THEME/ LOC

Where:

EXP → EXPERIENCER

LOC→ LOCATIVE

The above rule means that a morphosyntactic structure that is triggered by the category of thematic information can be generated from:

(i) A verb, an external argument that takes the θ - role of AGENT and an internal argument bearing a θ- role of THEME as in C2 (70).

(ii) A verb, an external argument that takes the θ - role of AGENT and an internal one that bears the θ - role of the LOCATIVE as in C2 (71).

(iii) An intransitive verb and an external argument that bears the θ - role of EXPERIENCER as in C2 (72).

All the arguments in C2 (70) - C2 (72) bear thematic roles that are based on the nature of the verb; that is, based on the thematic information provided for the verb in question.

The morphosyntactic structure in C2 (70) is represented on the PM below:

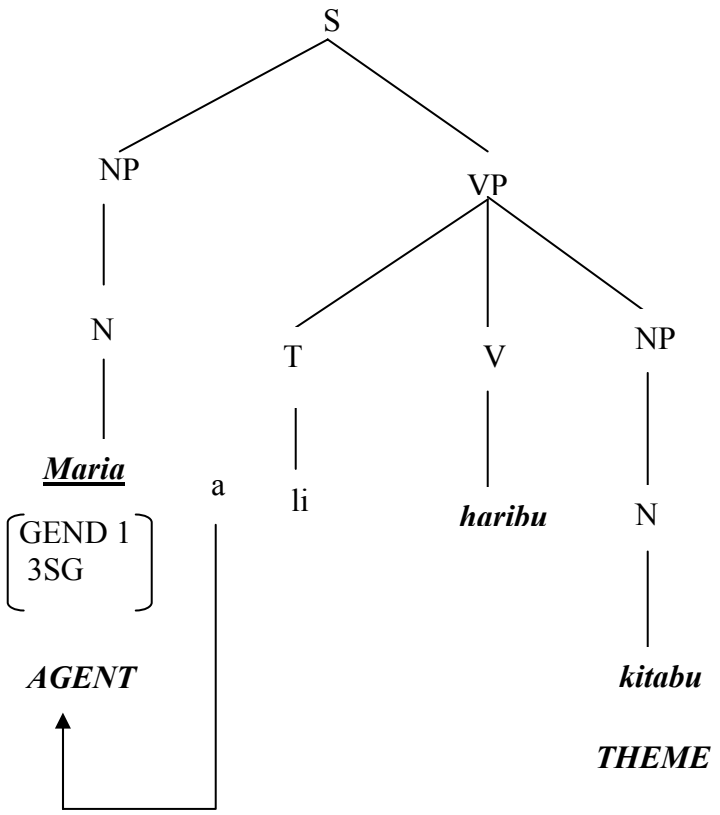


Figure 4.36: Thematic information: Morphosyntactic

The PM provided above represents many other potential morphosyntactic structures in Kiswahili .but with specification of thematic roles that are to be taken by the arguments (based on the thematic information that is provided in the lexicon for the predicate in question). This information is relevant to morphology and syntax.

For those morphosyntactic processes in which the LOCATIVE θ- role is assigned to the internal argument as in C2 (71), the representation will be the same as the one in ***figure 4. 36*** but with specification of the syntactic category as below:

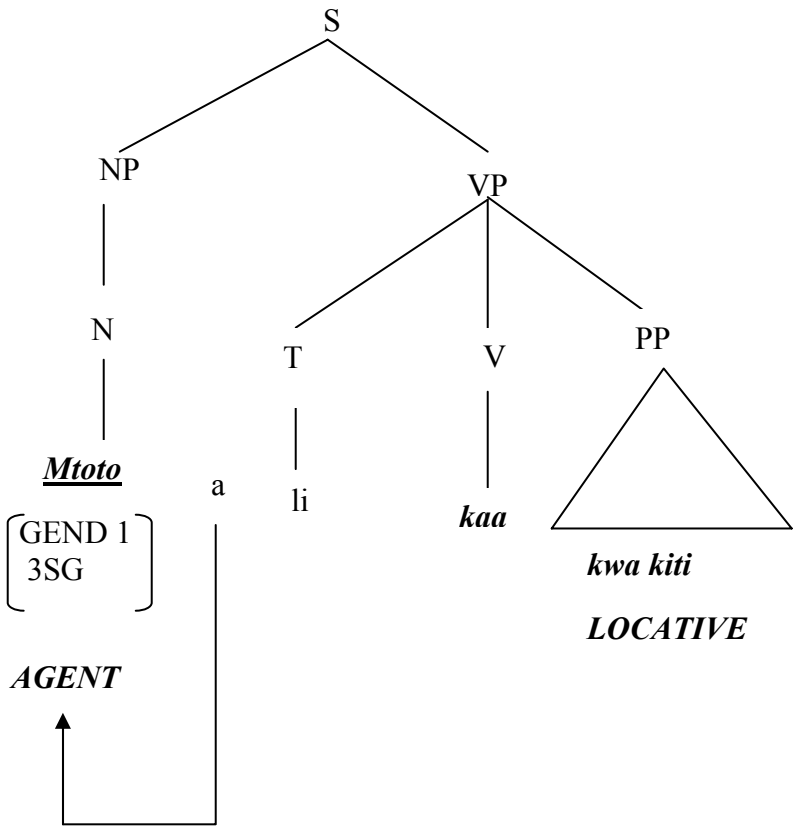


Figure 4.37: Thematic information: Morphosyntactic

Apart from verbs, prepositions are also used to illustrate morphology-syntax interface that is triggered by thematic information. Just as with the verb, the preposition in Kiswahili has very specific theta roles to assign to its complement. The thematic information states the properties of the preposition with regard to type of theta role(s) to assign.

L1 The following words are used to illustrate morphology-syntax interface that is triggered by the thematic information born by the preposition:

A2 (88) ndani ya 'inside of'

A2 (89) kwa 'with', 'at' or 'to'

Within the lexicon, these words are marked for thematic information as below:

Preposition	**θ-Function**
ndani ya 'inside of'	Locative

kwa ‘with’, ‘at’ ‘by’ or ‘to’ Instrumental or Locative

At the morphological level, the preposition is determined with regard to the thematic information. In other words, this information states the type of theta role to be assigned at the syntactic level. The prepositions given above are represented as below:

Table 4. 26: Prepositional thematic information

Word	**θ-Function**	**Resultant word**
ndani ya ‘inside of’	LOCATIVE	ndani ya <LOCATIVE>
kwa ‘by, ‘with’, ‘at’, ‘to’	INSTRUMENT/ LOCATIVE	kwa <INSTRUMENT/ LOCATIVE>

Table 4. 26 show that the preposition is marked for a specific theta function. Therefore, at the morphological level, the word is determined with regard to the thematic properties. Consequently,

P ⟶ P+ <θ –role>

That is, the preposition is marked with a specific theta role to assign to its complement. The thematic properties of a given preposition are dependent on its semantics.

L2 At the syntactic level, the following sentences are used to analyse morphology-syntax interface that is triggered by the prepositional thematic property:

C2 (73) M- zee yuko [PP ***ndani ya <u>nyumba</u>***].

LOCATIVE

SG- old man 3SG- PROG- inside house

‘The old man is inside the house.’

C2 (74) Juma a- na- kat- a [PP ***kwa <u>kisu</u>***].

INSTRUMENT

Juma AGRs- PROG- cut- VS with knife

‘Juma is cutting with a knife.’

The structures in C2 (73) and C2 (74) show that the thematic information born by the preposition has syntactic consequences. This information determines the type of argument to occur in the structure as the prepositional complement. For instance, in C2 (73) and C2 (74), the

occurrence of the NP that complements the preposition is dependent on the thematic information that is born by the preposition. This is a demonstration of morphology-syntax interface that is triggered by thematic information that is morphosyntactic in Kiswahili.

The syntactic requirements of the prepositions in C2 (73) and C2 (74) have to be obeyed; otherwise if violated, the entire sentence becomes negatively affected as demonstrated below:

C2 (74) (i) !Juma a- na- kat- a [PP ***kwa maji***].

INSTRUMENT

Juma AGRs- PROG- cut VS with water

'Juma is cutting with water.'

The structures in C2 (74) (i) is grammatical because the subcategorization frame of the predicate ***kata*** 'cut' has been observed; that is, the complement has occurred. However, it is semantically anomalous because ***maji*** 'water' cannot be used to cut and as such the entire PP cannot be assigned the theta role of INSTRUMENT. The anomaly in C2 (74) (i) shows the relevance of observing the thematic properties of a given predicate at the syntactic level.

L3 & L4. The rule that was formulated for the morphosyntactic processes that are triggered by the verbal thematic information can as well be used to describe the structures that involve the prepositional thematic information. Likewise, the structures in C2 (73) and C2 (74) above can be represented on the phrase marker that is on ***figure 4. 36*** with some modification based on the internal structure of the sentences.

Conclusion

In the preceding sub-sections, it has been established that lexical information is morphosyntactic in Kiswahili. Specifically, we have shown that the categorial, subcategorial, selectional and the thematic information of the individual predicate (verbs and prepositions) trigger morphology-syntax interface in Kiswahili. The analysis has been done at the morphological and syntactic level. Specific morphosyntactic rules that describe the established morphosyntactic processes have been given, as well as representation on PMs. This is in line with the transformational generative theory.

4. 3. 1. 5. Anaphoric Relations

Anaphoric relations involve the relationship between the anaphor and its antecedent. In this sub-section, it is shown that there are morphosyntactic features as well as processes that trigger morphology-syntax interface in structures that involve anaphoric relations in Kiswahili. Although it is true that it is the Binding theory that regulates the interpretation of NPs (See Haegeman, (1994), the binding relationship between NPs is discussed in this sub-section because the binding process of NPs has morphological and syntactic consequences in Kiswahili. Specifically, both morphology and syntax are involved when binding takes place. Four types of NPs are discussed in this sub-section; and these are:

(i) anaphors
(ii) pronouns
(iii) pro
(iv) PRO

4. 3. 1. 5. 1 Anaphors

By definition, these are words or phrases that refer back to an earlier word or phrase. Two types of anaphors are discussed in the present study; namely: reflexives and reciprocals. Although most languages mark reflexivisation and reciprocation by the use of lexical items, Kiswahili makes use of bound morphemes. Nonetheless, they serve the same purpose. The study has shown that the reflexive and the reciprocal morphemes are morphosyntactic in Kiswahili .because they have morphological as well as syntactic consequences.

4. 3. 1. 5. 1. 1: Reflexives

These are anaphors that lack independent reference and as such they draw their interpretation from the antecedents with which they are co-indexed. In Kiswahili, reflexivisation is morphologically marked. Specifically, the reflexive morpheme ***-ji-*** is used to mark reflexivisation. This morpheme occur before the verb root; that is, in the same morphological position that is occupied by the AGRo.

L1 The following words are used to illustrate the effect of the reflexive marker at the morphological level:

(i) anajipenda 'he/ she loves himself/ herself'

(ii) anajivaa 'he/ she dresses himself/ herself'

(iii) anajidhamini 'he/ she values himself/ herself'

(iv) anajisukuma 'he/ she pushes himself/ herself'

The words in (i) - (iv) are derivatives and from these derivatives, their basic forms occur as below:

Derivatives (Reflexive)	Basic form
A2 (119){ana} ***ji***penda 'he/ she loves himself/ herself'	-penda 'love'
A2 (120){ana} ***ji***dhamini 'he/ she values himself/ herself'	-dhamini 'value'
A2 (121){ana} ***ji***sukuma 'he/ she pushes himself/ herself'	-sukuma 'push'

From the basic and derived structures, it is observed that reflexivisation has relevance to morphology. Specifically, the reflexive marker ***-ji-***:

(i) changes the morphological structure of the derived form of the verb

(ii) alters the meaning of the derived form of the verb

Consequently, the reflexive verb is formed from the reflexive morpheme and the verb root. Thus:

$VP \rightarrow Af_{1D}RVS$

Where:

$Af_{1D}RVS \rightarrow$ Reflexive verb

$R \rightarrow$ Verbal root

$VS \rightarrow$ verbal suffix

The rule means that ***RVS*** becomes $\boldsymbol{Af_{1D}RVS}$ on reflexivization. The difference between the basic and the derived form is triggered by $\boldsymbol{Af_{1D}}$ (reflexive morpheme), which is morphosyntactic in Kiswahili.

In this study, the assumption is that the reflexive morpheme ***-ji-*** is derived from some underlying form and not lexically inserted in the verb. This assumption is based on the standard transformational theory and as such, it contrasts with the lexical insertion approaches.

So, at the morphological level, this is what happens:

Table 4. 27: Reflexive marking

Morphosyntactic category	**Basic form**	**Morphosyntactic feature**	**Reflexive verb**
Reflexive morphology	RVS	Af_{1D} ***(-ji-)***	Af_{1D}RVS

Table 4. 27 shows that ***Af_{1D} (-ji-)*** triggers change in the morphological structure of ***RVS*** (basic form of the verb) as well as its meaning. This is an illustration of the effect of the reflexive morpheme at the morphological level.

L2 Based on the words that are given above, below are the sentences that are used to establish the morphosyntactic processes that are triggered by the reflexive morpheme in Kiswahili:

(i) Yohana a- na- ji- pend- a.
John AGRs- PROG- REFL- love- VS
'John loves himself.'

(ii) Mosi a- na- ji- sukum- a.
Mosi AGRs- PROG- REFL- push- VS
'Mosi is pushing herself.'

(iii) Wewe u- na- ji- dhamini.
2SG- AGRs- PROG- REFL- value
'You value yourself.'

An observation of the structures in (i) – (iii) reveals that all of them are derivatives that bear the reflexive morpheme ***-ji-.*** Based on the transformational approach, it is assumed in this study that there are TRs that are used to derive the reflexive structures from some underlying structures, which have two arguments that co-refer in the structure. This being the case, the derivatives will occur as below with their D-structures:

C2 (105) (i) D-S Yohana$_i$ a- na- m- pend- a Yohana$_i$.
John AGRs- PROG- AGRo- love- VS John
'John loves John.'

C2 (105) S-S Yohana$_i$ a- na- ***ji$_i$-*** pend- a.
John AGRs- PROG- REFL- love- VS

'John loves himself.'

C2 (106) (i) D-S Mosi$_i$ a- na- m- sukum- a Mosi$_i$[15].

Mosi AGRs- PROG- AGRo- push- VS Mosi

'Mosi is pushing Mosi.'

C2 (106) S-S Mosi$_i$ a- na- ***ji$_i$-*** sukum- a.

Mosi AGRs- PROG- REFL- push- VS

'Mosi is pushing herself.'

C2 (107) (i) (D-S) Wewe$_i$ u- na- m- dhamini wewe$_i$.

2SG- POS (2SG)- PROG- AGRo- value 2SG

'You value you.'

C2 (107) (S-S) Wewe$_i$ u- na- ***ji$_i$ -*** dhamini.

2SG- POS (2SG)- PROG- REFL- value

'You value yourself.'

The D-structure and the S-structure are quite different from each other. In this study, the difference is explained in terms of the effect of the reflexive morpheme that has morphological as well as syntactic consequences. As earlier mentioned, the derivation of the reflexive verb from the base form alters the morphological structure and the meaning of the derived form. At the syntactic level, we see that the influenced verb affects the whole sentence structure with regard to the type of the linguistic elements that are to occur in the structure and their syntactic distribution. Specifically, at the syntactic level, the reflexive morphology changes the argument structure of the verb. This happens in the sense that instead of having two independent arguments, one in object and the other in subject position, it is only the one in the subject position that occurs, while the one in the object position is deleted and instead the same is realised through the reflexive morpheme ***-ji-.*** Furthermore, the occurrence of the reflexive

[15] *In normal usage, two R-expressions cannot be co-indexed, where co-indexation means that the two share the same reference. When this happens, the structure automatically becomes ungrammatical. However, under the approach in this study, it is assumed that there are such arguments at the D-S; and that during the derivation, the one in the object position is deleted on the application of a TR. This is motivated by the affixation of the reflexive morpheme on the verb, which helps to maintain the argument structure of the verb.*

morpheme demands that an NP occurs in the subject position as its antecedent. This follows from the fact that an anaphor lacks independent reference and as such it derives its interpretation from an antecedent NP. Though this is the case, it should be pointed out that Kiswahili (and other Bantu languages) is an exception. This is because the reflexive verb can still occur alone without an antecedent NP as long as the features of the implied NP are realised through the subject pronominal (AGRs) that is marked on the verb. Even in structures with an implied NP, interface between morphology and syntax that is triggered by the reflexive morpheme is observed. In such structures, the reflexive morpheme derives its interpretation from pro (whose features are in turn dependent on those of the implied NP) in the subject position.

Apart from the relationship between the reflexive morpheme, the reflexive word (verb) and the entire sentence structure being morphosyntactic, it is also observed from the structures in C2 (105) – C2 (107) that the binding of the reflexive is morphosyntactic in Kiswahili and not just syntactic. This line of argument is based on the fact that the reflexive morpheme is first bound within the word (verb) category by the subject pronominal affix (AGRs); and then the same is bound within the sentence category by the antecedent NP that is in the subject position. So, as much as the reflexive obeys principle A of the BT[16], this binding is morphosyntactic and not just syntactic as it happens in other languages like English. In the example below, co-indexation is used to show the category within which binding takes place. The example in C2 (106) (i) is repeated with a derived S-structure C2 (106) (ii) below:

C2 (106) (i) D-S $Mosi_i$ a- na- m- sukum- a $Mosi_i$.

Mosi AGRs- PROG- AGRo- push- VS Mosi

'Mosi is pushing Mosi.'

C2 (106) (ii) S-S $Mosi_i$ a_i- na- ***ji***$_i$**-** sukum- a.

Mosi AGRs- PROG- REFL- push- VS

'Mosi is pushing herself.'

The S-structure in C2 (105) and C2 (107) will be co-indexed as in C2 (106) (ii) above.

In C2 (106) (ii), the reflexive morpheme ***-ji-*** is first bound within its word category; that is, the verb ***anajisukuma*** 'He/ she is pushing himself/ herself', by the pronominal affix ***a- (3SG).***

[16]. *This analysis is based on the Binding theory, which regulates the interpretation of NPs*

Then the same reflexive morpheme is bound within its sentential governing category by the antecedent NP ***Mosi***. This shows that as much as the reflexives principally obey principle A of the BT, their binding is morphosyntactic. This argument is based on the fact that both morphology and syntax is involved in the binding process. This contrasts with the purely syntactic binding that is realised in most languages.

The morphosyntactic processes in C2 (105) – C2 (107) that are triggered by the reflexive marker shows that***:*** *the reflexive morpheme alters the structure and the meaning of the word (verb). The reflexive verb in turn influences the entire sentence structure by deleting the NP in the object position as well as the object agreement marker (AGRo*). Failure to observe the morphological as well as the syntactic requirements of the reflexive morpheme has negative consequences on the entire sentence structure as demonstrated in C2 (107) (ii):

C2 (107) (i) (D-S) Wewe$_i$ u- na- m- dhamini wewe$_i$.
2SG- POS (2SG) - PROG- AGRo- value 2SG
'You value you.'

(ii) (S-S) *Wewe$_i$ u- na- ***ji***$_i$ **-** m- dhamini wewe.
2SG- POS (2SG) - PROG- REFL- AGRo- value 2SG
'You value yourself you.'

The S-structure in C2 (107) (ii) is ungrammatical because as much as the morphological requirements of the reflexive morpheme have been observed, the same has not happened at the syntactic level. Specifically, the ungrammaticality of the structure is as a result of the fact that the NP in the object position; that is, the pronoun ***wewe*** 'you' as well as the object agreement marker have occurred even after reflexivisation has taken place. In this study, the reflexive affix is analysed as an argument of the verb; and because it has occurred, the object that was present at the D-structure is not supposed to occur, neither is the AGRo. Their occurrence brings about 'doubling of the argument'; and this is what results into the ungrammaticality in the structure.

Even if the assumption was that at the D-structure, the argument that occurs in the object position is different from the one that is in the subject position, the same requirement would have to be observed. Below is C2 (105) (i) repeated here as C2 (105) (ii).

C2 (105) (ii) D-S Yohana$_i$ a- na- m- pend- a Juma.
John AGRs- PROG- AGRo- love- VS Juma
'John loves Juma.'

(iii) S-S Yohana$_i$ a- na- ***ji$_i$-*** pend- a.

John AGRs- PROG- REFL- love- VS

'John loves himself.'

In C2 (105) (iii), the structure and the meaning of the verb has been changed by the reflexive morpheme; and this has in turn influenced the entire sentence structure.

L3 The rule that describes the relationship between the structures in C2 (105) – C2 (107) and C2 (105) (i) – C2 (107) (i) is based on the fact that at the D-structure, the sentence is formed from two NPs that either co-refers or not; together with a VP; while at the S-structure, the sentence is formed from on NP and a reflexive verb. The two structures are different from each other and the difference between them is motivated by the reflexive morpheme, which has relevance to morphology and syntax in Kiswahili. Below is the rule:

NP_{1i}+ AGRs+ T/ ASP+ AGRo+ V+ NP_{2ij} → NP_{1i}+ $AGRs_i$+ T/ ASP+ $REFL_i$+ V

Where:

REFL→ reflexive morpheme

NP_i and NP_i → arguments that co-refer

NP_i and NP_j → arguments that do not co-refer

NP_i, $AGRs_i$ and $REFL_i$→ co-refer at the S-structure

Whereas at the D-structure there are two arguments, at the S-structure there is only one argument. This is because the argument that is meant to be in the object position is realised through the reflexive morpheme ***-ji-***. The rule shows the relationship that holds between the two and it can be used to describe similar relationships that involve the reflexive morpheme ***-ji-***.

L5 Below are representations of the structure in (105) (i) and (105) on phrase markers:

D-structure

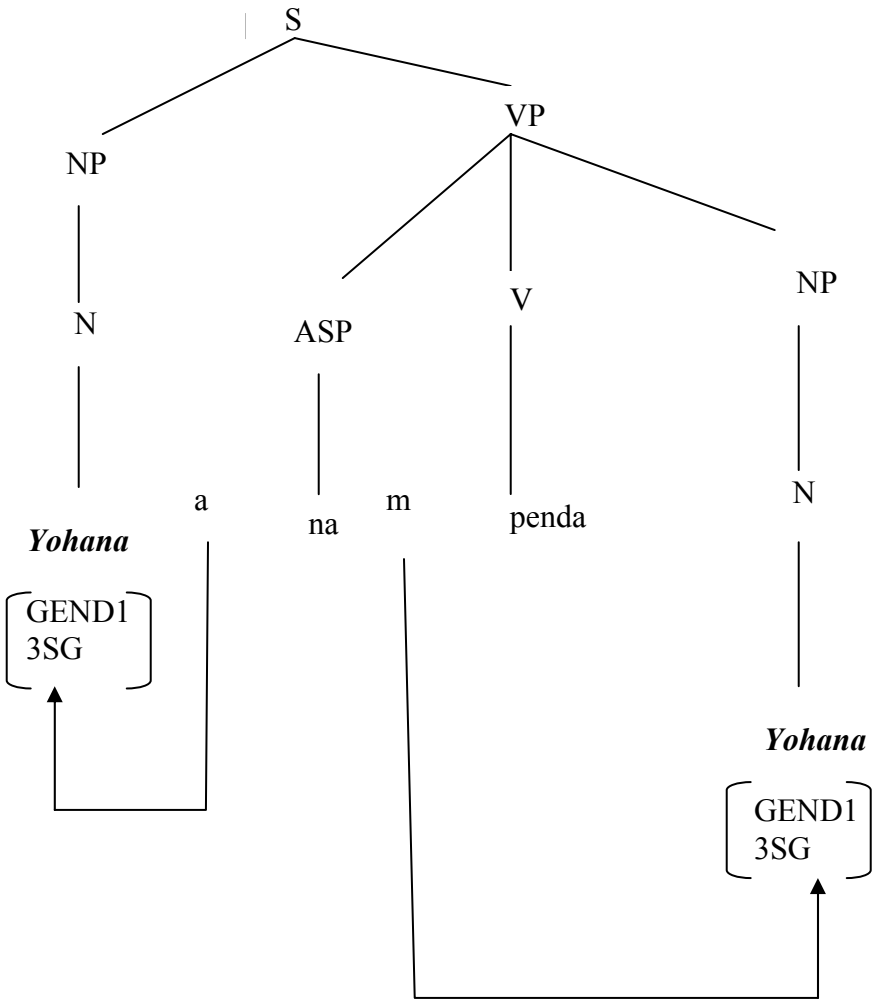


Figure 38: D-structure of a reflexive construction

S-structure

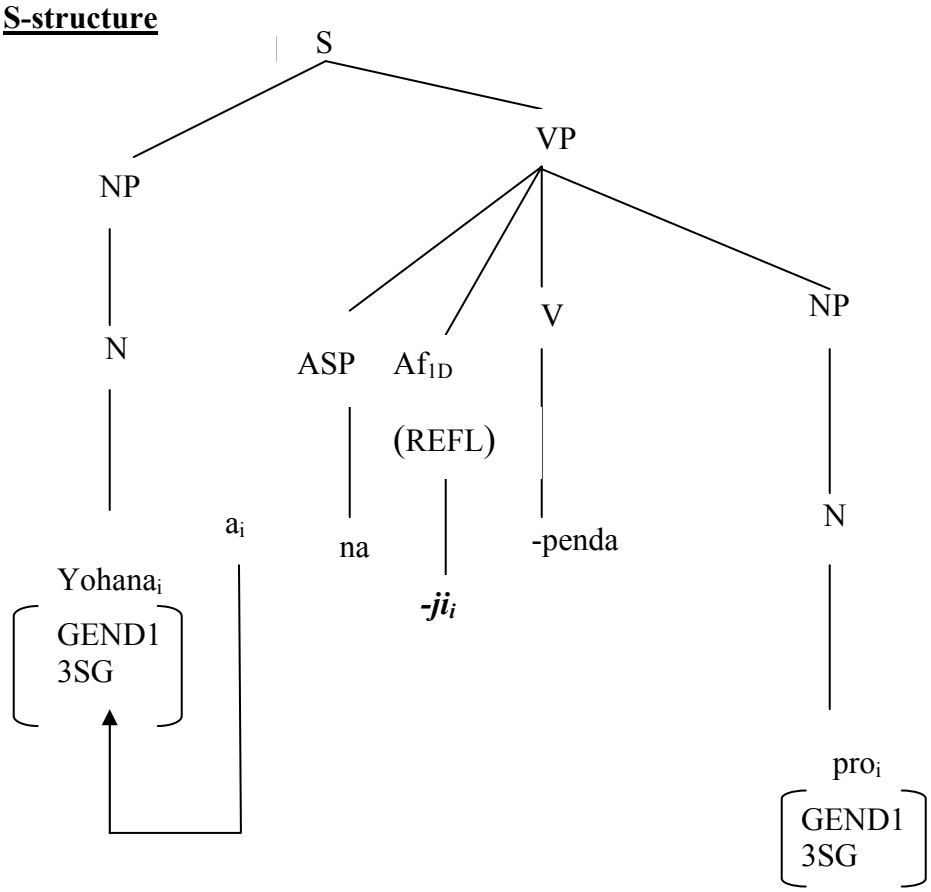


Figure 39: The reflexive morpheme: Morphosyntactic

Co-indexation on the phrase marker shows that the elements ***Yohana***, ***a*** (3SG), ***-ji-*** 'self' and ***pro***; co-refer. It is evident from the two phrase markers on ***Figure 4. 38*** and ***4. 39*** that the S-structure has been influenced both morphologically and syntactically. As earlier mentioned, this is motivated by the reflexive affix, which has relevance to morphology and syntax in Kiswahili. Other similar structures can be represented on the two phrase markers.

The phrase marker representing the S-structure also shows the binding relationship between the reflexive marker ***-ji-,*** 'self', the antecedent NP in the subject position ***Yohana*** and the pronominal marker ***a-*** (3SG), which is morphosyntactic[17].

[17]. *Morphosyntactic binding contrasts with the purely syntactic binding.*

4. 3. 1. 5. 1. 2: Reciprocals

Reciprocals represent mutual action or relation. Just as with the reflexives, reciprocals lack independent reference and as such they draw their interpretation from the antecedent NP. However, unlike non-pro-drop languages[18], where the NP in subject position must occur, in Kiswahili, a reciprocal verb can occur alone in the structure because the semantics of the missing NP is incorporated in the subject pronominal marker that is marked on the verb.

Reciprocation is morphologically marked in Kiswahili, just as reflexivisation. In this sub-section, it is shown that the reciprocal morpheme has relevance to the word as well as to the entire syntactic structure in Kiswahili. This is because the morpheme affects the morphological structure and the meaning of the word (the verb); at the syntactic level, the same morpheme influences the whole sentence structure with regard to the type of the linguistic elements that are to occur in the structure and their syntactic distribution.

The following words are used to establish morphology-syntax interface that is triggered by the reciprocal marker:

(i) pendana 'love each other'

(ii) onana 'see each other'

(iii) tangazana 'announce each other'

(iv) aibishana 'humiliate each other'

The words in (i) – (iv) are derived forms (reciprocal) and they occur with their basic counterparts as below:

Reciprocated forms	**Basic forms**
A2 (122) pend***an***a 'love each other'	penda 'love'
A2 (123) o***n***ana'see each other'	ona 'see'
A2 (124) aibish***an***a 'humiliate each other'	aibisha 'humiliate'

From the two forms in A2 (122) - A2 (124), we see that the affix ***-an-*** is used to mark reciprocation in Kiswahili. This affix functions in the same way as the lexical items that are used in other languages, for instance 'each other/ one another' in English.

[18] *Work in generative linguistics is comparative, though this approach is not historical as in Comparative Grammar but rather psychological, that of accounting for knowledge of language.*

At the morphological level, the reciprocal morpheme ***-an-*** 'each other/ one another' changes the morphological structure and the meaning of the derived form of the verb. The derived verbal structure is therefore formed from the verbal root, the reciprocal affix and the verbal suffix; that is,

VP→ $RAf_{1D}VS$:

And

RVS → $RAf_{1D}VS$ (on reciprocation)

Where:

R→ Verbal root

Af_{1D}→ Reciprocal morpheme

VS→ Verbal suffix

$RAf_{1D}VS$→ Reciprocal verb

The difference between ***RVS*** and ***$RAf_{1D}VS$*** is triggered by ***Af_{1D}*** (***-an-*** 'each other/ one another', which has morphological and syntactic relevance in Kiswahili. Below is the representation of the words in A2 (122) - A2 (124):

Table 4. 28: Reciprocal marking

Morphosyntactic category	**Basic form**	**Morphosyntactic feature**	**Reciprocal verb**
Reciprocal morphology	RVS	Af_{1D} (***-an-***)	$RAf_{1D}VS$

Table 4. 28 shows that it is ***Af_{1D} (-an-)*** that changes the structure of ***RVS*** (verbal stem). The reciprocal verb ***$RA_{1D}VS$*** in turn brings about substantive changes in the whole sentence structure, as we shall see under the level of syntactic analysis.

L2 The following sentences are used to analyse morphology-syntax interface at the syntactic level:

(i) Jani na Jeni wa- li- on- ***an-*** a.

Jani and Jeni AGRs- PAST- see- REC- VS

'Jani and Jeni saw each other.'

(ii) Mw- anafunzi na mw- alimu wa- li- salimi- ***an-*** a.

SG- student and SG- teacher PL- PAST greet- REC- VS

The student and the teacher greeted each other.'

(iii) Maria na Hadija wa- na- pend- ***an-*** a.

Mary and Hadija PL- PROG- love- REC- VS

'Mary and Hadija love each other.'

(iv) Hamisi na Rajabu wa- li- aibish- ***an-*** a.

Hamisi and Rajabu PL- PAST- humiliate- REC- VS

'Hamisi and Rajabu humiliated each other.'

The structures in (i) - (iv) are derivatives that are formed using the reciprocal verbs given above. They are derived from some underlying forms that bear the basic form of the verb. Given that in this study, transformational rules are used to form such structures, it means that from the same rule, the D-structures can be reconstructed. Consequently, the structures in (i) - (iv) occur as below with their D-structures:

C2 (110) (i) D-S Jani a- li- mw- on- a Jeni naye Jeni a- li-

Jani AGRs-PAST- AGRo- see-VS Jeni CONJ(3SG) Jeni AGRo- PAST-

mw- .on- a Jani

AGRo- see VS Jani

'Jani saw Jeni and Jeni saw Jani.'

C2 (110) S-S Jani na Jeni wa- li- on- ***an-*** a.

Jani CONJ Jeni AGRs- PAST- see- REC- VS

'Jani and Jeni saw each other.'

C2 (111) (i) D-S Mw- anafunzi a- li- m- salim- u mw- alimu naye

SG- student AGRs-PAST- AGRo greet- VS SG- teacher CONJ (3SG)

mw- alimu a- li- m- salim- u mw- anafunzi

SG-teacher AGRs-PAST AGRo- greet- VS SG- student

'The student greeted the teacher and the teacher greeted the student.'

C2 (111) S-S Mw- anafunzi na mw- alimu wa- li- salimi- ***an-*** a.

SG- student CONJ SG- teacher PL- PAST greet- REC- VS

'The student and the teacher greeted each other.'

C2 (112) (i) D-S Maria a- na- m- penda Hadija naye Hadija a-

Mary AGRs-PROG- AGRo love Hadija CONJ (3SG)-Hadija AGRo-

na- m- pend- a Maria.

PROG- AGRs love- VS Mary

'Mary loves Hadija and Hadija loves Mary.'

C2 (112) S-S Maria na Hadija wa- na- pend- ***an-*** a.

Mary CONJ Hadija PL- PRES- love- REC- VS

'Mary and Hadija love each other.'

C2 (113) (i) D-S Hamisi a- li- mw- aib- ish- a Rajabu naye Rajabu

Hamisi AGRs- PAST- AGRo humiliate- CAUS- VS Rajabu 3SG Rajabu

a- li- mw- aib- ish- a Hamisi.

AGRs-PAST- AGRo humiliate- CAUS- VS Hamisi

'Hamisi humiliated Rajabu and Rajabu humiliated Hamisi.'

C2 (113) S-S Hamisi na Rajabu wa- li- aibish- ***an***- a.

Hamisi CONJ Rajabu PL- PAST- humiliate- REC- VS

'Hamisi and Rajabu humiliated each other.'

The S-structures in C2 (110) – C2 (113) are quite different from the D-structures in C2 (110) (i) – C2 (113) (i). The structural difference between the two is triggered by the reciprocal marker, which is morphosyntactic in Kiswahili. Specifically, when the reciprocal verb functions syntactically, it affects the whole sentence structure in the sense that, while the D-structure has four arguments, two verbs and a conjunction; on reciprocation, the S-structure occurs with only one argument and the reciprocal verb. Consequently, we see that at the syntactic level, reciprocation reduces the valence of each verb by one (since there are two verbs at the D-structure, each with its own valence). Reciprocation also alters the subject pronominal marker (AGRs) so that it agrees with the new complex NP in the subject position at the S-structure. Finally, the object pronominal markers (AGRo) are deleted during the derivation. So, interface between morphology and syntax that is triggered by the reciprocal morpheme is observed.

From all the morphosyntactic processes established in C2 (110) – C2 (113) we see that: *Reciprocation in Kiswahili alters the morphological structure and the meaning of the verb; and at the syntactic level, the reciprocal affix influences the whole sentence with regard to the type of elements that are to occur in the structure and their syntactic distribution. Being an anaphor, the reciprocal marker demands that the antecedent NP from which to derive its interpretation occur*

in the subject position. The morphological and the syntactic requirements for the reciprocal morpheme have to be observed; otherwise the whole sentence structure becomes negatively affected as illustrated below:

C2 (112) (i) D-S Maria a- na- m- penda Hadija naye Hadija a-
Mary AGRs- PROG- AGRo love Hadija CONJ (3SG) –Hadija AGRo-
na- m- pend- a Maria.
PROG- AGRs love- VS Mary
'Mary loves Hadija and Hadija loves Mary.'

(ii) *S-S Maria wa- na- pend- ***an-*** a Hadija naye Hadija a-
Mary PL- PROG- love REC- VS Hadija CONJ (3SG)-Hadija AGRo-
na- m- pend- a Maria.
PROG- AGRs love- VS Mary
'Mary love each other Hadija and Hadija loves Mary.'

The structure in C2 (112) (ii) is ungrammatical because as much as the morphological requirements for reciprocation have been observed, the same is not the case at the syntactic level. Reciprocation demands that both morphology as well as syntax be sensitive to the reciprocal affix, which is morphosyntactic. In this regard, since the reciprocal morpheme is marked for plural, the new complex NP in the subject position has to be marked for the same number feature. Likewise, since reciprocation absorbs the second sentence (that is, the content of the second sentence is realised in the reciprocal marker ***-an-*** 'each other'), the second verb as well as the two extra arguments are not supposed to occur at the S-structure. The occurrence of the later makes the entire structure deviant.

L3 While the D-structure is formed from two sentences, each with a two-place predicate; the S-structure is a single sentence, which is made up of one complex NP and a reciprocal verb. So, when reciprocation takes place, some elements are deleted, while others are introduced into the structure. Below is the rule that describes the relationship that holds between the D-structures and those at the S-structures:

NP_1+ $AGRs_1$+ T_1/ ASP_1+ $AGRo_1$+ V_1+ NP_2 +CONJ+ NP_2+ $AGRo_2$+ T_2/ ASP_2 + $AGRs_2$+ V_2+
$NP_1 \rightarrow NP_N$+ AGRs+ T/ ASP+ V_{REC}

Where:

$NP_N \rightarrow$ New NP (complex)

V_{REC}→ Reciprocal marker

NP_1 & NP_1→ are similar, they co-refer

NP_2 & NP_2→ are similar, they co-refer

CONJ→ Conjunction

T_1→ First tense marker

T_2→ Second tense marker

ASP_1→ First aspectual marker

ASP_2→ Second aspectual marker

V_1→ First verb

V_2→ Second verb

$AGRs_1$→ First subject agreement marker

$AGRs_2$→ Second subject agreement marker

$AGRo_1$→ First object agreement marker

$AGRo_2$→ Second object agreement marker

The rule shows the relationship that holds between the two structures, with the D-structure being quite different from the S-structure. As earlier mentioned, the difference is motivated by the reciprocal marker that is morphosyntactic in Kiswahili. Despite the fact that the S-structure is different from the D-structure, the meaning of the two is the same. So we see that; at the syntactic level, reciprocation does not alter the meaning of the derivative but it alters its structure; that is, the linguistic elements that occur at the S-structure and their syntactic distribution differ from those that occur at the D-structure.

The rule describes an infinite number of constructions that relate in the same way in Kiswahili:

L4 The structures in C2 (110) (i) and C2 (110) are represented as below:

D-structure

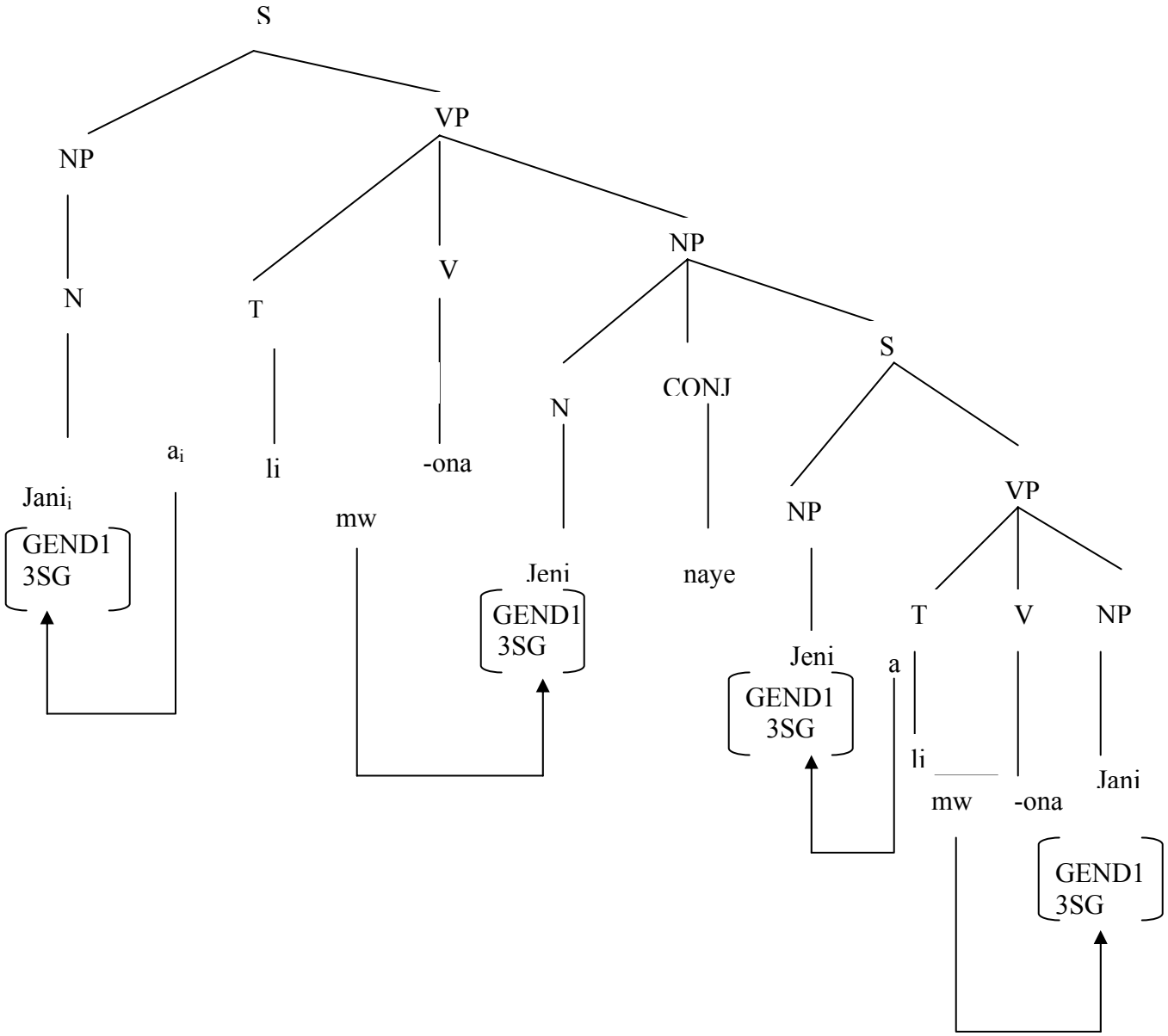


Figure 4. 40: D- structure of a reciprocal construction

S-structure

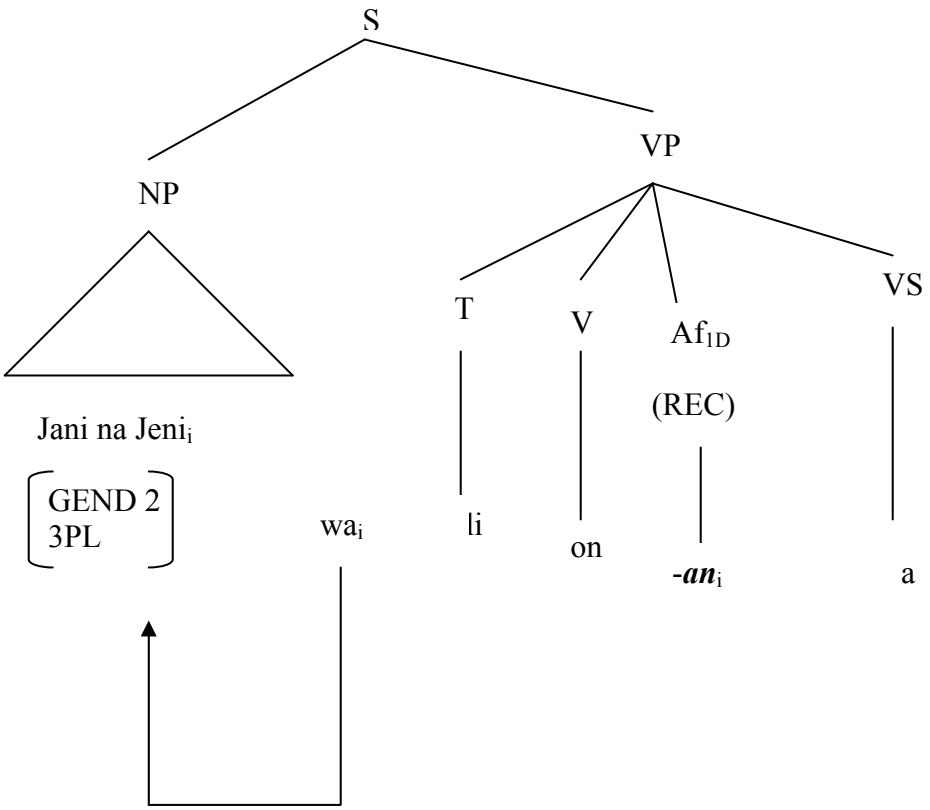


Figure 4. 41 The reciprocal morpheme: Morphosyntactic

The phrase marker on ***figure 4. 41*** shows the effect of the reciprocal morpheme on the syntax. The fact that the reciprocal morpheme has occurred makes it possible for the second sentence not to occur in the structure. In the present study, we have argued that the reciprocal morpheme absorbs the second sentence at the S- structure and this is why the later is missing.

Structures involving the base form and the reciprocal verb can be represented on the above phrase markers.

Just as with the reflexive constructions, it is observed from the reciprocated morphosyntactic structures that the binding relation that holds between the reciprocal and the other elements in the structure is morphosyntactic in Kiswahili rather than being purely syntactic. This argument is based on the fact that the reciprocal morpheme is first bound within its word governing category by the subject pronominal marker and then within its sentential governing category by the

antecedent NP in the subject position. For instance, in the S-S of C2 (110) above the pronominal marker (AGRs) ***wa-*** first binds the reciprocal ***-an-*** 'each other' within its word category; that is, within the verb ***walionana*** 'they saw each other'. Then the same reciprocal marker is bound within its sentential governing category by the complex NP ***Jani na Jeni*** 'Jani and Jeni' in the subject position. This, as earlier mentioned contrasts with the purely syntactic binding. Morphosyntactic binding is possible because of the rich inflection in Kiswahili, which allows subject agreement markers to function as binders. The assumption here is that the properties of the NP in the subject position are incorporated into the subject agreement markers on the verb (see Schroeder 2004). This is why AGRs is able to bind the reciprocal marker.

4. 3. 1. 5. 2 Pronominalization

Unlike anaphors that lack independent interpretation, pronouns have their own interpretation.

However, in their anaphoric function, it is shown in the present study that pronominalisation has relevance to morphology and syntax in Kiswahili. This is because the process of pronominalisation determines the word with regard to the pronominal properties as well as its morphological structure. At the syntactic level; the pronominalised word affects the entire sentence structure with regard to the type of the linguistic elements that are to occur in the structure as well as their syntactic distribution. Likewise, in this sub-section, the study has shown that a morphosyntactic binding takes place when the pronoun functions anaphorically.

L1 Below are the words that are used to illustrate morphology-syntax interface that is triggered by pronominalisation process:

A2 (127) wewe 'you (sg)'

A2 (126) wao 'them'

A2 (128) ninyi 'you' (pl)

The words in A2 (126) – A2 (128) have specific pronominal properties as indicated on the table below:

Table 4. 29: Pronominalisation: Morphosyntactic

Morphosyntactic category	**R (Pronoun)**	**Morphosyntactic property**	**Pronoun marked with pronominal features**
Proniminalisation	yeye	3sg	yeye (3sg)
	wewe	2sg	wewe (2sg)
	wao	3pl	wao (3pl)
	ninyi	2pl	ninyi (2pl)

Table 4. 29 shows that at the morphological level, the pronominal property, the meaning and the morphological structure of each pronoun is determined.

L2 The property of the pronoun has relevance to syntax as observed in the following sentences that are formed based on the words that are given above (pronouns).

(i) Bakari a- li- dai ya kwamba [yeye a- na- m- dharau Amina].
Bakari AGRs- PAST- claim C- 3SG AGRs- PROG- AGRo- despise Amina
'Bakari claimed that he despises Amina.'

(ii) Jani a- li- dhani ya kwamba [wewe u- na- m- penda].
Jani 3SG- PAST- think REL 2SG AGRo- PROG- AGRs- love
'Jani thought that you love him.'

(iii) Maria na Rehema wa- li- kiri kwamba [wao wa- na- pend- a
Mary and Rehema AGRs- PAST admit C- 3PL- AGRs- PROG- love- VS
ku- imba].
GER- sing
'Mary and Rehema admitted that they love singing.'

The sentences in (i) – (iii) are marked with the pronominal features as below:

C2 (114) ***Bakari***$_i$ ***a***$_i$- li- dai ya kwamba [***yeye***$_i$ ***a-*** na- m- dharau Amina].
Bakari AGRs- PAST- claim C- 3SG AGRs- PROG- AGRo- despise Amina
'Bakari claimed that he despises Amina.'

C2 (115) Jani a- li- dhani ya kwamba [***wewe***$_i$ ***u***$_i$ **-** na- ***m-*** penda].
Jani 3SG- PAST- think C- 2SG AGRo- PROG- AGRs- love

'Jani thought that you love him.'

C2 (116) ***Maria na Rehema***$_i$ ***wa***$_i$***-*** li- kiri kwamba [***wao***$_i$ ***wa-*** na- pend- a

Mary and Rehema AGRs- PAST admit C- 3PL- AGRs- PROG- love- VS

ku- imba].

GER- sing

'Mary and Rehema admitted that they love singing.'

In C2 (114) - C2 (116) above, it is observed that at the syntactic level, the pronominal features that are marked on the pronoun percolate onto the verb. Consequently, the whole sentence structure is influenced. The fact that both morphology and syntax are sensitive to pronominalisation shows that this process is morphosyntactic.

Apart from the pronominal properties being morphosyntactic, it is also observed from C2 (114) - C2 (116) that the binding relation that holds between the pronoun (when it functions anaphorically) and the other linguistic elements in the structure is morphosyntactic and not just syntactic. This is because the pronoun is first bound outside the sentential GC by a bound morpheme (pronominal feature), and then it is also bound outside its sentential CG by the antecedent NP in the subject position. In other words, binding of the pronoun in Kiswahili involves both lexical and morphological items, within or without its sentential GC. Co-indexation on the structures in C2 (114) and C2 (116) shows the binding relation that holds between the pronoun and the other elements in the two structures.

The morphosyntactic processes established in C2 (114) - C2 (116) show that: *Pronominalization determines the pronominal properties of the word in Kiswahili; and at the syntactic level, the same pronominal features influence the whole sentence by ensuring that the pronominal features that are inherently marked within the pronoun percolates onto the other elements (especially the verb) in the structure. Likewise, the binding of the pronoun in its anaphoric function is not only syntactic but morphosyntactic*. Violation of the requirements by the pronominal features that are inherently marked in the pronoun negatively affects the grammaticality of the entire sentence structure as illustrated below, where C2 (114) is repeated as C2 (114) (i):

C2 (114) (i)****Bakari***$_i$ ***a***$_i$- li- dai ya kwamba [***yeye***$_i$ ***wa-*** na- m- dharau Amina].

Bakari AGRs-PAST- claim C- 3SG- AGRs- PROG- AGRo despises Amina

'Bakari claimed that he they despise Amina.'

The structure in C2 (114) (i) violates the syntactic requirements for the pronominal features that are inherently marked in the pronoun. Specifically, the pronominal properties of the pronoun have not been appropriately represented at the syntactic level. The occurrence of the pronoun ***yeye*** 'he/ she' demands that an agreeing pronominal marker that is marked for 3rd person singular occurs on the verb. The ungrammaticality of C2 (114) is as a result of the occurrence of the pronominal feature ***wa-*** (3PL) on the verb in the subordinate clause, which does not agree with the pronoun ***yeye.*** Consequently, the two; that is, ***yeye*** 'he/ she' and ***wa-*** (3SPL) cannot have the same reference.

From the examples, we see that because of the language's rich morphology, it is possible for a pronoun, in its anaphoric function in Kiswahili to be bound without involving a lexical item. None the less, in this study, such binding is still regarded as morphosyntactic and not just syntactic. This is in contradiction to what happens in languages that are not morphologically rich such as English. Below is C2 (114) repeated as C2 (114) (ii) for illustration:

C2 (114) (ii) $\boldsymbol{A}_i$- li- dai ya kwamba [$\boldsymbol{yeye}_i$ $\boldsymbol{a}_i$- na- m- dharau Amina].

AGRs- PAST- claim C- 3SG AGRs- PROG- AGRo- despise Amina

'He/ she claimed that he/ she despises Amina.'

In C2 (114) (ii) above, the subject pronominal marker ***a-*** (3SG) in the matrix clause binds the pronoun ***yeye*** (3SG) outside its sentential governing category; that is, outside the lower embedded clause. The fact that the binder is a morphological element, binding the pronoun outside its sentential GC (Governing category) means that both morphology and syntax are involved in the binding process. Consequently, the present study analyses this type of binding as being morphosyntactic.

L3 The morphosyntactic processes in C2 (114) - C2 (116) are all made up of a matrix and a subordinate clause. The pronoun is found in the lower clause and it is bound by both the agreement features that are marked on the verb as well as by the antecedent NP that is in the subject position of the matrix clause. Therefore the rule that describes them is as below:

$S \rightarrow (NP_{1i}) + AGR_{Si} + T + V_1 + C + PRON_i + AGRs_i + T/ ASP + AGRo_j + V_2 + NP_{2j}$

Where:

$(NP_{1i}) \rightarrow$ optional NP in the subject position of the matrix clause that is co-indexed with the subject agreement markers as well as the pronoun that is in the subordinate clause.

$PRON_i \rightarrow$ Pronoun that is co-indexed with the antecedent NP in the subject position as well as with the pronominal marker.

$C \rightarrow$ complementizer

In the rule that is given above, co-indexation is used to show elements that co-refer.

The grammar that is given describes any of the structures in C2 (114) - C2 (116); together with many others that involve pronominalisation as a morphosyntactic process. Given that both lexical and non-lexical items are involved in the binding of the pronoun, outside its sentential GC, is a further demonstration of the interplay between morphology and syntax.

Below is the phrase marker that represents the morphosyntactic processes established in C2 (114):

D-structure

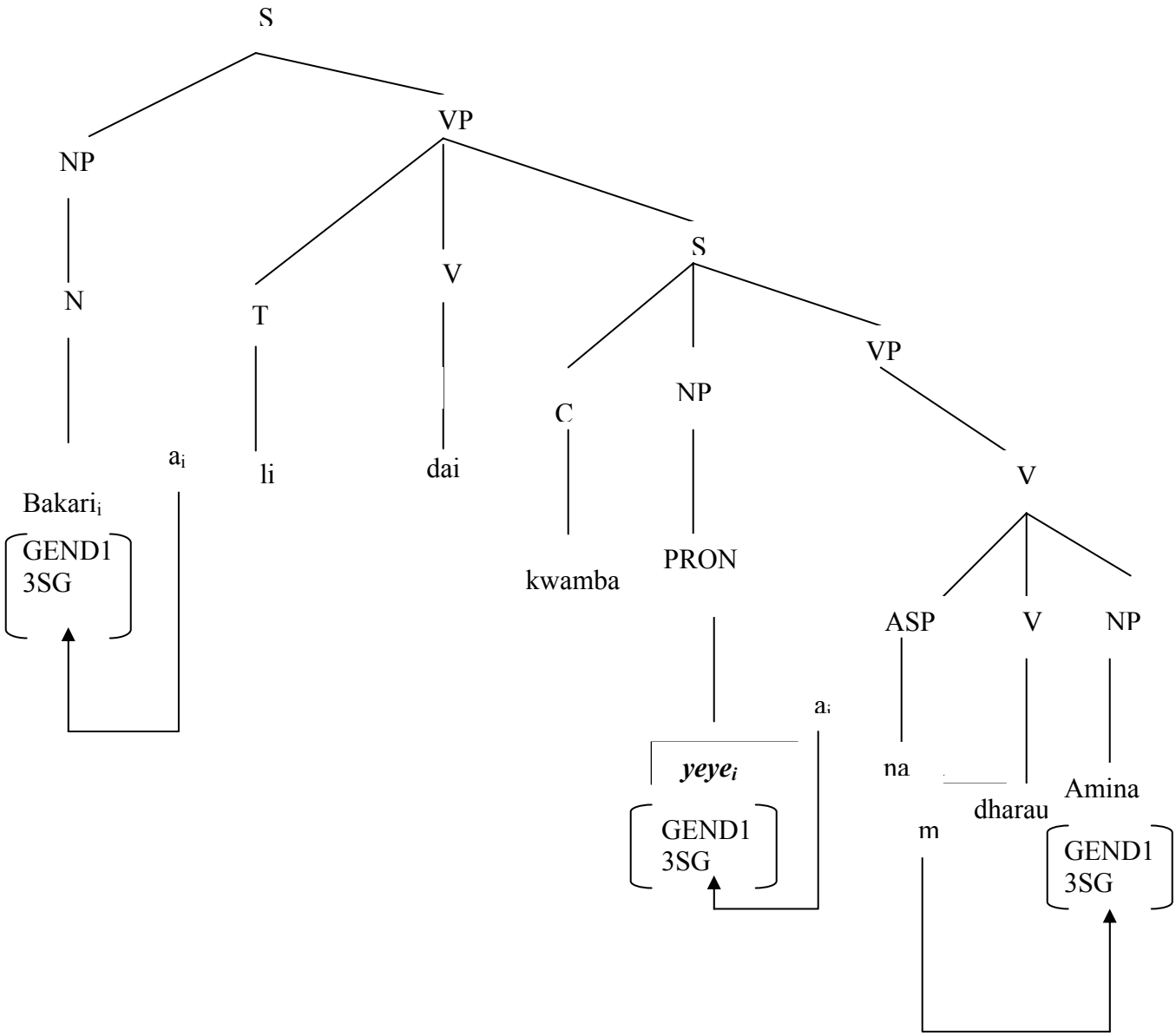


Figure 4. 42: Pronominalisation: morphosyntactic in nature

The structures given in C2 (114) - C2 (116) are the S-structures that have been derived from specific D-structures. Based on the T. G. G, the pronoun does not occur at the D-structure but instead, a noun does. This taken as the assumption, then the D-S of C2 (114) would occur as C2 (114) (iii):

C2 (114) (iii): ***Bakari***$_i$ ***a***$_i$- li- dai ya kwamba [***Bakari***$_i$ ***a***$_i$- na- m$_j$- dharau

Bakari AGRs- PAST- claim C- Bakari AGRs- PROG- AGRo- despise Amina$_j$].

Amina

'Bakari claimed that Bakari despises Amina.'

The assumption in this study is that there is a transformational rule that derives the S-structure from the D-structure. This being the case, the process of pronominalisation is seen to be pertinent to morphology as well as syntax in Kiswahili. This is because the process changes the morphological structure and syntactic category of the word by creating a pronoun out of a noun and as this happens, the pronominal properties of the pronoun are determined (compare the S-structure in C2 (114) and the D-structure in C2 (114) (iii)). At the S-structure, the process affects the whole syntactic structure, by allowing the pronominal; properties of the pronoun to percolate onto the verb. Below is the rule that describes the D-structure in C2 (114) (iii) above:

$S \rightarrow (NP_{1i})+ AGR_{Si}+ T+ V_1+ C+ NP_{2i}+ AGRs_i+ T/ ASP+ AGRo_j + V_2+ NP_{3j}$

The two rules that describe the D-structure and the S-structure reveal the structural difference in the two constructions, which is triggered by the process of pronominalisation, which is morphosyntactic in Kiswahili. This is an illustration of morphology-syntax interface. So, based on the T. G. G, the relationship that holds between the D-structure and the S-structure is described by the following rule:

. $NP_{1i}) + AGR_{Si}+ T+ V_1+ C+ NP_{2i}+ AGRs_i+ T/ ASP+ AGRo_j + V_2+ NP_{3j} \rightarrow (NP_{1i})+ AGR_{Si}+ T+ V_1+ C+ PRON_i+ AGRs_i+ T/ ASP+ AGRo_j + V_2+ NP_{2j}$

Though transformational rules account for the occurrence of pronouns in Kiswahili as illustrated, there are cases when the rule fails to apply. In such cases, the Extended Standard theory (EST) is applied. EST is a modification of the Standard Theory, (Aspect of the theory of Syntax (1965). Under EST, transformational rules do not affect the meaning but instead, the underlying syntactic representations contain all the information needed for syntactic representation. Whereas Standard theory (T. G. G) assumed that pronouns replaced full NPs by means of TRs (as in the foregoing examples), EST assumes that anaphoric definite pronouns (which are also NPs) are present at the D-structure, with an interpretative rule to assign co-referentiality between the NPs and the definite pronouns. The interpretative approach solves the problem of meaning lose and as such it can handle pronominalization better than the transformational approach, especially, for certain structures as in C2 (126):

C2 (126) D-S Ni- li- ***mw***$_i$- it- a ***Yohana***$_i$ [S lakini ***m- jinga***$_i$[19] ***a***- li- kata- a].

1SG- PAST- AGRo-call VS John but SG- fool AGRo- PAST- refuse-VS

'I called John but the fool refused.'

Based on the transformational generative theory, the above structure would occur as in C2 (126) (i) below:

C2 (126) (i) S-S Ni- li- ***mw***$_i$- it- a ***Yohana***$_i$ [S lakini ***yeye***$_i$ ***a***- li- kata- a].

1SG- PAST- AGRo- call VS John but 3SG- AGRo- PAST- refuse-VS

'I called John but he refused.'

However, based on the EST, the same structure would occur at the S-S as in C2 (126) (ii) below:

C2 (126) (ii) S-S Ni- li- ***mw***$_i$- it- a ***Yohana***$_i$ [S lakini ***m- jinga***$_i$ ***a***- li- kata- a].

1SG- PAST- AGRo- call VS John but SG- fool AGRo- PAST- refuse-VS

'I called John but the fool refused.'

When the two constructions at the S-structure are compared, that is, C2 (126) (i) and (ii) (based on the two approaches), we see that there is meaning lose in C2 (126) (i). In C2 (126) (i), the pronoun ***yeye*** 'he'/ 'she' does not bring out the meaning of the pronoun ***mjinga*** 'the fool'. Therefore, in order to retain the original meaning at the S-structure, it is assumed that the anaphor ***mjinga*** 'the fool' is present at the S-structure. In this case therefore, it is the interpretative rule that is used to derive the S-structure from the D-structure and not the transformational rule. Unlike the transformational rule that substitutes, deletes, rearranges and moves elements; the interpretative rule does not do any of the above; instead the assumption (in this approach), is that the same sentence structure that is at the D-structure is also present at the surface structure.

Even based on the EST, the present study argues that, anaphoric relations are morphosyntactic in Kiswahili. This is seen in C2 (126) (ii), where the features of the anaphor ***mjinga*** 'the fool' percolate onto the verb that follows. In other words, the anaphor ***mjinga*** 'the fool' is determined at the morphological level; and at its syntactic function, its features (of the anaphor ***mjinga*** **'**the fool') influence the whole sentence structure by putting a restriction on what to occur as the AGRo.

[19]. *Mjinga is an adjective as well as a noun but in this context, it functions as a pronoun, specifically as an anaphor.*

The interpretative rule therefore allows the elements present at the D-structure also occur at the S-structure. Therefore, based on the interpretative rule, the relationship between the S-structure and the D-structure is:

AGR_S+ T+ $AGRo_i$+ V+ NP_{1i}+ CONJ+ NP_{2i}+ AGR_{Oi} + T+ V→ AGR_S+ T+ $AGRo_i$+ V+ NP_{1i}+ CONJ+ NP_{2i}+ AGR_{Oi}+ T+ V

The rule can be used to describe similar constructions that are based on the interpretative rule.

4. 3. 1. 5. 3 pro (Null Pronoun)

Pro is a non-overt NP that is realised in pro-drop or pro-copy[20] languages. These are languages that allow the subject and the object to be left unexpressed. This is possible because of the rich verbal morphology in such languages, which allow the features of the implied NP to be represented in AGRs and AGRo.

L1 In this sub-section, the features of pro are shown to trigger morphology-syntax interface in Kiswahili. The following words are used to show the relevance of pro at the morphological and the syntactic level:

A2 (129) ***A***nafurahi[21] 'He/ she is happy'

A2 (130) ***Tu***naandika 'We are writing'

A2 (131) ***M***meoga 'You have bathed'

A2 (132) ***U***lianguka 'You fell'

From the words in A2 (129) – A2 (132) (which are also sentences), it is observed that at the morphological level, their morphological structure and the meaning is determined. This is because, pro, which is an empty category bearing the features of the implied subject, motivates the occurrence of the pronominal markers on the verb, which determines the morphological structure and the meaning of the word (verb).

So, the verb is formed from the subject agreement marker, a tense or Aspectual feature, the verbal root the verbal suffix. Thus:

VP→ AGRs+ T/ ASP+ R+ VS

Therefore (T) RVS ⟶ AGRs (T) RVS in the environment in which pro is present.

20. *These are languages in which the features of the implied NP are realised through AGRs and AGRo.*

21. *Italic is mine*

The occurrence of AGRs at the morphological level is motivated by the features of pro. Consequently, the structure and the meaning of the verb are determined at the morphological level. This is represented on the table below:

Table 4. 30: Features of pro: Morphosyntactic

Morphosyntactic category	**Basic form**	**Morphosyntactic feature**	**Derived form**
pro	(T) RVS	AGRs & AGRo	AGRs (T)RVS

Table 4. 30 shows that ***(T) RVS*** (verbal root) becomes ***AGRs (T) RVS*** when pro is present. This is because the ***AGRs*** and ***AGRo*** born by pro are morphosyntactic. Therefore, the presence of pro determines the morphological structure and the meaning of the word (verb).

L2 At the syntactic level, the following sentences are used to establish morphology-syntax interface that is triggered by the features of pro:

(i) Wa- li- chez- a.
AGRs- PAST- play- VS
'They played.'

(ii) M- me- og- a.
AGRs- PERFT- bath- VS
'You have bathed.'

(iii) Maria a- li- sema ya kwamba [a- li- anguk- a jana].
Maria AGRs- PAST-say C- AGRs- PAST- fall- VS yesterday
'Mary said that she fell yesterday.'

(iv) Tu- ta- andik- a barua.
2PL- FUT- write- VS barua
'We shall write the letter.'

(v) A- ta- imb- a shule- ni.
3SG- FUT- sing- VS school POSTP
'He/ she will sing in school.'

Though not explicit, the sentences in (i) – (v) occur with pro; and it is the features of this empty category that motivates the occurrence of the pronominal subject or object marker and by so doing, the entire sentence structure is determined. So, in essence, the above structures occur as below:

C2 (117) ***pro wa-*** ta- chez- a.
pro AGRs- FUT- play- VS
'They will play.'

C2 (118) ***pro m-*** me- og- a.
pro AGRs- PERFT- bath- VS
'You have bathed.'

C2 (119) Maria a- li- sema kwamba [***pro a-*** li- anguk- a jana].
Mary AGRs- PAST- say C- pro AGRs- PAST- fall- VS yesterday
'Mary said that she fell yesterday.'

C2 (121) ***pro tu-*** ta- andik- a barua.
Pro 2PL- FUT- write- VS barua
'We shall write the letter.'

C2 (120) ***pro a-*** ta- imb- a shule- ni.
Pro 3SG- FUT- sing- VS school POSTP
'He/ she will sing in school.'

At the morphological level, the occurrence of the null pronoun ***pro*** determines the morphological structure and the meaning of the verb by motivating the occurrence of the subject pronominal feature (AGRs) on the verb. By so doing, the whole sentence structure is determined with regard to its form as well as its meaning. This is because the word in this case also functions as a sentence. In embedded clauses, it is observed that apart from ***pro*** influencing the verbal morphology, it also determines the occurrence of the NP in subject position in the matrix clause and by extension, the subject pronominal feature in the following verb. This is because the occurrence of ***pro*** in the subordinate clause ***demands*** that an NP occurs in the matrix clause from which to derive its interpretation. So, interface between morphology and syntax that is triggered by the features of pro is observed as in C2 (117) – C2 (121).

Apart from the features of pro being morphosyntactic in Kiswahili, the binding relation that holds between pro and the other (NPs) in the structures above is morphosyntactic and not just

syntactic. This is particularly so when pro functions anaphorically as in C2 (119). In such structures, pro is bound outside its sentential GC by the pronominal element that is on the verb as well as by the antecedent NP that is in the subject position of the matrix clause. This binding is morphosyntactic because it has relevance to both morphology and syntax. Below is C2 (119) repeated as C2 (119) (ii) with co-indexation to show the binding relation within the structure.

C2 (119) (ii) Maria$_i$ a$_i$ li- sema ya kwamba [***pro***$_i$ ***a$_i$-*** li- anguk- a jana].

Maria AGRs- PAST- say C- pro AGRs- PAST- fall- VS yesterday

'Mary said that she fell yesterday.'

In C2 (119) (ii) pro is not only bound by the antecedent NP ***Mary*** that is in the subject position of the matrix clause but also by the subject pronominal marker (AGRs). So, we see that a lexical element within a sentence as well as a morphological element within a word is involved in the binding process. In other words, this binding has morphological as well as syntactic consequences.

The morphosyntactic processes in C2 (117) – C2 (121) show that***:*** *the features of pro motivate the occurrence of the subject or object agreement marker on the verb. The occurrence of pro therefore influences the verb as well as the whole sentence with regard to its structure as well as its meaning*. All the structures given above conform to the requirements of pro; violation of which negatively affects the entire syntactic structure as observed below, where C2 (117) is repeated as C2 (117) (ii).

C2 (117) (ii)****pro*** ta- chez- a.

Pro- FUT- play- VS

'Will play.'

The structure in C2 (117) (ii) is ungrammatical because the agreement features of pro have not percolated onto the verb. This makes the entire sentence structure ungrammatical. The presence of pro must have effect on the verbal structure as well as the sentence structure.

L3 The morphosyntactic structures in C2 (117) – C2 (119) are formed from an optional matrix clause, pro and either a transitive or an intransitive verb. Therefore the rule that describes them is:

$S \rightarrow (NP_{1i} + AGR_{Si} + T + V_1 + C) + pro_i + AGRs_i + T/ ASP + V_2 + (NP_2)$ (ADV) (POSTP)

Where:

(ADV) $\rightarrow$ optional adverb

(POSTP) →optional post positional phrase

pro→ empty category (null pronoun)

The instruction means that a sentence is formed from an optional sentence (occurring as the matrix clause), pro and a VP that is either transitive or intransitive. The elements (NP) (ADV) and (POSTP) are all optional. In the rule, the occurrence of pro motivates the occurrence of ***AGRs*** as well as $\boldsymbol{NP_1}$. In other words, its presence triggers the occurrence of AGRs in the subordinate clause; and it demands that NP_1 (and of course AGRs) occur in the matrix clause from which it (pro) derives its reference. So, interplay between morphology and syntax is observed.

The rule is used to describe an infinite number of morphosyntactic structures, both simple and embedded, that are triggered by the features of pro.

L4 Below is the phrase marker that represents the morphosyntactic processes in C2 (119), together with other similar structures.

D-structure

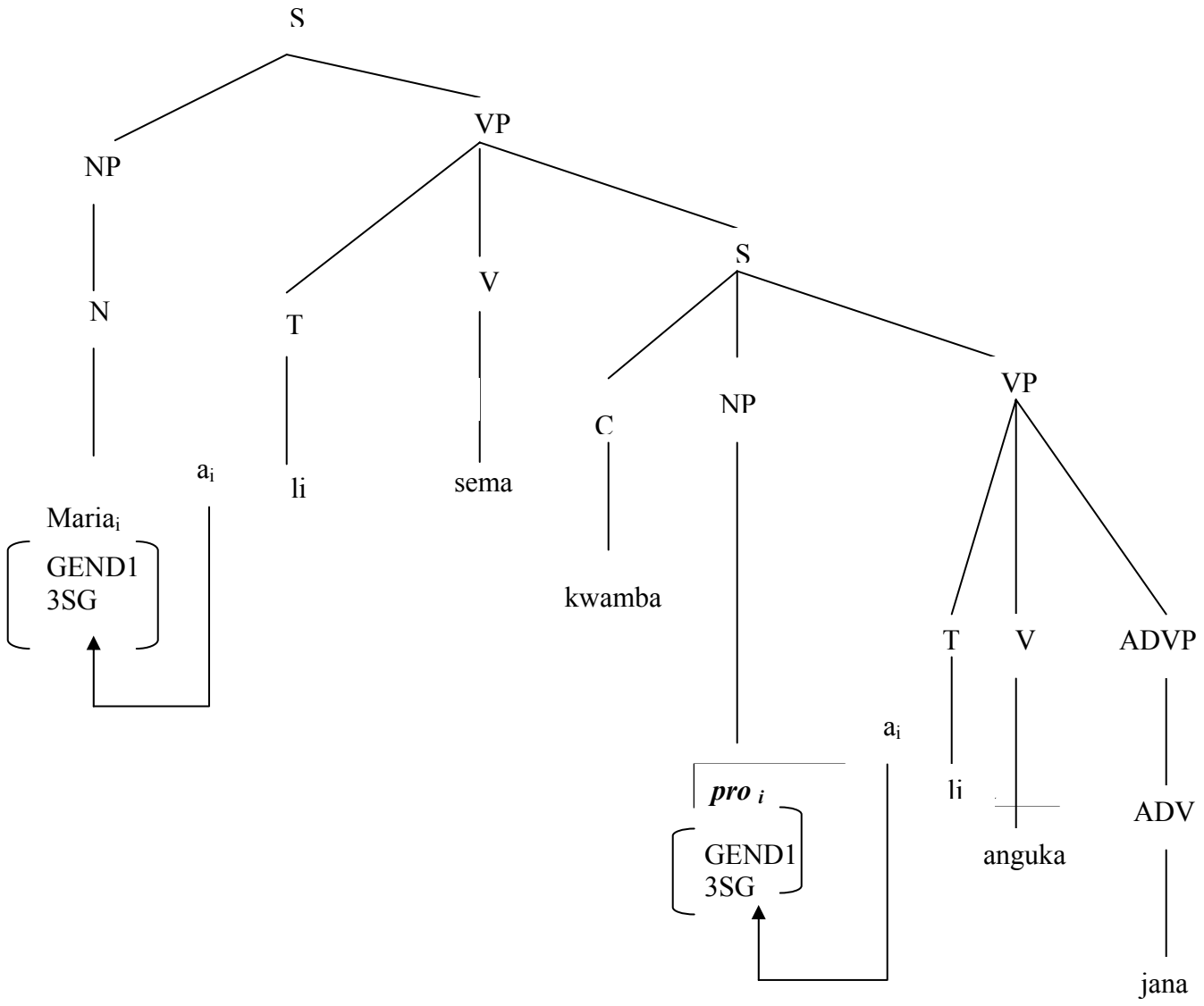


Figure 4. 43:Features of pro: Morphosyntactic

From the representation, it is evident that the features of pro motivate the occurrence of the agreement features on the verb as well as the NP in the subject position of the matrix clause. In other words, these features have relevance to morphology and syntax.

Just as with subject position, when pro occurs in the object position, it triggers morphology-syntax interface. Structures used for analysis are C2 (19) and C2 (48).

C2 (19) Jani a- na- ***m-*** tak- a ***pro***.

Jani AGRs- PROG- AGRo- want- VS pro

'Jani wants him/ her.'

C2 (48) Roni a- li- ***mw-*** ambi- a Yohana kwamba [***pro a-*** ende ***a-***

Roni AGRs- PAST- AGRo- tell VS Yohana C- Pro AGRo- go AGRo-

mw- on- e].

AGRs-see- SUBJ

'Roni told John to go and see him.'

In C2 (19) and C2 (48), the features of pro triggers the occurrence of the object agreement features (AGRo) on the verb and by so doing, the structure and the meaning of the whole sentence is determined.

Just as with pro in subject position, the binding of pro that is in the object position has relevance to morphology and syntax. This argument is based on the fact that pro is first bound by the object pronominal feature ***m-*** (3SG) outside its sentential GC and then still outside its sentential GC by the NP in the object position (if there is one) as in C2 (48). Thus, both morphology and syntax are involved when binding takes place. This is an illustration of morphology-syntax interface. The morphosyntactic rule that describes the morphosyntactic structures in C2 (19) and C2 (48) that are triggered by the features of pro in the object position is as below:

$S \rightarrow NP_{1i} + AGR_{Si} + T + AGRo_j + V_1 + (NP_{2J}) + (C) + pro_j + (AGRo_j + T + V_2 + AGRo_j + AGRs + T + V_3)$

Where

pro_j & $AGRo_j \rightarrow$ co-refer (features of pro trigger the occurrence of AGRo.

The rule means that a morphosyntactic process that is triggered by the features of pro is either generated from (i) a simple sentence that is made up of an NP and a VP, which bears the AGRo or from (ii) an embedded clause that bears the AGRo and an NP in the object position of the matrix clause. In both cases, the features of pro determine the structure and the meaning of the verb as well as that of the whole sentence.

4. 3. 1. 5. 4 Controlled PRO

PRO is a syntactically active NP, hence syntactically represented but with no overt manifestation. Just as with pro, PRO is an empty category. In this sub-section, the presence of PRO is shown to trigger morphology-syntax interface in Kiswahili.

L1 Below are the words that are used to analyse the effect of PRO at the morphological as well as the syntactic level:

A2 (133) ***Ku***jimaliza 'to finish oneself'

A2 (134) ***Ku***jiua 'to kill oneself'

A2 (135) ***Ku***la 'to eat'

A2 (136) ***Ku***lala 'to sleep'

The words in (133) – (136) are all marked with the infinitival marker ***ku-.*** These infinitival verbs head the lower infinitival clause in Kiswahili; and they only occur after the non-overt NP PRO. The structure of the verbs is as below:

VP→ INF+ (REFL) + RVS

Where:

INF→ Infinitival marker

(REFL)→ optional reflexive marker

R→ Root

VS→ verb suffix

That is, the VP is formed from an infinitival marker, an optional reflexive marker, a verbal root and a verbal suffix. This is represented as below:

Table 4. 31: Effect of PRO

Morphosyntactic category	**Basic form**	**Morphosyntactic feature**	**Derived form**
PRO	(REFL)RVS	INF (***ku-)***	INF(REFL)RVS

Table 4. 31 shows that ***INF(REFL)RVS*** is different from (***REFL)RVS***. The difference is explained in this study in terms of the effect of PRO, which is morphosyntactic. PRO motivates the occurrence of the infinitival marker ***ku-*** at the morphological level; and as this happens, the

morphological structure and the meaning of the verb are changed as demonstrated on the table.

Based on the words in A2 (133) – A2 (136), the following sentences are used to illustrate morphology-syntax interface that is triggered by PRO at the syntactic level:

(i) Maria a - li- amua ku- ji- maliz- a
Mary AGRs- PAST- decide INF- REFL- finish VS
'Mary decided to finish herself.'

(ii) Wa- toto wa- na- taka ku- la.
PL- child AGRs- PROG- want INF- eat
'Children want to eat.'

(iii) Hadija a- me- end- a ku- lal- a.
Hadija AGRs- PERFT- go VS INF- sleep- VS
'Hadija has gone to sleep.'

(iv) Yusufu a- me- anz- a ku- lalamik- a.
Joseph AGRs- PERFT- start- VS INF- complain- VS
'Joseph has started complaining.'

The sentences in (i) - (iv) are marked as below:

C2 (122) Maria$_i$ a$_i$ - li- amua [***PRO***$_i$ ***ku-*** ji$_i$- maliz- a].
Mary AGRs- PAST- decide PRO INF- REFL- finish VS
'Mary decided to finish herself.'

C2 (123) Wa- toto$_i$ wa$_i$- na- taka [***PRO***$_i$ ***ku-*** la].
PL- child AGRs- PROG- want PRO INF- eat
'Children want to eat.'

C2 (124) Hadija$_i$ a$_i$- me- end- a [***PRO***$_i$ ***ku-*** lal- a].
Hadija AGRs- PERFT- go VS PRO INF- sleep- VS
'Hadija has gone to sleep.'

C2 (125) Yusufu$_i$ a$_i$ - me- anz- a [***PRO***$_i$ ***ku-*** lalamik- a].
Joseph AGRs- PERFT- start- VS PRO INF- complain- VS
'Joseph has started complaining.'

An observation of the structures in C2 (122) - C2 (125) reveals that the occurrence of PRO at the syntactic level influences the entire sentence structure just as it does to the verb at the morphological level. This is because; PRO first determines the form of the infinitival verb.

Specifically, PRO demands that the verb in the lower clause bears the infinitival marker ***ku-.*** Secondly, at the syntactic level, PRO influences the entire sentence structure. Being controlled PRO; it demands that an NP (controller) from which to derive its interpretation occurs in the subject position of the matrix clause. For instance, in C2 (125), it is the presence of PRO that triggers the occurrence of the infinitival marker ***ku-*** on the verb ***lalamika*** 'complain'. At the syntactic level, the same motivates the occurrence of the NP ***Yusufu*** in the subject position of the matrix clause as well as the subject pronominal marker ***a-*** (3SG). Therefore, controlled PRO (in the above structures) is seen to have relevance to morphology and syntax in Kiswahili.

The morphosyntactic processes established in C2 (122) - C2 (125) shows that: *controlled PRO in Kiswahili occurs in the subject position of the infinitival clause; it motivates the occurrence of the infinitival marker ku- on the verb and at the syntactic level, it influences the whole sentence structure by demanding that a controller occurs in the subject position of the matrix clause (and by extension, a subject pronominal feature in the matrix clause).* Violation of the morphological and syntactic requirements of the non-overt NP PRO, negatively affects the whole sentence as demonstrated below, where C2 (122) is repeated as the ungrammatical C2 (122) (i):

C2 (122) (i)*Maria$_i$ a$_i$ - li- amua [***PRO***$_i$ ***a-*** na- ***ji-*** maliz- a].

Mary AGRs- PAST- decide PRO AGRs- PROG- REFL- finish- VS

'Mary decided she is finishing herself.'

The ungrammaticality of (122) (i) results from the fact that the verbal morphology has not conformed to the requirements of PRO. In (122) (i), PRO is occurring in the subject position of a finite clause and not in the subject position of an infinite clause as it is required by PRO THEOREM. The structure in C2 (122) would only be grammatical if a complementizer occurred in the position where PRO has occurred. Alternatively, the same would have been grammatical if small pro occurred in the subject position of the subordinate clause and not big PRO as in the above. The violation of the requirements of PRO at the morphological level, has negatively affected the grammaticality of the entire syntactic structure. This is an illustration of the fact that controlled PRO has morphological and syntactic consequences in Kiswahili.

In the grammatical structures given above, PRO is licensed in that it is ungoverned. Consequently, PRO THEOREM has been observed. PRO THEOREM states that, 'PRO must be ungoverned.' (Haegeman, 1994: 273).

With regard to the binding relation between PRO, and the other elements in the structure, we see that a morphosyntactic binding has taken place and not just a syntactic one. This is because, from the structures formed in C2 (122) – C2 (125), we see that first, the subject agreement feature that is in the matrix clause binds the empty category PRO outside its infinitival clause. Then secondly, the NP in the subject position of the matrix clause, that is, the controller, binds it as well, still outside the infinitival clause (not necessarily outside its GC since PRO lacks a GC). In this study, this binding, just as for the preceding categories is said to be morphosyntactic. This is because both morphology as well as syntax is involved when binding takes place. This contrasts with the purely syntactic binding.

L4 The morphosyntactic structures in C2 (122) - C2 (125) are formed from an NP, a VP and an infinitival clause. Therefore, the rule that is used to describe them is:

S → $\boldsymbol{NP}_i$+ $\boldsymbol{AGR_{S}}_i$+ T/ ASP+ V+ $\boldsymbol{PRO}_i$+ ***INF***+ (REFL)+ V

Where:

PRO→ empty category

$NP_{i,}$ AGR_{Si} & PRO_i→ co-refer

In the rule, we see that PRO_i is bound by AGR_{Si} and then by NP_i outside its infinitival clause. The occurrence of $NP_{i,}$ AGR_{Si} & INF is motivated by the presence of PRO. This is because controlled PRO demands that the controller must occur in the structure in order for it to derive its reference. The features of the controller percolate onto the following VP allowing the subject pronominal marker to agree with it (the controller) and this is why the two co-refer; that is, the NP and AGRs. Likewise, the occurrence of the infinitival marker ***ku-*** is motivated by the presence of PRO. This is because, PRO in Kiswahili only occurs in an infinitival clause and not in a tensed one.

The rule describes an infinite number of structures that are similar. This follows from the transformational generative theory of grammar that is being applied in the study.

The examples that have been given in C2 (122) - C2 (125) are those of subject control. However, in object control structures, PRO is also morphosyntactic. The following sentences are used to illustrate this:

(i) Jani a- li- m- lazim- u Dani ku- l- a.

Jani AGRs- PAST- AGRo- force- VS Dani INF- eat- VS.

'Jani forced Dani to eat.'

(ii) Mama a- me- m- zuia m- toto ku- lala.

Mother AGRs- PERFT- AGRo- forbid SG- child INF- sleep

'Mother has forbidden the child to sleep.'

The structures in (i) and (ii) are marked as below:

C2 (90) Jani a- li- ***m_i-*** lazim- u ***$Dani_i$*** [***PRO_i ku-*** l- a].

Jani AGRs- PAST- AGRo- force- VS Dani PRO INF- eat- VS.

'Jani forced Dani to eat.'

C2 (95) Mama a- me- ***m_i-*** zuia ***m- $toto_i$*** [***PRO_i ku-*** lala].

Mother AGRs- PERF- AGRo- forbid SG- child INF- sleep

'Mother has forbidden the child to sleep.'

In C2 (90) and C2 (95), PRO is morphosyntactic. This is because PRO determines the form of the verb in the infinitival clause as well as that of the whole sentence structure with regard to the type of the linguistic elements that are to occur in the structure and their syntactic distribution. Specifically, being controlled PRO; it demands that the controller occurs in the object position in the matrix clause. This explains why the AGRo (whose features are based on those of the NP in the object position) and the NP in the object position occur in the two structures. Therefore, PRO has a morphological and syntactic consequence.

Object controlled PRO .has the same requirements as the subject controlled PRO, it has to occur with a controller and at the same time, it motivates the occurrence of the infinitival marker ***ku-***.

The following rule describes the morphosyntactic processes that are triggered by object controlled PRO:

$S \rightarrow NP_1 + AGR_S + T + \boldsymbol{AGRo_i} + V + \boldsymbol{NP_{2i}} + \boldsymbol{PRO_i} + \boldsymbol{INF} + V$

Where:

$AGRo_i$, NP_{2i} & $PRO_i \rightarrow$ co-refer

The rule means that a sentence is formed from an NP in the subject position of the matrix clause, a transitive VP and an infinitival clause. In the rule, the occurrence of the INF, AGRo and NP_2 is motivated by the presence of PRO, which is morphosyntactic in Kiswahili. In the present study, the relationship that holds between INF, AGRo, NP_2 and PRO is explained in terms of morphology-syntax interface.

L4 The morphosyntactic processes that are triggered by object controlled PRO in C2 (90) is

represented as below on a phrase marker:

D-structure

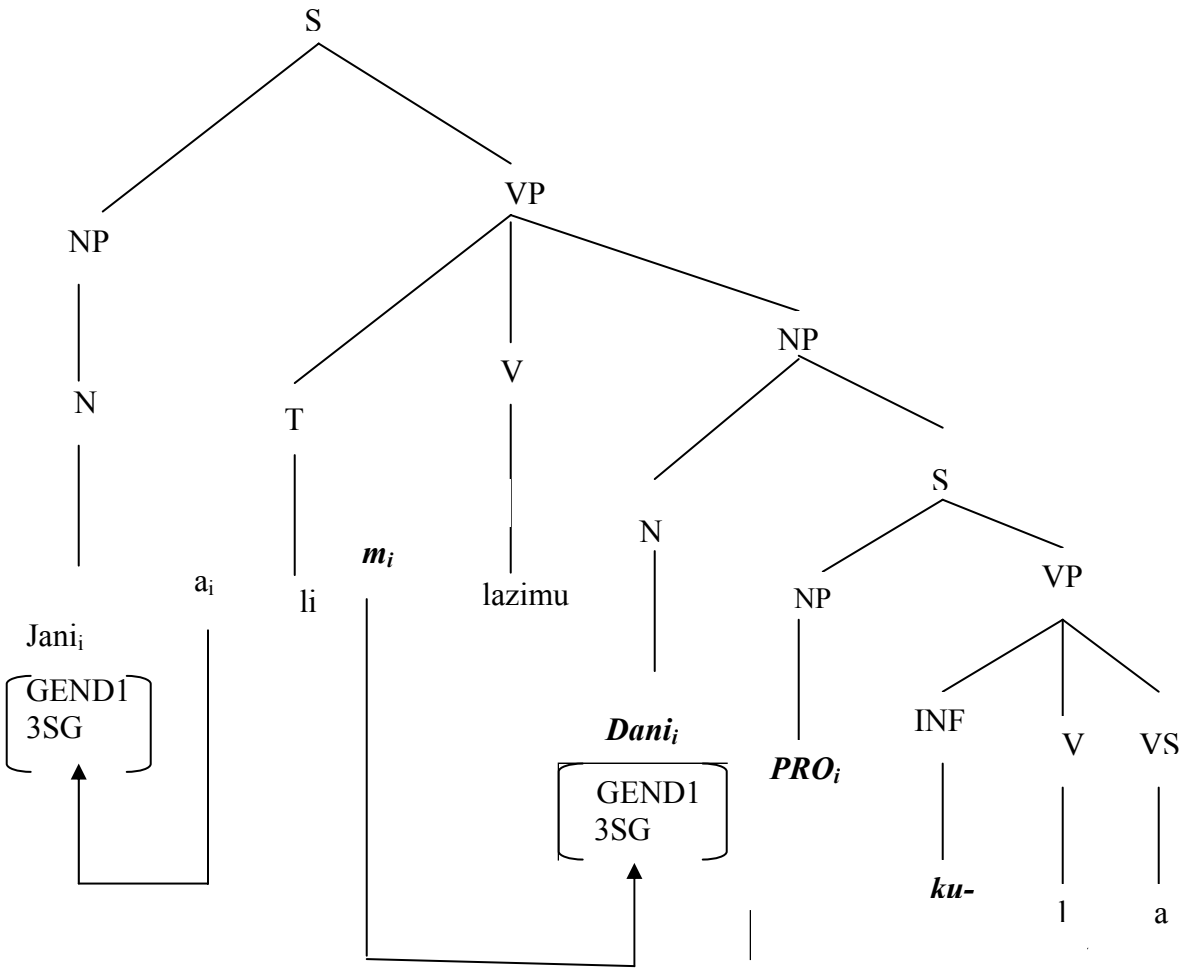


Figure 4. 44: Object controlled PRO: morphosyntactic

Other similar structures that are triggered by the object controlled PRO can be represented on the phrase marker in ***figure 4. 44***.

According to Bach's generalisation, an object controller cannot be omitted, it must occur in the structure, (Haegeman 1994: 281). However, from the analysis of the structures in C2 (90) and (95), it is observed that this is not the case in Kiswahili. Given that Kiswahili is morphologically rich, it can allow the object controller to be omitted because its semantics can still be recovered from the object agreement features (AGRo). Consequently, pro (null pronoun/ little pro) in

Kiswahili can function as the object controller of PRO. Pro in this case bears the agreement features that are born by the AGRo that is in the matrix clause. The object pronominal features are in turn dependent on the features of the implied object NP. Consequently, the null pronoun pro can control big PRO in Kiswahili and the process is still morphosyntactic. The conclusion is based on the fact that PRO demands that the controller occurs (in this case pro) and that it (PRO) occur in the subject position of an infinitival clause. This restriction motivates the occurrence of the infinitival marker ***ku***- on the verb. What happens in Kiswahili is in contradiction to Bach's generalisation on object controlled PRO. Below is an illustration, where C2 (90) is repeated as C2 (90) (ii).

C2 (90) (ii) Jani a- li- $\boldsymbol{m_i}$- lazim- u $\boldsymbol{pro_i}$ [$\boldsymbol{PRO_i}$ ***ku***- l- a].

Jani AGRs- PAST- AGRo- force- VS pro PRO INF- eat- VS.

'Jani forced him/ her to eat.'

In C2 (90) (ii), it is pro that controls PRO and the structure is grammatical. The two; that is, pro and PRO share their features with those of the AGRo that is in the matrix clause; and the features of the three; that is AGRo, pro and PRO are based on those of the implied NP in the object position.

Conclusion

In this sub-section, it has been shown that the anaphoric relationship that holds between the NPs in the structure is morphosyntactic in Kiswahili. Specifically, it has been demonstrated that the reflexive and the reciprocal morphemes have relevance to morphology as well as syntax because they influence the verbal and the sentential structure. Likewise, it has been shown that the process of pronominalisation, the features of pro and PRO have morphological and syntactic consequences in Kiswahili.

Apart from individual elements and processes that trigger morphology-syntax interface, it has also been demonstrated in the discussion that the binding relationship that holds between NPs in the reflexive, reciprocal and pronominalised structures; as well as structures bearing the non-overt elements pro and PRO is morphosyntactic rather than syntactic. This is because both morphology and syntax are involved in the binding process. This observation contrasts with the purely syntactic binding that occurs in most languages. Specific morphosyntactic rules that are based on the structures formed have been formulated in order to describe specific

morphosyntactic processes that have been established. This is in line with the transformational generative theory being applied. Finally, representations have been given in order to make explicit the morphosyntactic processes established.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

5. 1 Introduction

The study set out to establish the morphosyntactic processes that occur in Kiswahili, account for their occurrence and establish the morphosyntactic rules in this language. In this chapter, a summary of the research findings is presented, conclusions are drawn and necessary recommendations made.

5. 2 Summary and Conclusions

From the analysis of the words and the syntactic structures used in the study, it has been shown that there are morphosyntactic processes that occur in Kiswahili. Throughout the discussion, the study has shown that these processes are triggered by different morphosyntactic categories. The morphosyntactic processes established are those that involve inflectional morphology, class-changing word formation processes, class non-changing word formation processes, lexical information, and those that involve anaphoric relations. Under each of these morphosyntactic processes, specific morphosyntactic categories, properties or processes identified as having relevance to morphology and syntax have been analysed in order to make explicit their influence at the word level as well as at the syntactic level.

Under the morphosyntactic processes that involve inflectional morphology, the grammatical categories of gender, number, person, Aspect, tense, and the comparison have been shown to trigger morphology-syntax interface in Kiswahili. Each of these categories has been analysed at the morphological level, syntactic level, rule and finally, representational level. This is in line with the transformational generative theory of grammar that is being applied. One of the issues that has come out clearly is that the transformational generative theory cannot sufficiently handle the many agreement features (like those of gender, number and person) of an agglutinating language like Kiswahili. For a language like Kiswahili that is morphologically rich, an adequate analysis must take care of such morphosyntactic features. Minimalist programme takes care of such features. In Minimalist programme, inflectional properties of verbs and nouns are given in the lexicon and as such the already inflected nouns and verbs are base generated in the verb

phrase under their respective heads. So, in this approach, movement of the NPs and the verbs is only for feature checking. In order to take care of this shortcoming, in the present study, we have used arrows on phrase makers to show how such agreement features percolate from nouns onto verbs or onto the other elements in the structure.

Apart from grammatical categories of inflectional morphology, the study has also analysed different class-changing word formation processes that have relevance to morphology and syntax in Kiswahili. Specifically, derivational morphology, compounding and idiomization processes have been shown to be morphosyntactic in that they influence both morphology and syntax in Kiswahili. Each of this word-formation process has been analysed at the four levels of analysis. The analysis has shown that derivational affixes trigger morphology-syntax interface in that they have relevance on the two levels of grammar. Likewise, conversion, compounding and idiomization processes (though they do not involve morphological marking) have been shown to influence morphology as well as syntax. One of the important aspects that have been established from the analysis is that it is the derivational affix that determines the syntactic category of the derivative. Consequently, a generalisation made with regard to such derivational affixes in Kiswahili is that these affixes are present in the lexicon just as the roots.

Morphosyntactic processes that involve class non-changing word formation processes have also been analysed in the study. The study has shown that different class non-changing derivational affixes have relevance to morphology and syntax. The categories analysed in the study include the passive, causative, applicative, stative and the interrogative pronoun. Each of these categories has been analysed at the four levels of analyses. In the course of the analyses, it has been shown that class non-changing derivational affixes as well as the interrogative properties have effect on the two levels of grammar in Kiswahili.

Morphosyntactic processes that involve lexical information in Kiswahili have also been analysed. Specifically, the study has demonstrated that categorial, subcategorization, selectional and thematic information trigger morphosyntactic processes in Kiswahili. It has been shown that though these categories are not morphologically marked, whatever information that is provided for them in the lexicon has morphological and syntactic consequences. Of interest is the selectional information. An analysis of the selectional information has shown that in Kiswahili, this information (semantic) has relevance to syntax. In the analysis, we saw that the semantic information provided for a given word states its (the word's) properties with regard to its

semantics. At the syntactic level, this information has been shown to determine the type of linguistic elements that are to occur (with the word in question) in structure. The elements must bear very specific semantics based on the meaning of the word in question. This observation is in contradiction to the autonomous syntax principle in which syntax is seen to operate independently of semantics.

Finally, the study has shown that there are anaphoric relations that are morphosyntactic in Kiswahili. Specifically, it has been shown from the analysis that anaphoric relations that involve the reflexive, the reciprocal, pronominalisation process, and the non-overt NPs pro and PRO trigger morphology-syntax interface in Kiswahili. Unlike most studies that consider the reflexive and the reciprocal as resulting from the application of lexical insertion rules (see Vitale, 1981), in this study, the two are derivatives that are as a result of the application of the transformational rule on the D- structure. Under this approach, reciprocation and reflexivisation have relevance on both morphology and syntax. Apart from these overt and non-overt NPs having morphological and syntactic relevance, the study has also shown that the binding relation that holds between these NPs and the other elements that they occur with, in the structure is morphosyntactic and not just syntactic. Morphosyntactic binding contrasts with the purely syntactic binding, which is common in languages that are not morphologically rich as Kiswahili. It has been shown in the analysis that in Kiswahili it is possible for a morphological element to bind a NP just as lexical elements. At the same time, it has been shown that there are some anaphors that are bound within their sentential GC by the antecedent NP as well as within the word category by a pronominal marker. This type of binding is morphosyntactic; it has morphological as well as syntactic consequences.

Apart from the study establishing the morphosyntactic processes that occur in Kiswahili, the study has also accounted for them. Principally, each morphosyntactic process is shown to be triggered by specific related morphosyntactic categories. For each group of related morphosyntactic categories, there is a common characteristic that is true to each one of them; and this is with regard to their relevance to morphology and syntax in Kiswahili. In other words, whatever that is considered as being morphosyntactic; that is, whatever element that triggers morphology-syntax interface (whether a property, process or some morphological category) must influence the word as well as the entire sentence structure. It has been shown through exemplification that violation of the requirements of a given morphosyntactic category,

negatively affects the grammaticality of the entire structure.

The study has also shown that there are morphosyntactic rules that describe the morphosyntactic processes that occur in Kiswahili. Throughout the analysis, the morphosyntactic processes established have been formalised in terms of either phrase structure rules or transformational rules. This is in line with the transformational generative theory that has been applied. In this theory, grammar is seen as a set of instructions for generating sentences of the language. The rules formulated are not new in the sense of having been created or invented but rather they are instructions or explanations of exactly what happens when morphosyntactic processes take place. These rules are based on the morphosyntactic structures produced by users of Kiswahili; they characterise what speakers know (competence) about morphology-syntax interface. This assumption is also in line with the transformational generative theory in which emphasis in language study is on competence and not performance (though performance is used to come up with competence; that is, structures produced by speakers are used to analyse their competence/ linguistic knowledge). The study has shown that the finite set of rules formulated can be used to describe an infinite number of constructions in Kiswahili. This is also in accordance with the transformational generative theory in which grammar is seen as a set of instructions used to form sentences in a language. Both morphological as well as syntactic rules have been given.

In the study, structures have been represented on phrase markers for easier interpretation of what goes on in the human mind when one produces a given structure in Kiswahili. This also follows from the transformational generative theory being applied, in which language is seen as a mental reality. In other words, the representations on phrase markers are a reflection of what goes on in one's mind when constructing such structures.

In conclusion therefore, the first research question has been answered. The question was; what morphosyntactic processes do take place in Kiswahili? Based on the findings, it has been established that indeed there are morphosyntactic processes that occur in Kiswahili; and these are:

(i) Those involving inflectional morphology

(ii) Those involving class-changing word formation processes

(iii) Those involving class non-changing word formation processes

(iv) Those involving lexical information

(v) Those involving anaphoric relations.

The second research question was; what triggers the morphosyntactic processes in Kiswahili? This question has been answered as well. The study has shown that there are different morphosyntactic categories that trigger morphology-syntax interface. These are:

(i) For morphosyntactic processes that involve inflectional morphology; the grammatical categories of gender, number, person, tense, Aspect and the comparison have been shown to have relevance to morphology and syntax.

(ii) For morphosyntactic processes that involve class-changing word formation processes, the study have shown that derivational affixes (specifically, those that are used in nominalization, verbalisation, adverbialisation) trigger morphology-syntax interface. The study has also shown that conversion, compounding and idiomization processes trigger morphology-syntax interface in Kiswahili.

(iii) For morphosyntactic processes that involve class non-changing word formation processes, different class non-changing derivational affixes have been shown to trigger morphology-syntax interface. Specifically, the passive, the causative, the stative, the Applicative morpheme; and the interrogative properties have been shown to trigger morphology-syntax interface in Kiswahili.

(iv) Morphosyntactic processes that involve lexical information have been shown in the study to be triggered by the categorial, subcategorial, selectional and thematic information in Kiswahili.

(v) The anaphors, pronominalisation processes, the properties of pro and PRO have been shown to trigger morphology-syntax interface in the structures that involve anaphoric relations.

All the above categories have been shown to be morphosyntactic in Kiswahili; when allowed to apply, they influence both the word as well as the entire syntactic structure.

The third and final research question was; what are the morphosyntactic rules in Kiswahili? This question has also been answered in the study. All the morphosyntactic processes established have been formalised into rules. Basically, a variety of morphosyntactic structures have been formalised through a finite set of rules. This is in line with the transformational generative theory being applied. Though both morphological and morphosyntactic rules were established in the study, only a summary of the later is given because of their relevance to the last research

question. Likewise, because of the fact that different morphosyntactic categories that share attributes trigger a common morphosyntactic process, a number of rules that are based on specific categories that trigger morphology-syntax interface were established. These are:

(I) For morphosyntactic processes that involve inflectional morphology, several rules were established:

(a) Rules that are based on morphosyntactic processes triggered by gender and number category are two: the first being phrasal, while the second sentential. They are:

(i) NP→Af_nR + $Af_{ni}R$/ RAf_{ni}

(ii) S→ Af_nR + Af_{ni} + T/ ASP+ REL+ V+ COP+ POSS

In both cases the gender and number feature (***Af_n***) that is marked on noun (***R***) determines the form of the other elements in the entire syntactic structure.

(b) Rules that are based on morphosyntactic processes that are triggered by the category of tense are two:

(i) S→ N+ (NEG)+ AGRs+ ***T***+ V+ ***(ADVP)***

(ii) S→ (AGRs/ o+ ***$CONT_1$/ $COND_1$***+ V_1)+ (AGRs/ o+ ***$CONT_2$/ $COND_2$***+ V_2)

In rule (i) the tense feature that is marked on the verb determines the type of the adverbial of time that is to occur in the structure. In rule (ii), the conditional or contingent marker that is marked on the first verb determines the type of the conditional or contingent marker that is to occur on the second verb. In both cases, the category of tense influences the whole syntactic structure.

(c) A rule that is based on the morphosyntactic process that is triggered by the grammatical category of person is:

S→***PRON***+ ***AGRs***+ T/ ASP+ (***AGRo***) + V+ (***PRON***)

The occurrence of ***AGRs*** and ***AGRo*** on the verb is dependent on the person feature that is marked on the pronoun in the subject and the object position respectively. The category of person influences the whole structure.

(d) A rule in which the morphosyntactic process is triggered by the grammatical category of Aspect is:

S→ NP + (AGRs+ T+ AUX) + AGRs+ ***ASP***+ V+ (NP) (ADVP)

The category of Aspect (***ASP***) influences the structure, meaning and the Aspectual properties of the verb as well as that of the entire sentence.

(e) A rule that is based on a morphosyntactic process that is triggered by the category of the comparison:

S→ ***N*** + COP + ***ADJ***+ (INT) + ***ADV*** + ***N***.

The property of the comparison that is marked on the adverb (***ADV***) has relevance to morphology and syntax. Its occurrence influences the entire structure by demanding that the elements to be compared (that is, the ***Ns***) occur as well as the quality (that is, the ***ADJ***) to be compared.

(II) Below are the rules established for morphosyntactic processes that involve class- changing word formation processes:

(a) The rule that is based on a morphosyntactic process that is triggered by nominalization derivational affixes is as follows:

$$\mathbf{S \rightarrow N/\ PRON+}\left\{\begin{matrix}\mathbf{V}\\ \mathbf{COP}\end{matrix}\right\} + \boldsymbol{Af_{1D}R\ (Af_{1D})}$$

A nominalization derivational prefix $\boldsymbol{Af_{1D}}$ and an optional nominalization derivational suffix $\boldsymbol{Af_{1D}}$ alters the morphological structure, the syntactic category and the meaning of the derived form of the word (***R***) and that of the whole syntactic structure.

(b) A rule that is based on a morphosyntactic process that is triggered by verbalisation derivational affix(es) is:

S→ N+ AGRs+ T+ R$\boldsymbol{Af_{1D}}$+ N

The addition of the verbalisation derivational suffix $\boldsymbol{Af_{1D}}$ to the base form ***R*** alters its morphological structure, the syntactic category and the meaning; which in turn has consequences to the whole syntactic structure.

(c) A rule that describes the morphosyntactic processes that are triggered by adverbialisation derivational affix is as below:

S→ N+ (AGRs) + T+ V+ (N) + $\boldsymbol{Af_{1D}}$R

The adverbialisation derivational prefix that derives the derivative $\boldsymbol{Af_{1D}R}$ from the base form ***R*** alters its form, category and meaning. The same has relevance on the entire structure.

(d) A rule that describes the morphosyntactic processes that are triggered by the conversion process is:

S→ N/ $\boldsymbol{Af_{\varnothing}}$R + AGRs+ T+ V+ ($\boldsymbol{Af_{\varnothing}}$R)

Reclassification of the un affixed root (***R***), which is either a verb or an adjective, alters the

category and the meaning of the derived word (***R***). This reclassification has syntactic consequences.

(e) The rule that describes the morphosyntactic processes that are triggered by compounding process is:

S→ N/ $(R_1+R_2)_C$ +COP/ AGRs+ T+ V + $(R_1+R_2)_C$

The derivation of a compound word $(R_1+R_2)_C$ from the base forms R_1 and R_2 , alters the form, category and the meaning of the derived forms; this has syntactic consequences.

(f) A rule that describes the morphosyntactic processes that are triggered by idiomization process is:

S→ N+ AGRs+ T+ (AGRo) + $(R_1+R_2)_{IDM}$+ (ADVP) (POSSP)

Idiomisation alters the derived form of the word, that, is R_1 ***and*** R_2 ⟶ $(R_1+R_2)_{IDM}$, its syntactic category as well as its meaning; and at the syntactic level, the whole structure is influenced.

(III) Below are the rules established for morphosyntactic processes that involve lexical information:

(a) A morphosyntactic rule that is based on morphosyntactic processes that are triggered by categorial information is as below:

$$S\rightarrow (NP)+\begin{Bmatrix}COP\\ AGRs+\ T+\ V\end{Bmatrix}+\begin{Bmatrix}ADJP\\ NP/\ ADV/\ PP\end{Bmatrix}$$

The categorial information provided for individual words in the lexicon states their categorial property, determines their morphological structure and the meaning. At the syntactic level, this information determines their syntactic distribution; hence, influencing the entire structure.

(b) A morphosyntactic rule that is based on morphosyntactic processes that are triggered by subcategorial information is as below:

S→ NP+ AGRs+ T/ ASP+ $V_{INTR/\ MTR/\ DTR}$

The subcategorisation information of the word (verb) determines the structure of the whole sentence with regard to the type of the linguistic elements to occur in the structure and their syntactic distribution.

(c) A morphosyntactic rule that is based on morphosyntactic processes that are triggered by selectional information is as below:

S→ ***NP***+ AGRs+ T+ ***V***+ (***N***)+ (***N***)

The semantic information born by the verb (***V***) triggers the occurrence of the two optional nouns (***N)*** & (***N***), together with the ***NP*** in subject position; they bear very specific semantics that is dependent on the semantics of the verb. This information is morphosyntactic.

(d) A morphosyntactic rule that is based on morphosyntactic processes that are triggered by thematic information is as below:

S→ AGENT/ EXP+ AGRs+ T/ ASP+ ***V***+ THEME/ LOC

The thematic information that is born by the verb determines the type of arguments that are to occur in the structure; they should be able to receive the specific theta roles born by the verb. This information is morphosyntactic.

(IV) Rules for established morphosyntactic processes that involve class no-changing word formation processes are as below:

(a) A rule that describes the relationship that holds between the D-structure and the passive construction is:

NP_1+ AGRs+ T+ V+ NP_2 → NP_{2i}+ AGRs+ T+ V+ ***PASS***+ t_i+ (P+ NP_1)

The passive morphology (***PASS***) has relevance to the word (verb) as well as to the entire sentence structure.

(b) A morphosyntactic rule that is based on morphosyntactic processes that are triggered by the properties of the interrogative pronoun is:

NP+ AGRs+ T/ASP+ V+ $PRON_{INTER}$→ COP+ $PRON_{\boldsymbol{INTER}i}$+ AGRs+ T/ ASP+ ***REL*** (***AGRo***)+ V+ t_i+ NP

The properties of the interrogative pronoun influence the structure of the word (verb) as well as the whole sentence.

(c) For morphosyntactic processes that are triggered by the causative morphology, the rule that describes the relationship that holds between the D-structure and the S-structure is as below:.

NP_1+ AGRs+ T+ ASP+ V+ (NP_2)→$\boldsymbol{NP_N}$+ AGRs+ T+ AGRo+ $V_{\boldsymbol{CAUS}}$+ NP_1+ (NP_2)

The causative morphology (***CAUS***) alters the verbal morphology and its meaning; as well as the entire sentence structure; it necessitates the creation of a new ($\boldsymbol{NP_N}$), the causer, as well as rearranging the other elements in the structure.

(e) For morphosyntactic processes that are triggered by the Applicative morphology, the rule is as below:

NP_1+ AGRs+ T/ASP+ V+ NP_2→ NP_1+ AGRs+ T+ ***AGRo***+ $V_{\boldsymbol{APPL}}$+ $\boldsymbol{NP_N}$+ NP_2

The Applicative morpheme alters the verbal structure and meaning as well as the structure of the entire sentence by creating new elements, that is, ***AGRo***, ***APPL*** & $\boldsymbol{NP_N}$ .It also moves elements from their original syntactic position.

(f) For morphosyntactic processes that are triggered by the stative morphology, the rule is as below:

NP_1+AGRs+ T/ ASP+ V+ (NP_2)→ NP_{2i}+ AGRs+ T/ ASP+ $V_{\boldsymbol{STAT}}$+ t_i

The stative morpheme alters the verbal morphology, the meaning as well as the structure of the whole sentence by moving the elements ($\boldsymbol{NP_{2i}}$) as well as deleting others (initial AGENT at the D-structure).

(IV) Rules for the morphosyntactic processes that involve anaphoric relations are as below:

(a) Those morphosyntactic processes that are triggered by the reflexive morphology, the rule is:

NP_{1i}+ AGRs+T/ASP+ $AGRo_i$+V+ NP_{2ij}→ NP_{1i}+ $AGRs_i$+ T/ASP + $\boldsymbol{REFL_i}$+ V

The reflexive morpheme (***REFL***) alters the verbal structure as well as the sentence structure by deleting some elements. Therefore interface between morphology and syntax is observed. Likewise the binding of the reflexive is morphosyntactic.

(b) For the morphosyntactic processes that are triggered by the reciprocal morpheme, the rule is as below:

NP_1+ $AGRs_1$+ T_1/ASP_1+$AGRo_1$+ V_1+ NP_2+ CONJ+ NP_2 $AGRs_2$+ T_2/ASP_2+$AGRS_2$+ V_2+ NP_1→ $\boldsymbol{NP_N}$+ ***AGRs***+ T/ ASP+ $V_{\boldsymbol{REC}}$

The reciprocal morpheme alters the verbal structure as well as the structure of the whole sentence by creating a new argument ($\boldsymbol{NP_N}$) and new agreement features (***AGRs***). The binding of the reciprocal is also morphosyntactic.

(c) The rule describing the morphosyntactic processes that are triggered by pronominalisation process is:

S→ (NP_{1i})+ AGR_{Si}+ T+ V_1+ C+ $\boldsymbol{PRON_i}$+ $\boldsymbol{AGRs_i}$+ T/ ASP+ $AGRo_j$ + V_2+ NP_{2j}

The person feature that is marked on the pronoun influences the verbal structure as well as the entire sentence structure. Binding of the pronoun in its anaphoric function is morphosyntactic.

(d) The rule that describes the established morphosyntactic processes that are triggered by the features of pro is:

S→ (NP_{1i}+ AGR_{Si}+ T+ V_1+ C)+ $\boldsymbol{pro_i}$+ $\boldsymbol{AGRs_i}$+ T/ ASP+ V_2+ (NP_2) (ADV) (POSTP)

The features of pro influence the verbal structure as well as the whole sentence structure.

Binding of pro is morphosyntactic.

(f) Two rules account for the established morphosyntactic processes that are triggered by controlled PRO.

Rule (i) for structures that involve subject controlled PRO

Rule (ii) for structures with object controlled PRO. The rules are:

Rule (i) S→ $\boldsymbol{NP_i}$+ $\boldsymbol{AGR_{Si}}$+ T/ ASP+ V+ $\boldsymbol{PRO_i}$+ ***INF***+ (REFL)+ V

Rule (ii) S→ NP_1+ AGR_S+ T/ ASP+ $AGRo_i$ + V+ NP_{2i}+ $\boldsymbol{PRO_i}$ + ***INF***+ V

In both rules, PRO has a morphological as well as a syntactic consequence.

Binding of PRO is morphosyntactic.

The established morphosyntactic rules describe many more similar structures in Kiswahili. This is line with the transformational generative theory being applied.

Under each heading, that is, each morphosyntactic process, the analysis of morphology-syntax interface has been done based on the various morphosyntactic categories that had been identified. For each category, the analysis was done under four major levels; namely:

(i) ***Morphological level***:

Under this level, the effect of the identified morphosyntactic category on the word was established.

(ii) ***Syntactic level***:

Under this level, the morphosyntactic relevance of the category in question on the syntactic structure was established.

(iii) ***Rule level***.

The morphosyntactic processes that had been established were formalised into rules. As shown in the discussion, the finite set of rules given describes an infinite number of similar constructions in Kiswahili. This follows from the transformational generative theory of grammar that has been applied.

(iv) Phrase marker representational level:

Established morphosyntactic processes have been represented on phrase markers. This was done in order to make explicit the morphosyntactic processes that had been established. Such phrase markers show a reflection of what happens in the mind of speakers when producing such structures. This is the emphasis of the transformational generative theory, which perceives language as a system of rules that are internalised in the human mind.

Finally, a brief mention of what happens in other languages (without necessarily engaging in detailed discussions of morphosyntactic operations in such languages), has been done. However, focus has been on Kiswahili morphosyntax because as mentioned in the literature review, this is a language, in which studies on the morphology-syntax interface have not been exhaustively done, especially, based on the transformational generative theory.

In conclusion therefore, the research questions have been answered.

5. 3 Recommendations

This study confined itself to five areas of morphology-syntax interface in Kiswahili. There are other areas of interest in Kiswahili that need to be investigated; these include antipassives and clitics. The study of clitic pronoun system is of considerable interest in current theories of syntax, especially the Minimalist Approach. This is because in most languages there is an interaction between clitization and argument structure, which is an illustration of morphology-syntax interface. The question at hand is whether the same is true to Kiswahili. Future research work on the interaction between morphology and syntax will need to focus on clitization and antipassives as morphosyntactic categories.

Likewise, in this study, the transformational generative theory of grammar has been applied in analysing the morphosyntax of Kiswahili. From the analysis, it has been observed that this theory does not appropriately handle the morphosyntactic features of Kiswahili. Being an agglutinating language, Kiswahili makes use of so many agreement features that carry meaning that is relevant to the levels of morphology and syntax. .However, as observed, such features are not catered for in T. G. G. This is why we resorted to using arrow notations to show the relationship that holds between agreement features and the NPs from which such features are derived. Other theories could as well be applied in future studies. One such model is the minimalist approach, which was also advanced by Chomsky but deviates from the purely generative approach as illustrated in this piece of work. This theory can better handle agreement features because in this approach such features are assumed to be present in the lexicon and as such the already inflected nouns and verbs are base generated in the verb phrase under their respective heads. Consequently, movement of NPs and the verb under the Minimalist approach is only for feature checking. This is an area of study that still has a lot to be exploited, especially using the more recent theories of grammar.

Based on the findings of the study, it has been shown that the binding of NPs in Kiswahili are not just syntactic but rather morphosyntactic. This type of binding has not been dealt with in the previous studies, neither has it been dealt with in the study of Kiswahili. Consequently, further detailed research is required in this area not just on the elements that have been considered in this study but also on those that have not been dealt with at all.

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APPENDICES

Appendix 1: Primary Source

List of Kiswahili Grammar Books from which some of the words and sentences were sought

Kapinga, M. C. (1983): *Sarufi Maumbo ya Kiswahili*. Dar es Salaam. TUKI.

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Appendix 2: Primary Data

Group A1: Words

Mti 'tree'

Juu ya 'On top of'

Anasoma 'He/ she is reading'

Amesoma 'He/ she has read'

Refusha 'lengthen'

Anahitaji 'He/ she needs'

Mnaimba 'You are singing'

Nini 'What'

Kuliko 'than'

Akitunga 'He/ she be composing'

Mimi 'I/ me'

Zuri 'good'

Haraka 'quickly'

Uongozi 'leadership'

Zaidi 'more/ most'

Kisu 'knife'

Kikoloni 'colonially'

Lima 'dig'

Akija 'If he/ she comes'

Watu 'people'

Hula ‘He/ she eats’
Laki ‘welcome’
Ndiwe ‘you’
Tajiri ‘rich’
Wanakuja ‘They are coming’
Unasoma ‘You are reading’
Yeye ‘Him/ her’
Kuzidi ‘than’
Kula mwata ‘get trouble’
Mpa ‘give’
Furahi ‘be happy’
Kushiriki ‘participating’
Wanakuja ‘they are coming’
Okotwa ‘be picked’
Alienda ‘He/she went’
Udhika ‘disappointed’
Pandisha ‘make to climb’
Uliimba ‘You sang’
Nao ‘they/ them’
Andikwa ‘be written’
Somesha ‘teach’
Andika ‘write’
Lia ‘cry’
Fulia ‘wash for’
Kaa ‘sit’
Zalisha ‘produce
Sahaulika ‘forgettable’
Chezesha ‘cause to play’
Dhulumu ‘mistreat’
Hamisha ‘transfer’
Nanyi ‘and you(pl)/ with you (pl)

Fagia ‘sweep’
Ninalima ‘Iam digging’
Tunaimba ‘We are singing’
Ndimi ‘Iam’
Zimia ‘faint’
Ndiwe ‘you’
Jino ‘tooth’
Vikombe ‘cups’
Kimevunjika ‘It is broken’
Nasi ‘We/ us ’
Kusoma ‘reading’
Haribu ‘destroy’
Mno ‘more/ most’
Somwa ‘be read’
Nani ‘who’
Shika ‘hold’
Ipi ‘which’
Salimu amri ‘admit defeat’
Asingelitubu ‘If he/ had not repented’
Lini ‘when’
Lalisha ‘make to sleep’
Hema ‘pant’
ruka ‘jump’
Kupita ‘than’
Mshonaji nguo ‘tailor’
Nguo ya mtoto ‘the child’s cloth’
Shika doria ‘be in charge’
Mchungwa ‘orange tree’
Kizembe lazily’
Kama ‘as’
Lika ‘eatable’

Ataimba 'He/ she will sing'

Anafurahi 'He/ she is happy'

Kutoka 'from'

Mnafagia 'You are sweeping'

Chezea 'play for

Tembeleka 'walkable'

Barua ya mama 'mother's letter'

Akiogelea 'He/ she be swimming'

Katia 'cut for'

Onwa 'be seen'

Mwandishi habari 'News writer'

Soma 'read'

Gonga 'hit'

Fyata ulimi 'shut up'

Lambwa 'be licked'

Imbika 'singable'

Kalamu ya baba 'Father's pen'

Anajipenda 'He/ she loves himself/ herself'

Chukulia 'take for'

Kulala 'to sleep'

Wanajiamini 'they trust themselves'

Anajisukuma 'He/ she is pushing himself/ herself'

Fungamana 'tieable'

Funikika 'coverable'

Nguo za Dani 'Dani's cloths'

Kujimaliza 'to finish oneself'

Njugu karanga 'roasted groundnuts'

Tunacheza 'We are playing'

Imbisha 'cause to sing'

Safisha 'clean'

Kushinda 'than'

Kijinga 'foolishly'

Anajivaa 'He/ she is dressing'

Safirisha 'transport'

Kwa 'with'

Ataandika 'He/ she will write'

Ndio 'they/ them'

Msichana 'girl'

Ng'oa nanga 'take off'

Mwalimu 'teacher'

Lala 'sleep'

Walicheza 'they played'

Someka 'readable'

Paswa 'be ironed'

Kike 'womanly'

Chekeka 'laughable'

Kula 'eat'

Upungufu 'shortage'

Kiume 'manly'

Somea 'read for'

Shuka 'descent/ sheet'

Taka 'want'

Maskini 'poor/ the poor'

Kucheza 'to play'

<u>Group B1: Phrases</u>

- [NP M- ti m- zuri].

GEND/ SG- tree GND/ SG- good

'A good tree.'

- [NP Wa- tu wa- chache].

  GEND/ PL- person GEND/ PL- few

  'Few people.'

- [NP Vi- kombe vy- ote].

  GEND/ PL- cup GEND/PL all

  'All cups.'

- [NP M- toto m- dogo].

  GEND/ PL- child GEND/ PL- small

  'A small child.'

- [NP Ma- yai m- engi].

  GEND/ PL- egg GEND/ PL- a lot

  'Many eggs.'

<u>Group C1: Sentences</u>

- Ji- no li- me- vunjik- a.

  GEND/SG- tooth GEND/SG- PERFF- break VS[8]

  'The tooth is broken.'

- Maria a- na- som- a sasa.

  Mary AGRs- PROG read VS now

  'Mary is reading now.'

- Maria a- me- som- a ki- tabu ch- ote.

  Mary AGRs- PERFT- read VS SG- book AGRo- all

  'Mary has read the whole book.'

- Yohana a- na- som- a ki- tabu.

  John AGRs- PROG- read- VS SG- book

  'John is reading a book.'

- Yohana ni m- kubwa sana/ zaidi kuliko dada- ake.

  John is SG-big COMP sister- POSS

  'John is bigger than his sister.'

- Maria a- na- kuj- a.

Mary AGRs- PROG- come- VS

'Mary is coming.'

- Sarah ni mw- andi- shi.

  Sarah COP- DER- write- DER

  'Sarah is a writer.'

- Ha- ø ø lal- i

  NEG- AGRs- T- sleep- VS

  'He/ she is not sleeping.'

- Maria a- na- hema baada ya ku- kimbia.

  Mary AGRs- PROG- pant after DER- run

  'Mary is panting after running.'

- A- li- maliza kazi haraka.

  He/ she- PAST- finish work fast

  'He/ she finished work very fast.'

- Maria a- na- ji- va- a.

  Mary AGRs- PROG- REFL- dress- VS

  'Mary is dressing herself.'

- Mw-anafunzi na mw- alimu wa- li- salimi- an- a.

  SG- student and SG- teacher AGRs- PAST- greet- REC- VS

  'The student and the teacher greeted each other.'

- Baba a- me- furahi.

  Father AGRs- PERFT- happy

  'Father is happy.'

- Dani a- li- m- kat- i- a Hamadi m- ti.

  Dani AGRs- PAST-AGRo- cut APPL- VS Hamadi SG- tree

  'Dani cut a tree for Hamadi.'

- Nini a- na- cho- haribu Maria

  What AGRs- PROG- AGRo- spoil Mary

  'What is Mary spoilling.'

- Yohana a- li- m- pa baba kalamu.

  John AGRs- PAST- AGRo- give father pen.

'John gave father a pen.'

- Yohana a- na- ji- pend- a .
  John SG- PROG- REFL- love- VS
  'John loves himself.'
- Nguo hii ni nzuri.
  Cloth DEM COP good
  'This cloth is good.'
- Mama a- me- m- zuia m- toto ku- lala.
  Mother AGRs- PERFT- AGRo- forbid SG- child INF- sleep
  'Mother has forbidden the child to sleep.'
- M- toto a- li- kaa kwa ki- ti.
  SG- child AGRs- PAST sit on SG- chair
  'The child sat on the chair.'
- Jani hu- ongoza wa- tu ki- koloni.
  Jani HAB- lead PL- person DER- colonial
  'Jani leads people colonially.'
- Mosi a- na- ji- sukum- a.
  Mosi AGRs- PROG REFL- push- VS
  'Mosi is pushing himself.'
- Bakari a- li- dai ya kwamba Amina a- na- m- dharau yeye.
  Bakari AGRs- PAST- claim REL Amina AGRo- PRES- AGRs- despise him
  'Bakari claimed that Amina despises him.'
- A- ki- j- a ni- ta- end- a.
  3SG- COND- come VS ISG- FUT- go VS
  'If he comes, I will go.'
- Shimo li- li- funik- ik- a
  SG-hole AGRs- PAST- cover- STAT- VS
  'The hole was coverable.'
- Yohana a- na- m- som- esh- a Maria.
  John AGRs- PROG- AGRo- teach CAUS- VS Mary
  'John is teaching Mary.'

- Baba a- na- m- chez- esh- a m- toto.

  Father AGRs- PROG- AGRo- play- CAUS- VS SG- child
  'Father is causing the child to play.'
- Barua i- na- som- ek- a.

  letter AGRs- PROG-read- STAT- VS

  'The letter is readable.'
- Roni a- li- mw- ambi- a ya kwamba a- ende a- mw- on- e.

  Roni AGRs- PAST- AGRo- tell VS REL AGRo-go AGRo-AGRo-see-VS

  'Roni told him/ her to go and see him/ her.'
- Rehema a- na- som- e- a Mariam ki- tabu.

  Rehema AGRs- PROG- read- APPL- VS Mariam SG- book

  Rehema is reading the book for Mariam.'
- Yohana a- na- m- som- esh- a Maria.

  John AGRs- PROG- AGRo- teach CAUS- VS Mary

  'John is teaching Mary.'
- U- ngeli- kuj- a u- ngeli- m- pat- a.

  2SG- CONT- come VS 2SG- CONT- AGRo- find VS

  'If you had come, you would have found him.'
- Maria a- li- u- fyata ulimi darasa- ni.

  Mary AGRs-PAST- AGRo- quiet- tongue class POSTP

  'Mary kept quiet in class.'
- Maria a- li- leta hema.

  Mary AGRs- PAST- bring tent

  'Mary brought a tent.'
- Jani a- li- m- pa m- toto maziwa.

  Jani AGRs- PAST- AGRo- give SG- child milk

  'Jani gave milk to the baby.'
- Mama a- na- fu- li- a m- toto bulangeti

  Mother AGRs- PROG- wash APPL- VS SG- child blanket

  'Mother is washing a blanket for the child.'
- Wa- ta- chez- a.

AGRs- FUT- play- VS

'They will play.'

- Wa- toto wa- na- taka ku- cheza.

  PL- child AGRs- PROG- want INF- play

  'The children want to play.'

- Jani a- li- osh- a nguo za Dani.

  Jani AGRs- PAST- wash VS cloth POSS Dani

  'Jani washed Dani's cloths.'

- Wewe u- na- ji- dhamini.

  2SG- AGRs- PROG- REFL- value

  'You value yourself.'

- Mama a- na- zingatia u- safi .

  Mother AGRs- PROG- emphasise DER- clean.

  'Mother emphasises on cleanliness

- Maria a- li- fanya kazi ki- zembe.

  Mary AGRs- PAST- do work DER- lazy

  'Mary worked lazily.'

- Jani a- li- m- lazim- ish- a Dani ku- l- a.

  Jani AGRs- PAST- AGRo- force- CAUS VS Dani INF- eat- VS.

  'Jani forced Dani to eat.'

- Maria a- li- shik- a m- toto/ ki-su.

  Mary AGRs- PAST- hold VS SG- child/ knife

  'Mary held the child/ knife.'

- Barua i- na- som- ek- a.

  letter AGRs- PROG-read- STAT- VS

  'The letter is readable.'

- Ji- we li- li- okot- w- a na Juma

  SG- stone AGRs- PAST- pick PASS VS by Juma

  'The stone was picked by Juma.'

- Wapi a- na- ko- enda m- sichana ?

  Where AGRs- PROG- AGRo- go SG- girl

'Where is the girl going?'

- Jani a- na- m- tak- a.

  Jani AGRs- PROG- AGRo- want- VS

  'Jani wants him/ her.'

- Nini a- na- cho- haribu Maria?

  What AGRs- PROG- AGRo- spoil Mary
  'What is Mary spoilling.'

- Nani u- na- ye- m- tafut- a?

  Who 2SG- PROG- REL-AGRo- search- VS

  'Who are you looking for.'

- Maria a- na- pend- a ku- soma.

  Mary AGRs- PROG- love VS DER- read

  'Mary loves reading.'

- Yeye a- na- ni- hitaj- i mimi.

  He/ she AGRs- PROG- AGRo- need- VS 1SG

  'He/ she needs me.'

- Juma a- na- chez- e- a Yohana.

  Juma AGRs- PROG- play- APPL- VS John

  'Juma is playing for John.'

- Mama a- li- chuku- li- a baba m- koba.

  Mother AGRs- PAST- take- APPL- VS father SG- bag
  Mother took the bag for father.'

- Mama a- li- nunu- a ki- kombe ch- a m- toto.

  Mother AGRS- PAST- buy- VS SG- cup SG-POSS SG- child

  'Mother bought the child's cup.'

- Mw-anafunzi na mw- alimu wa- li- salimi- an- a.

  SG- student and SG- teacher AGRs- PAST- greet- REC- VS

  'The student and the teacher greeted each other.'

- Maria a- li- harib- u ki- tabu.

  Mary AGRs- PAST- spoil- VS SG- book

  'Mary spoiled the book.'

- Jani a- na- ***m-*** tak- a ***pro***.

Jani AGRs- PROG- AGRo- want- VS Pro

'Jani wants him/ her.'

- Roni a- li- ***mw-*** ambi- a ya kwamba [***pro a-*** ende ***a-*** mw- on- e].

  Roni AGRs- PAST- AGRo- tell VS REL Pro AGRo-go AGRo-AGRo-see-VS

  'Roni told him/ her to go and see him/ her.'

- Baba ni m- nene kuliko mama.

  Father COP SG- fat COMP mother

  'Father is fatter than mother.'

- Yeye ni m- chimba vi- sima.

  3SG- COP- SG- dig PL- well

  'He/ she is a well-digger.'

- M- sichana a- me- pote- a.

  GEND/ SG – girl GEND/ SG- PERFT- lose VS

  'The girl is lost.

- Mimi ni- na- lim- a.

  I am AGRs- PROG- plough VS

  'I am ploughing.'

- Baba a- na- m- pand- ish- a Suleimani m- ti.

  Father AGRs- PROG- AGRo- climb- CAUS- VS Suleiman SG- tree

  'Father is causing Suleiman to climb a tree.'

- Mama a- na- m- lala- ish- a m- toto.

  Mother AGRs- PROG- AGRo- sleep- CAUS- VS SG- child

  Mother is causing the baby to sleep.'

- Baba a- me- za- lish- a mbegu nyingi.

  Father AGRs- PERFT- produce- DER- VS seed a lot

  'Father has produced a lot of seeds.'

- Yohana ni mw- enda pole.

  John COP SG- go slowly

  'John is a slow gower.'

- M- zee yuko ndani ya nyumba.

  SG- old man 3SG- PRES- inside house

'The old man is inside the house.'

- Neema a- li- salimu amri.
  Neema AGRs- PAST- greet order
  'Neema admitted defeat.'
- M- me- og- a.
  AGRs- PERFT- bath- VS
  'You have bathed.'
- Maria a- li- sema ya kwamba a- ta- kuj- a kesho.
  Maria AGRs- PAST-say REL AGRs- FUT- come VS tomorrow
  'Mary said that she will come tomorrow.'
- Maria a- li- amua ku- ji- maliz- a.
  Mary AGRs- PAST- decide INF- REFL- finish VS
  'Mary decided to finish herself.'
- Roni a- li- mw- ambi- a ya kwamba a- ende a- mw- on- e .
  Roni AGRs- PAST- AGRo- tell VS REL AGRo-go AGRo- AGRo-see-VS
  'Roni told him/ her to go and see him/ her.'
- Wewe u- li- dhani ya kwamba Jani a- na- ku- penda.
  You AGRs- PAST- think REL Jani AGRo- PROG- AGRs- love
  'You thought that Jani loves you.'
- Mama a- na- m- fanya m- toto a- lal- e.
  Mother AGRs- PROG- AGRo- CAUS SG- child AGRo- sleep- SUBJ
  'Mother is causing the child to sleep.'
- Ki- tabu ki- na- som- w- a na mw- anafunzi.
  SG- book AGRs- PROG- read- PASS- VS by SG- student
  'The book is being read by the student.'
- Yohana a- li- kuwa a- ki- ogelea.
  John AGRs- PAST- AUX- AGRs- IMPERF- swim
  'John was swimming.'
- Ch- akula ki- na- l- ik- a.
  SG- food AGRs- PROG- eat- STAT- VS
  'The food is eatable.'

- Paka a- li- kul- i- a mbwa ch- akula.

  Cat AGRs- PAST- eat- APPL- VS dog SG- food

  'The cat ate food for the dog.'

- Jani a- na- fagi- a nyumba.

  Jani AGRs- PROG- sweep- VS house

  'Jani is sweeping the house.'

- Tajiri a- me- aga dunia.

  Rich AGRs- PERFT- die

  'The rich has died.'

- Maria na Hadija wa- na- pend- an- a.

  Mary and Hadija AGRs- PROG- love REC- VS

  'Mary and Hadija love each other.'

- U- na- ni- pend- a mimi.

  2SG- PROG- 1SG- love- VS 1SG

  'You love me.'

- Ki- ti ki- me- vunjik- a sasa hivi.

  SG- chair AGRs- PERFT break- VS now

  'The chair has just broken right now.'

- Ji- na l- ake li- li- sahau- lik- a.

  SG- name SG- POSS AGRs- PAST- forget- STAT- VS

  'His/ her name was forgotten.'

- M- sichana a- na- end- a wapi?

  SG- girl AGRs- PROG- go- VS where

  'Where is the girl going?'

- Mama a- me- safi- sha nguo.

  Mother AGRs- PERFT- clean- DER cloth

  'Mother has cleaned the cloth.'

- A- ta- imb- a shule- ni.

  AGRs- FUT- sing VS school- POSTP

  'He/ she will sing in shool.'

- Tu- ta- andik- a barua.

  1PL- FUT- write- VS letter

'We will write the letter.'

- Wa- linzi wa- li- shika doria usiku kucha.
  PL- security PL- PAST- hold duty night long
  'The security people took charge all night long
- Ni- li- mw- it- a Yohana [IP lakini yeye a- li- kata- a.
  1SG- PAST- AGRo- call VS John but 3SG- AGRo- PAST- refuse-VS
  'I called John but he refused.'
- Jani a- li- m- lazim- u Dani [PRO ku- l- a].
  Jani AGRs- PAST- AGRo- force- VS Dani PRO INF- eat- VS.
  'Jani forced Dani to eat.'
- Mama a- me- m- zuia m- toto [PRO ku- lala].
  Mother AGRs- PERFT- AGRo- forbid SG- child INF- sleep
  'Mother has forbidden the child to sleep.'
- Maria a- li- gonga u- kuta.
  Mary AGRs- PAST- hit SG- wall
  'Mary hit the wall.'
- Mama/ m- bwa a- li- zimia.
  Mother/ SG- dog AGRs- PAST- faint
  'Mother/ the dog fainted.'
- M- fupi kama nyundo.
  SG- short COMP hammar
  'As short as a hammar.'
- U- li- imb- a mwaka jana.
  AGRs- PERFT- sing- VS year last
  'You sang last year.'
- Yusufu a- me- anz- a ku- lalamik- a.
  Joseph AGRs- PERFT- start- VS INF complain- VS
  'Joseph has started complaining.'
- Mepu a- na- tak- a ku- ji- u- a.
  Mepu AGRs- PROG- want- VS INF- REFL- kill- VS
  'Mepu wants to kill himself.'

- Mimi ni- na- som- a.

  1SG 1SG- PROG- read- VS

  'Iam reading.'

- Wewe u- na- ji- dhamini.

  2SG- AGRs- PROG REFL- value

  'You value yourself.'

- Wa- ta- chez- a.

  AGRs- FUT- play- VS

  'They will play.'

- M- me- og- a.

  AGRs- PERFT- bath- VS

  'You have bathed.'

- Mw- alimu a- na- kuj- a lini?

  SG- teacher AGRs- PROG- come VS whent?

  'When is the teacher coming?'

- Mama a- li- nunu- li- a m- toto nguo.

  Mother AGRs- PAST- buy- APPL- VS SG- child cloth

  'Mother bought a cloth for the child.'

- Wa- toto wa- na- taka ku- chez- a.

  PL- child AGRs- PROG- want INF- play- VS

  'The children want to play.'

- Hadija a- me- end- a ku- lal- a.

  Hadija AGRs- PERFT- go- VS INF- sleep- VS

  'Hadija has gone to sleep.'

- Bakari a- li- dai ya kwamba yeye a- na- m- dharau Amina.

  Bakari AGRs- PAST- claim REL 3SG AGRs- PROG- AGRo- despise Amina

  'Bakari claimed that he despises Amina.'

- Wimbo u- na- imb- ik- a.

  SG- song AGRs- PROG- sing- STAT- VS

  'The song is singable.'

- Mosi a- na- ji- sukum- a.

  Mosi AGRs- PROG- REFL- push- VS

'Mosi is pushing himself.'

- Jani a- li- dhani ya kwamba wewe u - na- m- penda.
  Jani 3SG- PAST- think REL 2SG AGRo- PROG- AGRs- love
  'Jani thought that you love him.'
- Maria a- li- sema ya kwamba a- ta- kuj- a kesho. Maria AGRs-
  PAST-say REL AGRs- FUT- come VS tomorrow
  'Mary said that she will come tomorrow.'
- Maria a - li- amu- a ku- ji- maliz- a.
  Mary AGRs- PAST- decide- VS INF- REFL- finish VS
  'Mary decided to finish herself.'
- M- toto a- na- lal- a.
  SG- child AGRs- PROG- sleep VS
  'The child is sleeping.'
- Nyoka a- li- on- w- a na m- toto m- fupi.
  Snake AGRs- PAST- see- PASS- VS by SG- child SG- short
  'The snake was seen by the short child.'
- M- toto a- li- chuku- li- a baba kalamu.
  SG- child AGRs- PAST- take- APPL- VS father pen
  'The child took the pen for the father.'
- Yohana a- na- ji- pend- a .
  John SG- PROG- REFL- love- VS
  'John loves himself.'
- Wa- toto wa- na- ji- sukum- a.
  PL- child PL- PROG- REFL- push- VS
  'Children are pushing themselves.'
- Hamisi na Rajabu wa- li- aibish- an- a.
  Hamisi and Rajabu PL- PAST- embarrass- REC- VS
  'Hamisi and Rajabu embarrassed each other.'
- U- na vi- tabu vi- ngapi?
  2SG COP- PL- book PL- how many
  'How many books do you have?
- Jani a- li- osh- e- a Dani nguo.

Jani AGRs- PAST- wash- APPL- VS Dani cloth

'Jani washed cloths for Dani.'

- Jani na Jeni wa- li- on- an- a.

  ani and Jeni AGRs- PAST- see REC- VS

  'Jani and Jeni saw each other.'

- Mw- alimu a- na- wa- imb- ish- a w- anafunzi.

  SG- teacher AGRs- PROG- AGRo- sing- CAUS- VS PL- student

  'The teacher is causing the students to sing.'

- Shimo li- li- funik- ik- a

  SG-hole AGRs- PAST- cover- STAT- VS

  'The hole was coverable.'

- Maria na Rehema wa- li- kiri kwamba wao wa- na- pend- a

  Mary and Rehema AGRs- PAST admit REL- 3PL- AGRs- PROG- love- VS

  ku- imba].

  GER- sing

  'Mary and Rehema confessed that they love singing.'

After classifying the data into three major groups, that is, that of words, phrases and sentences, the same data were reclassified according to shared attributes; in this case, according to the morphosyntactic category that triggers morphology-syntax interface. This classification was done at the morphological and syntactic level. Consequently, two major groups were identified. **Group A2** had words while group **B2**& **C2** had phrases and sentences. The last two groups were combined because they both involve analysis at the syntactic level. Based on this classification, analysis was done to establish the morphosyntactic processes that occur in Kiswahili.

Group A2: Words

Under ***group A2***, several classes were identified based on the shared characteristics of the morphosyntactic categories that trigger morphology-syntax interface.

A. Words that bear grammatical categories of inflectional morphology:

Under this class, further sub-division was done based on the specific morphosyntactic categories of inflectional morphology. Consequently, several sub-classes were identified as below:

- ***Those that are marked for the morphosyntactic category of gender and number:***

The two categories were handled together because in Kiswahili, gender and number are marked by the same morpheme. The words are as follows:

A2 (1) Mti 'tree'

A2 (2) Watu 'people'

A2 (3) Mtoto 'child'

A2 (4) Mayai 'eggs'

A2 (5) Kisu 'knife'

A2 (6) Jino 'tooth'

A2 (7) Msichana 'girl'

- ***Words that are marked for the morphosyntactic category of tense***. These are:

A2 (8) Alisoma 'He/ she is read'
A2 (9) Atakula 'He/ she will eat'
A2 (10) Hakijavunjika 'It didn't break'

A2 (11) Akija 'If he/she comes'

A2 (12) Ungelikuja 'If you had come'

A2 (13) Asingalitubu 'If he/she hadn't repented'

- ***Words that bear the morphosyntactic category of person***. They are:

A2 (14) Mimi 'me/ I'

A2 (15) yeye 'him/ her'

A2 (16) Nasi 'and we/ and us'

A2 (17) Ndimi 'It is I'

A2 (18) Ndiwe 'It is you'

- ***Words that are marked for the morphosyntactic category of Aspect.*** They are:

A2 (19) Amesoma 'He/ she has read'

A2 (20) Ninalima 'I amdigging'

A2 (21) Uliimba 'You sang'

A2 (22) Akiogelea 'He/ she be swimming'

A2 (23) Akitunga 'He/ she be composing'

- ***Words that are marked for the morphosyntactic category of the comparison***. These are:

A2 (29) Kuliko 'than'

A2 (30) Sana/ zaidi/ mno 'more/ most'

A2 (31) Kama 'As/ like'

A2 (32) Kuzidi ‘than’

A2 (33) Kupita ‘than’

A2 (34) Kushinda ‘than’

A2 (35) Zaidi ya ‘more than’

B. Words that are formed from different class- changing word formation processes.

Three types of processes were identified; namely: derivational, compounding and idiomization processes. In each process, either there are specific derivational affixes that are morphosyntactic or the processes themselves are morphosyntactic.

- ***Words formed from derivational processes***: Under this class, there are different sub-clsses of words that are based on the specific derivational affixes used in deriving the derivatives. These are:

(1) Those that result from nominalisation; these are:

A2 (36) kusoma ‘reading’

A2 (37) Kushiriki ‘participating’

A2 (38) upungufu ‘shortage’

A2 (39) uongozi ‘leadership’

A2 (40) usafi ‘cleanliness’

A2 (41) undani ‘insideness’

A2 (42) mchungwa ‘orange tree’

(2)Those that result from verbalisation. They include the following:

A2 (43) dhulumu ‘mistreat’

A2 (45) safisha ‘clean’

A2 (46) refusha ‘lengthen’

(3)Words that are as a result of adverbialisation. They are:

A2 (47) kijinga ‘foolishly’

A2 (48) kizembe ‘lazily’

A2 (49) kiume ‘manly’

A2 (50) kikoloni ‘colonially’

(4) Words that are a result of conversion process. They are:

A2 (51) hema ‘tent’

A2 (52) kaa ‘charcoal’

A2 (53) laki ‘one hundred thousand’

A2 (54) shuka ‘sheet’

A2 (55) taka ‘litter’

A2 (56) maskini ‘the poor’

A2(57) tajiri ‘the rich’

- ***Words that are derived through compounding proc*ess**. They are:

A2 (58) mwandishi habari ‘newswriter’

A2 (59) mshonaji nguo ‘dress marker’

A2 (60) njugu karanga ‘roasted nuts’

A2 (62) mchimba kisima ‘well digger’

- ***Words that are derived through the process of idiomization***. These are:

A2 (63) Ng’oa nanga ‘take off’
A2 (64) Salimu amri ‘admit defeat’

A2 (65) Shika doria ‘be in charge’

A2 (66) Kula mwata ‘get trouble’

A2 (67) Fyata ulimi ‘shut up’

C. Words that are marked for different lexical information within the lexicon.

This information is morphosyntactic. Four types are identified; namely: categorial, subcategorial, selectional and thematic information.

- ***Words used to show effect of categorial information are;***

A2 (68) Soma ‘read’

A2 (69) Mwalimu ‘teacher’

A2 (70) Zuri ‘good’

A2 (71) Haraka ‘quickly’

A2 (72) Kwa ‘to/ by/ with/ at’

A2 (73) Nguo ‘cloth’

- ***Words used to show the effect of subcategorial information*** are:

A2 (74) lala ‘sleep’

A2 (75) gonga ‘hit’

A2 (76) lamba ‘lick’

A2 (77) safiri ‘travel’

A2 (78) hama ‘transfer’

A2 (79) mpa ‘give’

- ***Words used to show the effect of selectional information*** at the morphological level are:

A2 (80) shika ‘hold’

A2 (81) zimia ‘faint’

A2 (82) lima ‘plough’

A2 (83) fagia ‘sweep’

A2 (84) lia ‘cry’

- ***Words used to show the effect of thematic information*** are:

A2 (85) haribu ‘destroy’

A2 (86) kaa ‘sit’

A2 (87) furahi ‘be happy’

A2 (88) ndani ya ‘inside’

A2 (89) kwa ‘with’ or ‘to’

D. Words that are marked with class non-changing derivational affixes.

These words were classified into different sub-groups depending on the type of morphosyntactic feature (morpheme) that they bear. Categories identified under this class are those of passive, causative, stative, the applicative, the interrogative pronoun. Below are words under each category that were used for analysis of morphology-syntax interface:

- ***Those that are marked for the passive morphology***. They are:

A2 (90) lambwa ‘be licked’

A2 (91) okotwa ‘be picked’

A2 (92) onwa ‘be seen’

A2 (93) paswa ‘be ironed’

A2 (94) somwa ‘be read’

A2(95) andikwa ‘be written’

- ***Words that are marked for the causative morphology*** are:

A2 (96) somesha ‘teach’

A2 (97) pandisha ‘cause to climb’

A2 (98) lalisha ‘cause to sleep’

A2 (99) imbisha ‘cause to sing’

A2 (100) chezesha ‘cause to play’

- ***Words that are marked for the stative morphology*** are:

A2 (101) imbika ‘singable’

A2 (102) someka ‘readable’

A2 (103) chekeka ‘laughable’

A2 (104) funikika ‘coverable’

A2 (105) lika ‘eatable’

- ***Words that are marked for the applicative morphology*** are:

A2 (106) katia ‘cut for’

A2 (107) somea ‘read for’

A2 (108) chukulia ‘take for’

A2 (109) chezea ‘play for’

A2 (110) fulia ‘wash for

- ***Interrogative words that bear specific morphosyntactic features*** are

as below:

A2 (111) nani ‘who’

A2 (112) nini ‘what’

A2 (113) ngapi ‘how many’

A2 (114) lini ‘when’

E. Words that involve anaphoric relations.

These are words that either bears affixes that are morphosyntactic or properties that are morphosyntactic. These were classified into four sub-groups depending on the specific morphosyntactic property that they bear. The four types are; anaphors, pronouns, pro and PRO.

- ***Anaphors***: Two types of anaphors were identified; namely: reflexives and reciprocals.

(a) Words that bear reflexive morphemes that trigger morphology-syntax interface are:

A2 (119) anajipenda ‘he/ she loves himself/ herself’

A2 (120) anajidhamini ‘they value themselves’

A2 (121) anajisukuma ‘he/ she pushes himself/ herself’

(b) Words that bear reciprocal morphemes that trigger morphology-syntax interface.

These are:

A2 (122) pendana 'love each other'

A2 (123) oana 'marry each other'

A2 (124) aibishana 'embarass each other'

- ***Pronouns, that bear specific features that are morphosyntactic*** :

A2 (125) Yeye 'him/ her'

A2 (126) Mimi 'I'

A2 (127) Wewe 'you (SG)'

A2 (128) Nyinyi 'you (PL)'

- ***Words used to illustrate the morphosyntactic function of the features of pro:***

A2 (129) Anafurahi 'He/ she is happy'

A2 (130) Tunaandika 'We are writing'

A2 (131) Mmeoga 'You have bathed'

A2 (132) Ulianguka 'You fell'

- ***Words used to illustrate the morphosyntactic function of PRO***:

A2 (133) kujimaliza 'to finish oneself'

A2 (134) kujiua 'to kill oneself'

A2 (135) kula 'to eat'

A2 (136) kulala 'to sleep'

<u>Group B2& C2: Phrases and Sentence:</u>

Just as for words, at the syntactic level, phrases and sentences were classified according to the type of morphosyntactic category that triggered morphology-syntax interface within them. The following are the classes identified; they are based on the words given above:

A. Syntactic structures in which morphology-syntax interface is triggered by inflectional morphology.

Under this type, different sub-groups were identified based on the specific grammatical category of inflectional morphology that triggered interface. Consequently, the following were identified by the researcher:

- ***Structures in which morphosyntactic processes are triggered by gender and number***

category. These are:

B2 (1) [NP ***M-*** ti ***m-*** zuri].

GEND/ SG- tree GND/ SG- good

'A good tree.'

B2 (2) [NP ***Wa-*** tu ***wa-*** chache].

GEND/ PL- person GEND/ PL- few

'Few people.'

B2 (3) [NP ***Vi-*** kombe ***vy-*** ote].

GEND/ PL- cup GEND/PL all

'All cups.'

B2 (4) [NP ***Ki-*** jiko hi- ***cho***].

GEND/ SG- spoon DEM- GEND/ SG

'That spoon.'

B2 (5): [NP ***Pa***hali ***p-*** ake].

GEND- place GEND- POSS

'His place.'

B2 (6): [NP ***Ji-*** no ***l-*** a Bakari].

GEND/ SG- knife GEND/ SG- POSS- Bakari

'Bakari's tooth.'

C2 (6) Gender 1 ***M-*** toto ***a-*** na- ***ye*** li- a- ni w- angu.

GEND/ SG- child GEND/ 3SG-PROG- REL- cry- VS-AUX SG- POSS

'The child who is cryning is mine.'

B2 (7): [NP ***Ma***hali ***mu-*** wili].

GEND- place GEND- NUM

'Two places.'

C2 (4) ***Ji-*** no ***li-*** me- vunjik- a.

GEND/SG- tooth GEND/SG- PERF- break VS

'The tooth is broken.'

C2 (5) ***M-*** sichana ***a-*** me- pote- a.

GEND/ SG- girl GEND/ SG- PERFT- lose VS

'A girl is lost.'

- ***Structures in which morphosyntactic processes are triggered by the category of tense*** are:

C2 (6) Maria a- ***na-*** som- a ***sasa***.

Mary AGRs- PROG read VS now

'Mary is reading now.'

C2 (7) Ki- ti ki- ***me-*** vunjik- a ***sasa hivi***.

SG- chair AGRs- PERFT break- VS now

'The chair has just broken right now.'

C2 (8) A- ***ki-*** j- a ni- ***ta-*** end- a.

3SG- COND- come VS ISG- FUT- go VS

'If he comes, I will go.'

C2 (9) U- ***ngeli-*** kuj- a u- ***ngeli-*** m- pat- a.

2SG- CONT- come VS 2SG- CONT- AGRo- find VS

'If you had come, you could have found him.'

C2 (12) I- ***nge-*** faa tu- mw- it- e tu- m- shauri kabla ya ku- ondok- a.

EXPL-CONT- better 2PL- AGRo call-VS 2PL- AGRo-advice before DER- leave- VS

'It were better we call him/ her and advice him/ her before leaving.'

- ***Structures in which morphology-syntax interface is triggered by the grammatical category of person***. These are:

C2 (10) ***Mimi ni-*** na- som- a.

1SG 1SG- PRES- read- VS

'Iam reading.'

C2 (11) ***Nasi tu-*** na- end- a.

2PL 2PL- PRES- go- VS

'And we are going.'

C2 (13) ***Ndimi ni-*** li- ye- m- let- a.

1SG 1SG- PAST- REL- AGRo- bring- VS

'Iam the one who brougt him/ her.'

C2 (14) Ni- na- ***m-*** penda ***yeye***.

1SG- PROG- AGRo- love 3SG

'I love him/ her.'

C2 (15) ***Ndiwe u-*** li- ye- torok- a.

2SG 2SG- PAST- REL- escape- VS

'It is you who escaped.'

- ***Structures in which interface between morphology and syntax is triggered by the grammatical category of Aspect***. These are:

C2 (16) Maria a- ***me-*** som- a ki- tabu ch- ote.
Mary AGRs- PERFT- read VS SG- book AGRo- all
'Mary has read the whole book.'

C2 (17) Mimi ni- ***na-*** lim- a.
1SG AGRs- PROG- dig VS
'I am digging.'

C2 (18) Yohana a- li- kuwa a- ***ki-*** ogelea.
John AGRs- PAST- AUX- AGRs- IMPERF- swim
'John was swimming.'

- ***Structures in which morphology-syntax interface is triggered by the grammatical category of the comparison***. These are:

C2 (24) Yohana ni m- kubwa ***sana/ zaidi kuliko*** dada- ake.
John COP SG- big COMP sister- POSS
'John is bigger than his sister.'

C2 (25) Yohana ni m- fupi ***kama*** nyundo.
John COP SG- short COMP hammar
'John is as short as a hammar.'

C2 (26) Baba ni m- nene ***kuliko*** mama.
Father COP SG- fat COMP mother
'Father is fatter than mother.'

C2 (27) Bakari ni mw- erevu ***kuzidi*** baba y- ake.
Bakari COP SG- clever COMP father 3SG- POSS
'Bakari is clever than his father.'

B. Syntactic structures in which morphosyntactic processes are triggered by class changing word formation processes.

Three word formation processes were identified; namely: Derivational, compounding and idiomization.

- ***Structures in which derivational morphology triggers morphology –syntax interface***.

Under this class there are different sub-groups identified, based on the shared derivational

properties that trigger morphology-syntax interface. Specifically, four such groups are identified; namely: those that involve nominalisation, verbalisation, adverbialisation and conversion processes.

(1) Morphosyntactic structures that are triggered by nominalization derivational affixes: These are:

C2 (28) Maria a- na- penda ***ku-*** som- a.

Mary AGRs- PROG- love DER- read- VS
'Mary loves reading.'

C2 (29) Sarah ni ***mw-*** andi- ***shi***.

Sarah COP- DER- write- DER
'Sarah is a writer.'

C2 (30) Mama a- na- zingatia ***u-*** safi .

Mother AGRs- PROG- emphasise DER- clean.

'Mother emphasises on cleanliness.'

(2) Morphosyntactic structures that are triggered by verbalisation derivational affixes: These are:

C2 (32) Mama a- me- safi- ***sh-*** a nguo.

Mother AGRs- PERFT- clean- DER- VS cloth

'Mother has cleaned cloths.'

C2 (33) Hamadi a- me- refu- ***sh-*** a kamba.

Hamadi 3SG- PERFT- long- DER- VS rope

'Hamadi has lengthened the rope.'

(3) Morphosyntactic structures that are triggered by adverbialisation derivational affixes: These are:

C2 (37) Maria a- li- fanya kazi ***ki-*** zembe.

Mary AGRs- PAST- do work DER- lazy
'Mary worked lazily.'

C2 (38) Jani hu- ongoza wa- tu ***ki-*** koloni.

Jani HAB- lead PL- person DER- colonial

'Jani leads people colonially.'

C2 (39)Yohana hu- waz- a ***ki-*** jinga.

John HAB- think- VS DER- foolish

'John thinks foolishly.'

C2 (40) Juma hu- fany- a kazi ***ki-*** ume.

Juma HAB- do- VS work DER- man
'Juma works manly.'

(4) Morphosyntactic structures that are triggered by conversion process: These are:

C2 (41) Maria a- li- let- a ***hema***.

Mary AGRs- PAST- bring- VS tent

'Mary brought a tent.'

C2 (42)***Tajiri*** a- me- aga dunia.

Rich AGRs- PERFT- die

'The rich has died.'

C2 (43)***Taka*** zi- me- kauk- a.

Rubbish PL- PERF- dry- VS
'The rubbish has dried.'

C2 (44) Baba a- me- nunu- a ***shuka***.

Father AGRs- PERFT- buy- VS sheet
'Father has bought a sheet.'

C2 (45) Maria a- me- shind- a ***laki*** moja.

Mary AGRs- PERFT- win VS hundred thousand- one

'Mary has won one hundred thousand.'

C2 (46) Zainabu a- na- beb- a ma- ***kaa***.

Zainabu AGRs- PROG- carry- VS PL- charcoal

'Zainabu is carrying charcoal.'

- ***Structures in which compounding processes trigger morphology-syntax interface*** are:

C2 (47) Mama a- li- nunua ***njugu*** ***karanga***.

Mother AGRs- PAST- buy ground nuts roast

'Mother bought ground nuts.'

C2 (49) Juma ni ***mw- andi- shi habari.***

Juma COP SG- write- DER news

'Juma is a news writer.'

C2 (50) ***Wa- chimba vi- sima*** wa- me- enda w- ote.

3PL- dig- PL- well- AGRs- PERFT- go AGRs- all

'All well-diggers have gone.'

C2 (51) Maria ni ***m- shon- aji nguo***.

Mary COP SG- mend- DER cloth

'Mary is a dress maker.'

➢ ***Structures in which idiomization processes trigger morphology –syntax interface*** are:

C2 (52) Neema a- li- ***salimu amri***.

Neema AGRs- PAST- greet order

'Neema admitted defeat.'

C2 (53) Maria a- li- u- ***fyata ulimi*** darasa- ni.

Mary AGRs- PAST- AGRo- quiet- tongue class- POSTP

'Mary kept quiet in class.'

C2 (54) Wa- linzi wa- li- ***shik- a doria*** usiku wote.

PL- guard PL- PAST- hold- VS duty night all

'The guards guarded the whole night.'

C2 (55) Mzee a- me- ***kul- a mwata*** mw- aka m- zima.

SG- old AGRs- PERFT- eat VS taabu SG- year SG- full

'The old man has had trouble the whole year.'

C. Morphosyntactic structures whose interface is triggered by the category of lexical information.

Under this category, four sub-groups were identified; namely: categorial, subcategorial, selectional and thematic. Each of this information triggers morphology-syntax interface.

➢ ***Structures in which morphology-syntax interface is triggered by categorial information***:

C2 (56) ***Mw- limu*** a- na- ***som- a.***

SG- teacher AGRs- PROG- read- VS

'The teacher is reading.'

C2 (57) ***Nguo*** hii ni ***nzuri.***

Cloth DEM COP good

'This cloth is good.'

C2 (58) A- li- maliz- a kazi ***haraka.***

He/ she- PAST- finish- VS work fast

'He/ she finished work very fast.'

C2 (59) A- me- end- a ***kwa shamba***.

3SG- PERFT- go- VS to shamba

'He/ she has gone to the shamba.'

- ***Structures in which morphology-syntax interface is triggered by subcategorial information***:

C2 (31) Mama a- me- weka sukari kwa chai.

Mother 3SG- PERFT- put sugar in tea

'Mother has put sugar in the tea.'

C2 (60) M- toto a- na- ***lal- a***.

SG- child AGRs- PROG- sleep VS

'The child is asleep.'

C2 (61) Maria a- li- ***gong- a u- kuta***.

Mary AGRs- PAST- hit VS SG- wall

'Mary hit the wall.'

C2 (62) Jani a- li- m- ***pa m- toto maziwa***.

Jani AGRs- PAST- AGRo- give SG- child milk

'Jani gave milk to the baby.'

C2 (63) M- kulima a- li- ***safiri- sha ma- hindi kutoka shamba- ni***

SG- farmerAGRs- PAST- transport CAUS PL- maize from farm- POSTP

hadi ghala- ni.

to store- POSTP

'The farmer transported maize from the farm to the store.'

- ***Structures in which morphology-syntax interface is triggered by selectional information***.

C2 (64) ***Maria*** a- li- ***shika m- toto/ ki- su***.

Mary AGRs- PAST- hold SG- child/ SG- knife

'Mary held the child/ knife.'

C2 (65) ***Mama/ m- bwa*** a- li- ***zimia***.

Mother/ SG- dog AGRs- PAST- faint

'Mother/ the dog fainted.'

C2 (66) ***Yohana*** a- li- m- ***pa baba kalamu***

John AGRs- PAST- AGRo- give father pen.

'John gave father a pen.'

C2 (67) ***Mama*** a- na- ***fagi- a nyumba.***

Mother AGRs- PROG- sweep- VS house
'Mother is sweeping the house.'

C2 (68) ***M- toto*** a- na- ***lia***.

SG- child AGRs- PROG- cry

'The child is crying.'

C2 (69) ***Baba*** a- na- ***lim- a.***

Father AGRs- PROG- dig- VS

'Father is digging.'

- ***Structures in which morphology-syntax interface is triggered by thematic information:***

C2 (70) Maria a- li- harib- u ki- tabu.

Mary AGRs- PAST- spoil- VS SG- book
'Mary spoiled the book.'

C2 (71) M- toto a- li- kaa kwa ki- ti.

SG- child AGRs- PAST sit on SG- chair

'The child sat on the chair.'

C2 (72) Baba a- me- furahi.

Father AGRs- PERFT- happy

'Father is happy.'

C2 (73) M- zee yuko ndani ya nyumba.

SG- old man 3SG- PROG- inside house

'The old man is inside the house.'

C2 (74) Juma a- na- kat- a kwa kisu.

Juma AGRs- PROG- cut- VS with knife
'Juma is cutting with a knife.'

D. Morphosyntactic structures that are triggered by different class non-changing derivational affixes.

Under this class, different sub-groups were identified based on the specific morphosyntactic attributes that they bear. The types identified are; the passive, causative, interrogative, the applicative and the stative morphology.

- ***Structures in which passive morphology triggers morphology-syntax interface***. They are:

C2 (75) Ji- we li- li- okot- ***w***- a na Juma.

SG- stone AGRs- PAST- pick PASS VS by Juma

'The stone was picked by Juma.'

C2 (76) Sukar i- li- lamb- ***w***- a na m- toto.

Sugar AGRs- PAST-lick- PASS- VS by SG- child

'Sugar was licked by the child.'

C2 (77) Ki- tabu ki- na- som- ***w***- a na mw- anafunzi.

SG- book AGRs- PROG- read- PASS- VS by SG- student

'The book is being read by the student.'

C2 (78) Nguo i- na- pas- ***w***- a na Maria.

Cloth SG- PROG- iron PASS- VS by Mary

'The cloth is being ironed by Mary.'

C2 (79) Panya a- li- on- ***w***- a na paka.

Rat AGRs- PAST- see- PASS- VS by cat

'The rat was seen by the cat.'

C2 (80) Barua i- na- andik- ***w***- a na Juma.

Letter SG- PROG- write PASS- VS- by Juma

'The letter is being written by Juma.'

- ***Structures in which the applicative morphology triggers morphology-syntax interface***.

They are:

C2 (81) Dani a- li- m- kat- ***i***- a Hamadi m- ti.

Dani AGRs- PAST-AGRo- cut APPL- VS Hamadi SG- tree

'Dani cut a tree for Hamadi.'

C2 (82) Mama a- na- fu- ***li***- a m- toto bulangeti

Mother AGRs- PROG- wash APPL- VS SG- child blanket

'Mother is washing a blanket for the child.'

C2 (83) Juma a- na- chez- ***e***- a Yohana.

Juma AGRs- PROG- play- APPL- VS John

'Juma is playing for John.'

C2 (85) Rehema a- na- som- ***e***- a Mariam ki- tabu.

Rehema AGRs- PROG- read- APPL- VS Mariam SG- book

Rehema is reading the book for Mariam.'

- ***Structures in which causative morphology triggers morphology-syntax interface***. They are:

C2 (86) Yohana a- na- m- som- ***esh***- a Maria.

John AGRs- PROG- AGRo- teach CAUS- VS Mary

'John is teaching Mary.'

C2 (87) Baba a- na- m- pand- ***ish***- a Suleimani m- ti.

Father AGRs- PROG- AGRo- climb- CAUS- VS Suleiman SG- tree

'Father is causing Suleiman to climb a tree.'

C2 (88) Mama a- na- m- lala- ***ish***- a m- toto.

Mother AGRs- PROG- AGRo- sleep- CAUS- VS SG- child

Mother is causing the baby to sleep.'

C2 (89) Mw- alimu a- na- wa- imb- ***ish***- a w- anafunzi.

SG- teacher AGRs- PROG- AGRo- sing- CAUS- VS PL- student

'The teacher is causing the students to sing.'

C2 (90) Baba a- na- m- chez- ***esh***- a m- toto.

Father AGRs- PROG- AGRo- play- CAUS- VS SG- child

'Father is causing the child to play.'

- ***Structures in which the stative morphology triggers morphology-syntax interface***. They are:

C2 (91) Barua i- na- som- ***ek-*** a.

letter AGRs- PROG-read- STAT- VS

'The letter is readable.'

C2 (92) Shimo li- li- funik- ***ik***- a

SG-hole AGRs- PAST- cover- STAT- VS

'The hole was coverable.'

C2 (93) Wimbo u- na- imb- ***ik***- a.

SG- song AGRs- PROG- sing- STAT- VS

'The song is singable.'

C2 (94) Ch- akula ki- na- l- ***ik***- a.

SG- food AGRs- PROG- eat- STAT- VS

'The food is eatable.'

C2 (95) Ji- na l- ake li- li- sahau- ***lik***- a.

SG- name SG- POSS AGRs- PAST- forget- STAT- VS

His/ her name was forgotten.'

- ***Structures in which thethe properties of the interrogative pronouns trigger morphology-syntax interface.*** They are:

C2 (96) M- sichana a- na- end- a ***wapi***?

SG- girl AGRs- PROG- go- VS where

'Where is the girl going?'

C2 (97) Mw- alimu a- na- kuj- a ***lini***?

SG- teacher AGRs- PROG- come VS whent?

'When is the teacher coming?'

C2 (98) ***Nini*** a- na- cho- haribu Maria?

What AGRs- PROG- AGRo- spoil Mary

'What is Mary spoilling.'

C2 (99) ***Nani*** u- na- ye- m- tafut- a?

Who 2SG- PROG- REL-AGRo- search- VS

'Who are you looking for.'

C2 (100) U- na vi- tabu vi- ***ngapi***?

2SG COP PL- book PL- how many

'How many books do you have?

E. Morphosyntactic structures that are triggered by different NPs in their anaphoric function.

The NPs identified are anaphors, pronouns, pro and PRO. Each one of them is analysed as below:

- ***Anaphors:***

Two different types of structures that are trigged by anaphors were identified

Namely; those that are as a result of reflexive morphology and those are as a result of reciprocal morphology.

(1) Structures in which the reflexive morphology triggers morphology-syntax interface.

C2 (105) Yohana a- na- ***ji-*** pend- a .

John SG- PROG- REFL- love- VS

'John loves himself.'

C2 (106) Mosi a- na- ***ji-*** sukum- a.

Mosi AGRs- PROG- REFL- push- VS

'Mosi is pushing himself.'

C2 (107) Wewe u- na- ***ji-*** dhamini.

2SG- AGRs- PROG- REFL- value

'You value yourself.'

C2 (108) Maria a- na- ***ji-*** va- a.

Mary AGRs- PROG- REFL- dress- VS

'Mary is dressing herself.'

C2 (109) Wa- toto wa- na- ***ji-*** sukum- a.

PL- child PL- PROG- REFL- push- VS

'Children are pushing themselves.'

(2) Structures in which the reciprocal morphology triggers morphology-syntax interface:

C2 (110) Jani na Jeni wa- li- o- ***an-*** a.

Jani and Jeni AGRs- PAST- marry REC- VS

'Jani and Jeni married each other.'

C2 (111) Mw-anafunzi na mw- alimu wa- li- salimi- ***an-*** a.

SG- student and SG- teacher AGRs- PAST- greet- REC- VS

'The student and the teacher greeted each other.'

C2 (112) Maria na Hadija wa- na- pend- ***an-*** a.

Mary and Hadija AGRs- PROG- love REC- VS

'Mary and Hadija love each other.'

C2 (113) Hamisi na Rajabu wa- li- aibish- ***an-*** a.

Hamisi and Rajabu PL- PAST- embarrass- REC- VS

Hamisi and Rajabu embarrassed each other.'

- ***Structures in which the pronominalisation process triggers morphology-syntax interface.***

C2 (114) Bakari a- li- dai ya kwamba ***yeye*** a- na- m- dharau Amina.

Bakari AGRs- PAST- claim REL 3SG AGRs- PROG- AGRo- despise Amina

'Bakari claimed that he despises Amina.'

C2 (115) Jani a- li- dhani ya kwamba ***Wewe*** u - na- m- penda.

Jani 3SG- PAST- think REL 2SG AGRo- PROG- AGRs- love

'Jani thought that you love him.'

C2 (116) Maria na Rehema wa- li- kiri kwamba ***wao*** wa- na- pend- a

Mary and Rehema AGRs- PAST admit REL- 3PL- AGRs- PROG- love- VS

ku- imba].

GER- sing

'Mary and Rehema confessed that they love singing.'

- ***Structures in which thefeatures of the non- overt NP pro triggers morphology-syntax interface***.

C2 (108) Jani a- na- ***m-*** tak- a ***pro***.

Jani AGRs- PROG- AGRo- want- VS Pro

'Jani wants him/ her.'

C2 (48) Roni a- li- ***mw-*** ambi- a Yohana ya kwamba [***pro a-*** ende ***a-***

Roni AGRs- PAST- AGRo- tell VS YohanaREL Pro AGRo-go AGRo-

mw- on- e].

AGRo-see-VS

'Roni told John to go and see him/ her.'

C2 (117). ***Pro$_i$*** ***wa$_i$-*** ta- chez- a.

Pro- AGRs- FUT- play- VS

'They will play.'

C2(118) ***Pro$_i$*** ***m$_i$-*** me- og- a.

Pro- AGRs- PERFT- bath- VS

'You have bathed.'

C2(119) Maria a- li- sema ya kwamba [***Pro$_i$*** ***a$_i$-*** li- anguk- a jana]..

Maria AGRs- PAST-say REL pro AGRs- PAST- fall VS yesterday

'Mary said that she fell yesterday.'.'

C2(120) ***Pro$_i$*** ***a$_i$-*** ta- imb- a shule- ni.

Pro AGRs- FUT- sing VS school- POSTP

'He/ she will sing in shool.'

C2(121) ***Pro$_i$*** ***t u$_i$-*** ta- andik- a barua.

Pro 1PL- FUT- write- VS letter

'We will write the letter.'

C2(84) ***Pro$_i$*** ***ha$_i$-*** **Ø** **Ø** lal- i

Pro NEG- 3SG- T- sleep- VS

'He/ she is not sleeping.'

➢ ***Structures in which the non- overt NP PRO triggers morphology-syntax interface***

C2 (122) ***Maria$_i$ a$_i$*** - li- amu- a [***PRO*** ku- ji- maliz- a].

Mary AGRs- PAST- decide- VS INF- REFL- finish VS

'Mary decided to finish herself.'

C2 (123) ***Wa- toto$_i$ wa$_i$-*** na- taka [***PRO*** ku- chez- a].

PL- child AGRs- PROG- want INF- play- VS

'The children want to play.'

C2 (124) ***Hadija$_i$ a$_i$-*** me- end- a [***PRO*** ku- lal- a].

Hadija AGRs- PERFT- go- VS INF- sleep- VS

'Hadija has gone to sleep.'

C2 (90) Jani a- li- ***m$_i$-*** lazim- u ***Dani$_i$*** [***PRO$_i$ ku-*** l- a].

Jani AGRs- PAST- AGRo- force- VS Dani PRO INF- eat- VS.

'Jani forced Dani to eat.'

C2 (95) Mama a- me- ***m$_i$-*** zuia ***m- toto$_i$*** [***PRO$_i$ ku-*** lala].

Mother AGRs- PERF- AGRo- forbid SG- child INF- sleep

'Mother has forbidden the child to sleep.'

C2 (125) Yusufu a- me- anz- a ku- lalamik- a.

Joseph AGRs- PERFT- start- VS INF complain- VS

'Joseph has started complaining.'

C2 (126) S-S Ni- li- ***mw***$_i$- it- a ***Yohana***$_i$ [IP lakini ***yeye***$_i$ ***a-*** li- kata- a.

1SG- PAST- AGRo- call VS John but 3SG- AGRo- PAST- refuse-VS

'I called John but he refused.'

Appendix 3: Questionnaire[22]

Give the answer to each question in the spaces provided.

1. Year of study----------
2. Area of specialization----------
3. Department----------

(1) Give five words from different syntactic categories in Kiswahili.

(i) ---------- (ii)----------(iii)----------

(iv)----------(v)----------

(2) Based on the words that you have given in (1) above, construct five different syntactic structures (either phrases or sentences)?

(i) ----------

(ii) ----------

(iii) ----------

(iv) ----------

(v) ----------

[22.] *This questionnaire was given to thirty respondents. In total, 150 words as well as 150 syntactic structures were expected from the sample. These were to be supplemented by the data that had been taken from Kiswahili text books. After discarding those that violated the structural pattern of Kiswahili, a total of 136 words and 126 syntactic structures remained. These are the ones that have been used in the analysis.*