

## **Word formation: the Description of the Nyakyusa Derivation and Inflection**

**Nichodamus Robinson**

Department of Language Studies  
Sokoine University of Agriculture  
Tanzania

### **Abstract**

*This paper describes Nyakyusa, by examining the extent to which affixation is attested and making a distinction between inflection and derivation. Studies show that the distinction between them is not clear. There is a blurred distinction between derivation and inflection based on the morphology of the noun. The noun class prefixes are inflectional since they mark person and number contrast and the same prefixes are derivational since they derive new nouns with various degrees of semantic relationship to the original noun. Therefore, it seems to be difficult to draw a clear demarcation between derivational and inflectional affixes based on the morphology of noun in Nyakyusa. However, based on the morphology of the verb, several affixes can be analyzed as inflectional while others are derivational. The pre-root and some post-root affixes of the verb are inflectional since they mark tense/aspect and polarity while most post-root affixes in slot 7 are derivational.*

**Key Words:** Nyakyusa, Derivation, Inflection, Noun Morphology, and Verb Morphology.

The purpose of this paper is to describe word formation in Nyakyusa based on the distinction between inflection and derivation.

### **1. Introduction**

The study of word formation in Bantu is broad. It involves several word formation processes such as borrowing, compounding, reduplication, and affixation which are commonly attested in Bantu languages including Nyakyusa. However, this study analyses and describes affixation based on derivation/inflection distinction. In this study, an attempt is made to figure out a broader picture of derivational and inflectional affixes based on their functions, and the problem of drawing a demarcation between the affixes.

Scholars have been criticizing the classical/traditional definitions of inflection and derivation. Spencer & Zwicky (1998) claim that it can be difficult in practice to distinguish inflection from derivation since the grammatical relations upon whom derivation operates seem to be the same as those which operate with inflection. The problem in distinguishing derivation and inflection in most of Bantu languages emanates from the ambiguous nature of the noun prefixes since they perform more than one function. In this regard, derivation and inflection are methods of word formation; the differences between them are always not clear (Rugemalira 2005; Nurse 2008).

This paper analyses and describes inflectional and derivational affixes in Nyakyusa; a Bantu language registered M31 in the list of Bantu languages. The language is spoken in southern part of Tanzania. According to Felberg (1996), Nyakyusa is a language spoken by approximately one million people and stretches geographically from the north Rukuru River near Karonga Malawi to Mbeya town in Tanzania and the majority of speakers live in Tanzania. LOT (2009) describes Nyakyusa as one of the ten big languages in Tanzania with a number of 740,020 speakers. The majority of the speakers live in the three districts namely; Kyela, Rungwe and Mbeya urban with 138,869, 258,441 and 145,007 speakers respectively.

The paper also illustrates the blurred distinction between derivation and inflection. It presents various ways in which new words may be formed through the process called affixation. It is important to note that this paper as part of grammar (morphology) contributes to documentation of the language. The grammar of Nyakyusa in my knowledge is not fully documented. And the language documentation plays a vital role in preserving the language and the culture of speakers of the language.

Austin (2006) stresses on the importance of language documentation by pointing out that, the audience for language documentation is very wide; it encompasses not only linguists and researchers from the fields, but also members of the community whose language is being documented as well as other people who want to learn the language.

Moreover, it is worth noting that documentation of language preserves the culture of the speakers as well. Approximately a thousand of languages are spoken on the African continent and most of these languages are small, some of which particularly the weak ones are subjected to death (Felberg *op. cit*). In Tanzania, approximately more than one hundred and fifty languages are spoken (LOT *op. cit*) but many of these languages except Swahili and English have been given a little attention in terms of the domain of use which eventually led the grammar of these languages to be not adequately written.

Therefore, this paper generally seeks to evaluate the extent to which derivation and inflection distinction is relevant to the description of the grammar of Nyakyusa. It answers the following questions:

1. What is the significance of the traditional definition of inflection/derivation with reference to nominal morphology in Nyakyusa?
2. What affixes are derivational and/or inflectional in the Nyakyusa verb group?

Spencer & Zwicky (*op. cit*) provides five criteria or assumptions used in distinguishing inflection from derivation. For the sake of this paper, three criteria are to be considered; first, change in lexical meaning and/or word class, secondly, the productivity of inflectional affixes, and the third one is that derivational affixes appear closer to the root than inflectional affixes.

From the assumptions mentioned above, therefore derivation is a process of word formation (affixation) where morphemes or affixes change meaning or word class of the root to which they are attached while inflection process does not change meaning or word class of the root, rather marks for person and number, mood, voice, tense and aspect, and polarity.

## 2. Theoretical Framework

We can better understand the discussion in place by what Katamba (2003) uses to distinguish inflection from derivation which is called lexical phonology and morphology model. The model categorizes affixes into strata namely, stratum 1 and stratum 2. Stratum 1 (derivational) affixes are attached closer to the root and stratum 2 (inflectional) affixes are attached on the outside as the outer layer and in this aspect, inflectional suffix closes way for derivational suffixation. The model has been illustrated below as follows:

- a. [root]
- b. [stratum1 affix-root-stratum1 affix]
- c. [stratum2 affix –stratum 1 affix – root – stratum 1 affix – stratum 2 affix]

For example; in English whenever derivational suffix co-occurs with an inflectional suffix in the same word, they occur in the order that derivation will be attached first and inflectional suffix will follow. In the word *teach* for example, derivation suffix ‘*er*’ (nominalizer) would be attached first, thereafter an inflectional suffix ‘*s*’ (the plural marker) may be attached and not otherwise as exemplified below:

**Correct order:** Model: [[[r]s1] s2]

Lexical	Derivational	inflectional
Teach	Teacher	teachers

**Incorrect order:** [[[r] s2]s1]

Lexical	Inflectional	derivational
Teach	*teaches	*teach-es-er

From the model above, it indicates that derivation cannot apply after inflection. The model is important to the analysis of Nyakyusa since it provides a basis for identifying inflectional affixes from derivational affixes based on verb morphology. Since the verb in most Bantu languages consist of pre-root and post-root affixes, then the model may be modified into: [stratum 2 –0- root – stratum1- stratum 2] to suit affix analysis in Nyakyusa one of the Bantu languages.

### 3. Methodology

The study involved both; primary data and secondary data. For primary data, three native speakers who stayed and got their primary education in Kyela District where the language is spoken were recruited. These informants were purposively selected since they are believed to have a good mastery of the language. The researcher being a native speaker of Nyakyusa used his introspective knowledge in the construction of questions that needed a response from the informants. The informants were very useful for some complicated issues such as verb extension co-occurrence.

The secondary data were obtained from documented material, mainly the Nyakyusa – Swahili- English dictionary written by Felberg Knut and published in 1996 by Mkuki na Nyota Publishers. From the dictionary, it was possible to have a list of nouns and verbs with which the researcher analyzed the structure of a verb/noun and identified inflectional and derivational affixes.

### 4. Results and discussion

#### 4.1 Derivational/Inflectional Morphemes Based on Nominal Morphology

This section seeks to demonstrate the significance of the traditional distinction between inflection and derivation with reference to nominal morphology. In this section, we will illustrate the distinction between inflectional and derivational affixes with reference to the structure of a noun. Therefore this necessitates the presentation of the structure of a noun in Nyakyusa.

The noun in Nyakyusa consists of three elements namely; the pre-prefix (augment), the class prefix and the stem as in *u-mu-ana* ‘a child’ where the first vowel is the augment/pre-prefix, ‘mu’ is the class prefix and ‘ana’ is the stem. The pre-prefix vowel normally copies the vowel of the class prefix in the language as manifested in table 1 below that shows noun classes from class 1 to class 18. After the presentation of the structure of a noun in the language, then we will be able to identify the role of noun class affixes in the noun in relation to inflection-derivation distinction.

**Table 1: Noun class affixes in Nyakyusa**

CLASS	Pre-prefix	Prefix	Stem	Example	Gloss
1	u-	-mu-	-ndu	u-mu-ndu	person
2	a-	-ba-	-ndu-	a-ba-ndu	people
3	u-	-mu-	-piki	u-mu-piki [umpiki]	tree
4	i-	-mi-	-piki	i-mi-piki	trees
5	i-	-li-	-fumbi	i-li-fumbi	egg
6	a-	-ma-	-fumbi	a-ma-fumbi	eggs
7	i-	-ki-	-ula	i-ki-ula [ikyula]	frog
8	i-	-fi-	-ula	i-fi-ula [ifyula]	frogs
9	i-	N	-pene	i-mbene	goat
10	i-	N	-paso	i-mbaso	fences
11	u-	-lu-	-bafu	u-lu-bafu	a rib
12	a	-ka-	-ana	a-ka-ana	small child
13	u	-tu-	-ana	u-tu-ana	small children
14	u	-bu-	-mogi	u-bu-mogi	fashion
15	u	-ku-	-moga	u-ku-moga	dancing
16		pa-	-kaja	pa-kaja	at home
17		ku-	-sukulu	ku-sukulu	to school
18		mu-	-nyumba	mu-nyumba	in the house

#### 4.1.1 Inflectional and derivational affixes

From the table above, and before having a thorough discussion on derivation-inflection distinction, it is important to give a brief explanation of the structure of a noun in the language of each class in terms of what the classes contain and provide some examples of nouns falling under each class. Nouns referring to human beings are found in classes 1 and 2 which form singular/plural pairs as exemplified in (1) below;

(1) Class 1	Class 2	Gloss
<i>u-mu-ana</i> (umwana)	<i>a-ba-ana</i>	a child/children
<i>u-mu-undu</i>	<i>a-ba-ndu</i>	a person/persons
<i>u-mu-kangale</i>	<i>a-ba-kangale</i>	old person (s)
<i>u-mu-kamu</i> (uṅkamu)	<i>a-ba-kamu</i>	relative (s)

The *-mu-* prefix of class in some occasions loses its vowel and assimilates to the place of articulation of the following consonants as exemplified in (1) above, the forth item. Gliding also occurs where the high back vowel [u] glides to bilabial approximant [w] before another vowel as exemplified in (1), the first item above.

Class 3 and 4 contain the singular and plural nouns referring to plants and other miscellaneous objects such as moon. The class 3 contains *-mu-* prefix that resembles the class 1 prefix and they behave in a similar way with regard to assimilation where after losing the vowel they assimilate to the place of articulation of the following consonant. However, they have different semantic realization.

(2) Class 1	Class 2	Gloss
<i>u-mu-piki</i> (umpiki)	<i>i-mi-piki</i>	a tree/trees
<i>u-mu-gunda</i> (uṅgunda)	<i>i-mi-gunda</i>	a farm/farms

Class 5 its plural counterpart is class 6; class 7 and 8 form singular and plural, class 9 and 10 with nasal prefix typically contain names of animals. Class 11 takes its plural forms from class 10; class 12 derives diminutives from other classes and takes plural forms from class 13. Class 14 nouns consist mainly of abstract entities. Class 15 consists of verbal infinitives. Classes 16, 17, and 18 contain locative affixes.

The distinction between inflectional and derivational affixes with reference to the structure of a noun is worth emphasizing. An inflectional affix as pointed out in the introductory section never changes the class of a word; rather it can mark person and number in a noun. In this regard, the following noun class prefixes in 3 when they are in their original classes, are inflectional since they mark person and number, that is, they are singular and plural forms.

### (3) Class prefixes

Class 1 & 2 prefixes, *-mu-* and *-ba-*  
 Class 3 & 4 prefixes, *-mu-* and *-mi-*  
 Class 5 & 6 prefixes *-li-* and *-ma-*  
 Class 7 & 8 prefixes *-ki-* and *-fi-*  
 Class 11 & 10 prefixes *-lu-* and N<sup>1</sup>  
 Class [12 & 13]<sup>2</sup> prefixes *-ka-* and *-tu-*

### Examples

*u-mu-ndu* 'a person'    *a-ba-ndu* 'persons'  
*u-mu-piki* 'a tree'    *i-mi-piki* 'trees'  
*i-li-fumbi* 'an egg'    *a-ma-fumbi* 'eggs'  
*i-ki-amba* 'a hill'    *i-fi-amba* 'hills'  
*u-lu-paso* 'fence'    *i-mbaso* 'fences'  
*a-ka-ana* 'a small child, *u-tu-ana* 'small children'

#### 4.1.2 Noun derivation by change of Class

The data presented in table 1 and examples in (3) contain noun class prefixes that are in pairs to mark number, that is, singular and plural. These prefixes are inflectional with respect to the definition and properties of an inflection. However, these class prefixes derive a new sense if the stem of a noun is moved from its original class into class 4, class 5, class 6, class 12 or class 13 will typically be interpreted as acquiring new senses different from the original noun. The prefixes falling under these classes are on the one hand inflectional since they may mark person and number contrast, they are derivational on the other hand since they derive new senses or participate in forming argumentative, diminutive or appreciative and pejorative meaning as exemplified in table 2 below:

1 The capital N stands for Nasal sound which participates in homorganic nasal assimilation where *u-lu-paso* 'a fence' (Singular) the plural is *i-mbaso* 'fences'.

2 The classes in one hand are inflectional as they mark number, they are derivational on the other hand as they derive diminutives from other classes.

**Table 2: Noun derivation by change of class**

Noun stem ana	Gloss	Noun class prefix
u- <b>mu</b> -ana	A child (original class)	Class 1. <b>-mu-</b>
a- <b>ba</b> -ana	Children (original class)	Class 2 <b>-ba-</b>
i- <b>mi</b> -ana (imyana)	Big/bad children (argumentative/pejorative sense)	Class 4 <b>-mi-</b>
i- <b>li</b> -ana (ilyana)	Big/bad child (argumentative/pejorative sense)	Class 5 <b>-li-</b>
i- <b>ki</b> -ana (ikyana)	Bad child (pejorative sense)	Class 7 <b>-ki-</b>
i- <b>fi</b> -ana	Bad children (pejorative sense)	Class 8 <b>-fi-</b>
a- <b>ka</b> -ana	Small/nice child (diminutive/appreciative sense)	Class 12 <b>-ka-</b>
u- <b>tu</b> -ana (utwana)	Small/nice children (diminutive/appreciative sense)	Class 13 <b>-tu-</b>

Also change of class (When the class prefixes are attached to the same stem of the noun) may involve other senses with various degrees of relationship to the original sense. In other words the situation triggers a completely different sense/meaning from the original one as shown in table 3 below:

**Table 3: Showing other senses different from the original one.**

Noun stem -ndu	Gloss	Noun class prefix	Meaning
u- <b>mu</b> -ndu	A person	Class 1. <b>-mu-</b>	Original
a- <b>ba</b> -ndu	Persons	Class 2 <b>-ba-</b>	Original
i- <b>mi</b> -ndu	Rubbish	Class 4 <b>-mi-</b>	Completely different
i- <b>li</b> -ndu	A big insect / grasshopper	Class 5 <b>-li-</b>	Completely different
a- <b>ka</b> -ndu	A small thing, object	Class 12 <b>-ka-</b>	Completely different
u- <b>tu</b> -ndu	Many small things	Class 13 <b>-tu-</b>	Completely different

In the subsection 4.1.2 above, an attempt has been made to illustrate the problems and /or the blurred distinction between derivation and inflection. One can imagine the difficulty in drawing a clear demarcation between the two terms. Traditionally derivational affixes were associated with word formation since they participate in forming new words. However, with reference to the morphology of a noun in Nyakyusa, some affixes are said to be both inflectional and derivational.

Then the following subsection presents formatives/morphemes in Nyakyusa that derives nouns from other word classes such as verbs. In other words, the section presents ways in which nouns are being formed from other word classes:

#### 4.1.2 Noun derivation by suffixation

Nouns may be derived from verbs by way of affixing a particular vowel and automatically the appropriate noun class prefix and pre-prefix are added to conform to the morphology of a noun in Nyakyusa. The vowels; *-i*, *-o*, and *-u* are common derivative suffixes in Nyakyusa.

- (a) Noun derivation using suffix *-i*: the suffix derives verbs into nouns and the process of nominalization is accomplished using the noun pre-prefix and noun prefix. The vowel to some extent causes consonant mutation as exemplified in the first item below where sound [g] changes/mutates into sound [s]:

(4) Verb	-i suffix	noun	gloss
<i>Loga</i> 'bewitch'	/log-i/ — /losi/	<i>u-mu-losi</i> [undosi]	'bewitcher'
<i>lima</i> 'cultivate'	/lim-i/	<i>u-mu-limi</i> [undimi]	'a farmer'
<i>tuma</i> 'sent'	<i>tum-i</i>	<i>i-ndumi</i>	'message'
<i>soma</i> 'read'	<i>som-i</i>	<i>u-mu-som-i</i> ( <i>unsomi</i> )	'an educated'

Some affixes have phonological impact and therefore it is important to indicate their phonological influence for clarity of the data. From the two examples in (2) above, in the first one two phonological processes are involved, consonant mutation where the voiced velar plosive [g] changed into [s]. Another is the alternation caused after the deletion of the vowel of the noun prefix, where [l] become [d] after nasal and that is the same to the second example.

(b) Noun derivation using suffix *-o*: the *-o* suffix derives verbs into nouns as exemplified below:

(5)	Verb	-o suffix	Noun	Gloss
	<i>Jaba</i>	'divide /jab-o/	<i>u-mu-jab-o</i> [ unjabo]	'division'
	<i>kina</i>	'play' /kin-o/	<i>u-mu-kin-o</i> [ unkino]	'a play'
	<i>lima</i>	'cultivate' /lim-o/	<i>u-mu-limo</i> [ undimo]	'cultivation'

From the above examples, homorganic nasal assimilation is involved after deletion of the vowel of the noun prefix, where the nasal assimilates to the place feature of the following consonant. Alternation is involved as well, where [l] becomes [d] after nasal.

(b) Noun derivation using *-u* suffix:

Verb	-u suffix	Noun	Gloss
<i>fujuka</i>	'be insane' /fujuf-u/	<i>u-mu-fujufu</i>	'inferior'
<i>konyoka</i>	'be broken' /konyof-u/	<i>u-mu-konyofu</i>	'a stupid one'
<i>lulala</i>	'be still' /lulaf-u /	<i>u-mu-luulaf-u</i>	'a person who gaps/ a lazy'
<i>suuka</i>	'be blunt' /suuf-u/	<i>u-mu-suufu</i>	'a blunt object'

The suffix *-u* affects some consonants of the root to which it is attached by causing consonant mutation. Consonant mutation/ the consonant change occurs between [k] and [f], and [l] and [f] where both [k] and [l] change/mutate into [f].

**4.2 Inflectional/derivational morphemes in verb structure**

Nurse (2008) points out that, Bantu languages are verby, that is they are morphologically agglutinating languages and one word may consist of eleven slots centered on the root. The Nyakyusa verb structure consists of a string of ten slots including the root, (Robinson 2015). Table 4 below shows the ten slots of the Nyakyusa verb.

**Table 4: Nyakyusa verb Template**

1	2	3	4	5	6	7	8	9	10
Initial	Subject marker	Negation	Tense marker	Object marker	Root	extension	Tense, aspect and mood	Final vowel	clitic
	tu		ku		lim			a	
We cultivate									
a	tu		ku	ba	lim	il		a	
We will cultivate for them									
a	tu		ku	ba	lim	il	ag	a	
We will be cultivating for them									
	ba		a		lim		il	e	
They cultivated									
	ba	ka	a		lim		il	e	po
They did not cultivate									
	ba		ka		lim			e	
Let them cultivate									

From the data presented in the table above, we can divide the verb into three parts, namely, the root, pre-root affixes and post- root affixes. The root of the verb is the obligatory element. In this section we will discuss the role of pre-root affixes (prefixes) and post-root affixes (suffixes) with reference to traditional inflection/derivation distinction.

**4.2.1 The role of Pre – root morphemes/affixes**

Traditionally, inflectional and derivational affixes are distinguished up on the fact that, inflectional affixes do not derive new senses, rather they mark number, tense/aspect, voice, mood, as well as polarity. However, derivational affixes derive new sense or meaning of the root to which they are attached. It shows that the pre-root affixes of the verb and some post root affixes [namely passive suffix *-igu-*, perfective *-ile* and final vowel] are inflectional morphemes since they do not derive new sense rather they mark tense/aspect, number, and polarity.

The pre-root affixes are those found in the slot 1[initial slot/ Pre-SM], slot 2 /Subject Marker (SM), slot3/Negation slot 4 /TAM and slot 5 /Object marker (OM). In the following paragraph, the morphemes occupying each slot are presented based on the functions in relation to derivation/inflection distinction:

The initial slot or Pre-SM consists of marker *a-* that mark future in the language. The Pre-SM marker co-occurs with slot 4 marker *-ku-* in marking future tense as exemplified in (4) below. The subject markers and object markers are inflectional affixes since they mark person and number that is, singular and plural as exemplified in (5).

- (4) *a*                    *-tu*        *-ku*        *-lim*        *-a*  
 1                    2            4            6            9  
 Pre-SM            SM        TA        root        FV  
 ‘We will cultivate’
- (5) *a*        *-mu*        *-lim*        *-iil*        *e*        [*andimiile*]  
 2        5        6        8        9  
 SM    OM    root    Prf    FV  
 ‘S/he has cultivated for him/her
- ba*        *tu*        *lim*        *iil*        *e*  
 2        5        6        8        9  
 SM    OM    root    Prf    FV  
 ‘They have cultivated for us’

Finally, with the pre-root affixes; the slot 3 consists of negative markers [*-ka-* and *-ti-*]. The negative marker *-ka-* is applied in the past construction including perfective, whereas *-ti-* is associated with present and future expressions. These markers mark polarity, that is affirmative and negative expressions as exemplified in (6) below.

- |  |  |
|--|--|
| (6) Affirmative  | Negative   |
| (a) <i>tu</i> <i>-lim-</i> <i>il</i> <i>e</i> [PERFECTIVE]<br>2    6        8        9<br>SM    root    Prf     FV<br>‘We have cultivated’               | <i>tu</i> <i>-ka</i> <i>-lim</i> <i>-a</i><br>2        3        6        9<br>SM    Neg    root    FV<br>‘We have not cultivated’  |
| (b) <i>tu</i> <i>-a</i> <i>-lim</i> <i>-il</i> <i>e</i> [PAST]<br>2    4        6        8        9<br>SM    TA    root    Prf     FV<br>‘We cultivated’ | <i>tu</i> <i>-ka</i> <i>-a</i> <i>-lim</i> <i>-il</i> <i>-e</i><br>2        3        4        6        8        9<br>SM    Neg    TA    root    Prf     FV<br>‘We did not cultivate’ |
| (c) <i>tu</i> <i>-ku</i> <i>-lim</i> <i>-a</i><br>2    4        6        9<br>SM    TA    root    FV<br>‘we cultivate’                                   | <i>tu</i> <i>-ti</i> <i>-ku</i> <i>-lim</i> <i>-a</i><br>2        3        4        6        9<br>SM    Neg    TA    root    FV<br>‘we do not cultivate’                             |
| (d) <i>a</i> <i>-tu</i> <i>ku</i> <i>lim</i> <i>-a</i><br>1    2        4        6        9<br>Pre-SM    SM    TA    root    FV                          | <i>a</i> <i>-tu</i> <i>-ti</i> <i>ku</i> <i>lim</i> <i>a</i><br>1        2        3        4        6        9<br>Pre-SM    SM    Neg    TA    root    FV                            |

**4.2.2 The role of Post-root morphemes/affixes**

The post-root morphemes/suffixes are those found in slot 7, slot 8, slot 9 and slot 10. Slot 7 consists of verb extension suffixes namely, applicative, reciprocal, causative, and passive. Applicative suffixes, causative and reciprocal suffixes are derivational whereas passive suffixes are inflectional, and each will be explained in the next paragraphs. Both slot 8 and 9 contain inflectional affixes. Slot 8 consists of inflectional tense aspect morphemes *-ile* for perfective and past, and *-ag-/ang-* for habitual as exemplified in (7) below whereas slot 9 is for final vowel that mark mood as demonstrated in (8) below.

- (7)(a). *tu* *-lim* **-il** *-e* (Perfective) *tu- a* *-lim* **-il** *-e* (Past)  
 1 6 8 9 2 4 6 8  
 SM root Prf FV SM TA root TA FV  
 ‘We have cultivated’ ‘we cultivated’
- (b). *tu* *-a* *-lim* **-ag-** *a* (Habitual in the Past)  
 2 4 6 8 9  
 SM TA root Hab FV  
 ‘We used to cultivate’
- (8) *tu* *-ku* *-lim* **-a** (Declarative mood) *tu* *-lim* **-e** (Subjunctive mood)  
 2 4 6 9 2 6 9  
 SM TA root FV SM root FV  
 ‘We cultivate’ ‘let us cultivate’

In slot 7, the first verb extension suffix is an applicative. It derives meaning of the verb by adding the concept of ‘to’ ‘for’ or ‘with’ to the verb. It adds an argument with various semantic roles including beneficiary, instrument, and location. In Nyakyusa applicative takes *-il-* and/or *-el-* suffixes depending on the vowel of the root. It takes *-el-* when the root contains a mid-vowel and *-il-* elsewhere. Moreover, the applicative suffixes must be applied before perfective-*ile* and/or Final Vowel (FV) in terms of rule ordering. In this regard, conforms to the strata theory, that derivational affix must apply first before inflectional affix as exemplified in (9) below using the verb stem *lima* ‘cultivate’ and *koma* ‘beat’.

- (9) (a) *lima* ‘cultivate’ *lim* **-il** *-a*  
 6 7 9  
 Root Appl FV  
 ‘Cultivate for someone/ use something to cultivate’
- (b) *koma* ‘beat’ *kom* **-el** *-a*  
 6 7 9  
 Root Appl FV  
 ‘Beat for someone/ use something to beat’

The second one is a causative suffix *-isi-*, *esi-* and *-i-* and add the concept of ‘cause to’ to the verb they are attached. The suffix is *-esi-* when the root contains a mid-vowel and otherwise takes *-isi-*. The short causative suffix participates in consonant mutation. The following table shows examples of causative and the meaning extended by the suffix as well as consonant mutation:

**Table 5: Causative**

Verb	Gloss	Causative	Gloss	Mutation
bhopa	run	bopesya	Cause to run	
kina	dance	kinisya	Cause to dance	
seka	laugh	sesya	Cause to laugh	k>s
jonga	get lost	josya	Cause to get lost	ŋg>s
noga	become nice	nosya	Cause to become nice/ beautify	g>s

The third one is reciprocal suffix *-an-* that derives meaning of the verb stem to which it is attached by adding a sense of ‘do against each other’ in the language. Like causative and applicative affixes, reciprocal suffix-*an-* is derivational as it derives meaning of the verb as exemplified in (10) below and in terms of rule ordering it must be applied before inflectional suffixes *-ile/-ag-* and final vowel are applied.

The fourth being reversive that indicates reversal of an action (Lodhi 2002). For example the words: *igala* ‘close’ and its reversive is *igula* ‘open’, *inuka* ‘raise up’ to *inama* ‘bend’.

- (10) *koma* ‘beat’ *kom* **-an** *-a*  
 6 7 9  
 Root Rec FV  
 ‘Beat each other’



### 4.2.3 Verb extension co-occurrence

Verb extension co-occurrence derives more new senses to the root they are attached. The following are verb extension co-occurrence attested in Nyakyusa:

#### (a) Applicative + causative [-il-/el- + -isi-/esi-]

Applicative and causative can co-occur and takes suffixes *-il-/el-* and *-isi-/esi-* respectively. In terms of rule ordering, applicative must be applied first and then followed by causative suffix as exemplified below:

- |      |                |                         |                     |
|------|----------------|-------------------------|---------------------|
| (11) | [koma]         | verb stem               | 'beat'              |
|      | [kom-el-a]     | applicative             | 'beat for'          |
|      | [kom-el-esy-a] | applicative + causative | 'cause to beat for' |

#### (b) Applicative + reciprocal

Like applicative and causative co- occurrence, applicative and reciprocal takes *-il-/el-* + *-an-* suffixes and applicative suffix must be applied before reciprocal suffix in terms of rule ordering as exemplified bellow:

- |      |               |                          |                       |
|------|---------------|--------------------------|-----------------------|
| (12) | [kom-a]       | verb stem                | 'beat'                |
|      | [kom-el-a]    | applicative              | 'beat for'            |
|      | [kom-el-an-a] | applicative + reciprocal | 'beat for each other' |

#### (c) Causative + reciprocal

Causative – reciprocal co-occurrence take suffixes *-isi-/esi-* + *-an-* respectively. The causative suffix *-i* glide. In terms of rule ordering the causative suffix must apply before passive suffix. In co-occurrence the glide of the causative suffix will always move to the end of a word before Final Vowel. The following examples illustrate this statement:

- |      |                  |                        |                             |
|------|------------------|------------------------|-----------------------------|
| (13) | [job-a ]         | verb stem              | 'say'                       |
|      | [job-esy-a]      | causative              | 'cause to say'              |
|      | [job-es-an(y)-a] | causative + reciprocal | 'cause each other to say '  |
|      | [moga]           | stem                   | 'dance'                     |
|      | [mog-esy-a]      | causative              | 'cause to dance'            |
|      | [mog-es-an(y)-a] | causative + reciprocal | 'cause each other to dance' |

#### (d) Applicative + causative + reciprocal

The verb extension co-occurrence takes suffixes; *-il-/el-* , *-isi-/esi-* and *-an-* respectively. In terms of rule ordering the applicative must apply first, followed by causative and finally reciprocal as exemplified below:

- |          |                      |                                      |                                 |
|----------|----------------------|--------------------------------------|---------------------------------|
| (14) (a) | [jobha]              | stem                                 | 'say'                           |
|          | [jobh-el-a]          | applicative                          | 'say for'                       |
|          | [jobh-el-esy-a]      | applicative + causative              | 'cause to say for'              |
|          | [jobh-el-es-an(y)-a] | applicative + causative + reciprocal | ' cause to say for each other'  |
| (b)      | [mog-a]              | stem                                 | dance                           |
|          | [mog-el-a]           | applicative                          | 'dance for'                     |
|          | [mog-el-sy-a]        | applicative + causative              | 'cause to dance for'            |
|          | [mog-el-es-an(y)-a]  | applicative+ causative + reciprocal  | 'cause to dance for each other' |

## 5. Summary and Conclusion

### 5.1 Summary

The study has presented inflectional and derivational morphemes/affixes with reference to nominal morphology and verbal morphology. Nouns in Nyakyusa and other Bantu languages are grouped and expressed in classes that may range from class 1 to class 18. With reference to nominal morphology, morphemes which are attached to the noun stem, particularly noun prefixes are on the one hand inflectional since they mark person and number that is, singular and plural. On the other hand, the same prefixes are derivational since they derive new senses when different prefixes are attached to the same stem. The prefixes may derive argumentative, diminutive and/or appreciative and pejorative senses.

Unlike in the morphology of a noun, in the morphology of the verb, the pre-root morphemes found in the Pre-SM, SM, NegM, TA, OM and some post-root morphemes namely passive suffix *-igu-*, the *-ile* suffix, habitual suffixes *-ag-/-ang-* and the final vowel are inflectional. These morphemes are inflectional since they mark person, number, tense/aspect, polarity, and voice. However, post-root morphemes/suffixes that are found in slot 7 namely applicative suffixes, reciprocal suffixes, and causative suffixes are derivational since they derive new senses of the verb stem to which they are attached.

## 5.2 Conclusion

The distinction between inflection and derivation with reference to nominal morphology is a bit problematic and complex. It is problematic because noun prefixes are on the one hand inflectional and derivational on the other hand. The complexity of the phenomenon is propelled mainly by the ambiguity of morphemes/affixes in the language.

Morphemes/affixes in Nyakyusa are ambiguous because most of these affixes have more than one function within the noun as well as within the verb or rather across nouns and verbs. For example morpheme *-mu-* is a noun class 1 prefix as in *u-mu-ana* (umwana) ‘a child’, but the same prefix is a class 3 prefix as in *u-mu-piki* (umpiki) ‘a tree’. In the verb the same morpheme *-mu-* is both a subject marker (SM), and object marker (OM) as shown in (15 a) below. Morpheme *-ba-* in the noun, it is a class 2 prefix as in *a-ba-ana* ‘children’ and in the verb may mark subject and object as shown in (15 b) below using the verb stem *koma* ‘beat’.

(9) (a) *-mu* as subject and object

*mu*    *-tu*    *-kom*    *-ile* ‘you have beaten us’ [-*mu-* for ‘you’]

SM-    OM    root    Prf.

*tu*    *-mu*    *-kom*    *-ile* ‘we have beaten you, [-*mu-* for ‘him/her’]

SM-    OM    root    Prf.

(b) *-ba-* as subject and object

*ba*    *-tu*    *-kom*    *-ile* ‘they have beaten us’ [-*ba-* for ‘they’]

SM-    OM    root    Prf.

*tu*    *-ba*    *-kom*    *-ile* ‘we have beaten them’ [-*ba-* for them’]

SM-    OM    root    Prf.

In an attempt to disambiguate these morphemes/affixes implies two things: first, the analysis of the morphemes/affixes should be done by closely observing the functions of these affixes in the noun or verb. Second, the fact that these inflectional affixes [such as *-mu-*, *-ba-*, *-tu-*] having different functions in the noun and the verb, validates the notion that inflectional affixes are productive.

## References

- Austin, P. K. (2006). Data and language documentation. In Gippert, Jost, Himmelmann, N. & Mosel, U. (eds). *Essentials of language documentation*. Berlin: Mouton 88 – 112.
- Felberg, K. (1996). *Nyakyusa-English-Swahili & English-Nyakyusa Dictionary*: Dar es Salaam. Mkukina Nyota Publishers.
- Katamba, F. (2003). *Morphology*. The Macmillan Press Ltd. London.
- Languages of Tanzania Project (LOT). (2009). *Atlasi ya Lugha za Tanzania*. Dar es Salaam: Chuo Kikuu cha Dar es Salaam.
- Lodhi, A. Y. (2002). Verbal extensions in Bantu; the case of Swahili and Nyamwezi: *A journal of Africa & Asia*, No 2, pp 4-26
- Nurse, D. (2008). *Tense and Aspect in Bantu*. New York. Oxford University Press.
- Robinson, N. (2015). The *-ile* suffix and the distinction between tense and aspect in Nyakyusa. Unpublished MA dissertation. University of Dar es Salaam.
- Rugemalira J. M. (2005). *A grammar of Runyambo*. Dar es Salaam. LOT Publication: Grammar series No. 1.
- Rugemalira, (2010) The *-ag-* TAM marker and the boundary between cliticization and affixation in Bantu: Legere, K. & C. Thornell (eds). *Bantu Languages: analyses, description and theory*. Koln: Rudiger Koppe Verlag. pp 229-238.
- Spencer, A. & A Zwicky(eds). (1998). *Handbook of morphology*. Hoboken, N.J: Wiley.

***Abbreviations***

SM	subject marker
OM	object marker
Prf	perfective
TA	tense/aspect
Rec	reciprocal
FV	final vowel
Hab	habitual
Neg	negative marker

Pre-SM pre- subject marker

***Acknowledgement***

This paper was first read at the Students-Staff Seminars of the Department of Foreign Languages and Linguistics, University of Dar es Salaam in may 2014. I would like to express my thanks to the participants. To mention some: first I would like to express my thanks to Prof. Rugemalira for his supervision, and guidance, Prof. Muzale, Dr. Mreta, Dr. Msuya and my fellow students for their comments and their criticism. I can also express my thanks to my informants; Neema Angetile Mwakyusa, Emanuel Mwasakilali and Donald Mwambungu for their support during data collection.