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Lexical Morphology of Lala: A Morphophonological and Morphosyntactic Analysis

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Abstract:
The study analysed lexical morphology of Lala. This was done by analysing the morphophonological and morphosyntactic processes involved in word formation. Lala speaking people are found in central province of Zambia in Serenje, Mkushi, Luano and Kapiri Mposhi districts. It is also spoken in some parts across the boarders in Democratic Republic of Congo. Lala is classified as M52 in Guthrie's classification of Bantu languages.
Data were collected using qualitative research design. Semi-structured interviews were conducted on thirty participants for primary data. Stories were also used to collect primary data. Secondary data were collected from a few known books in Lala such as Lala Bible, hymn book, Lala Lamba Wisa English Dictionary and Lala-Lamba Handbook. Data were organised according to specific parts of speech and analysed using two theories namely; Lexical Morphology Theory for morphophonological process involved in word formation, and X-Bar theory of the Government and Binding Theory, for analysing the syntax of compound nouns.
The findings were that derivation as word formation process in Lala involves the following: a). verbal derivation; this process involves affixation of verbal extension to bases, thereby forming new radicals and formation of verbs from onomatopoeias. b). adjectival derivation; some adjectives are derived from verbs by affixing applicative extension to a verbal root. c). Nominal derivation; this process is used to form deverbatives, de-adjectivals, de-onomatopoeias, de-nominals, abstract nouns and some names of colours. d). Locativization; this word formation process involves affixation of locatives to demonstratives pronoun to form a locative demonstrative. e). Reduplication; this word formation process involves repeating nouns, verbs, adjectives, numerals and idiophones to form a new lexeme.
Compounding is also used as a word formation process in Lala. Compound nouns in Lala are classified under semantic and syntactic categories based on their composition. Lala compound nouns are generally left headed. Under semantic classification, there are nouns in Lala which have semantic heads and others do not have. Endocentric compounds have heads. The head indicates the sub-grouping within the class of entities that it denotes. In the compound noun amatembo ngombe 'big wasp', the left word gives the semantic category of the compound. On the other hand, exocentric compounds do not contain semantic heads. The meaning of the compound is not easily predicted from any of the constituents of the compound noun. For example, in muntu ngulya 'evening time before dusk', the meaning is opaque. In copulative compounds, the two words involved in a compound noun contribute to the meaning of a compound noun. For example in amapandwa nshila 'junction', the two words amapandwa 'splinted parts' and inshila 'way' contribute to the meaning of the compound on equal status. Syntactically, all compound nouns in Lala have heads. The head of a compound noun percolates its syntactic features to the rest of the constituents. In most cases, the other constituent acts as a modifier of the head word. Compounding in Lala involves the phonological process of vowel deletion as shown in examples above.
The conclusion is that word formation in Lala is a lexical property. There are phonological processes at each stage in word formation in the lexicon. Some aspects of syntax are also involved in compounding.

Keywords: *Morphosyntax, morphophonology, lexical item, derivation and compounding, Lala*

1. Introduction

Morphology is the study of the internal structure of a word and the processes involved in its formation. Morphology is divided into two branches, namely: a) inflectional morphology, which deals with various grammatical forms of the word and, b) lexical morphology which deals with formation of new lexemes from different bases within the language. This study discussed lexical morphology of Lala by analysing the morphophonological and morphosyntactic processes involved in word formation in Lala language.

Greenberg (1955) classified the African languages using genealogical method based on morphosemantic similarities. These Languages were classified in four language families as; Afro Asiatic, Congo Kordofanian, Nile-Sahara and Hoisin. Congo – Kordofanian was sub-divided into branches. Bantu languages were placed in Niger-Congo branch of Congo-Kordofanian

class. Greenberg further divided Niger-Congo branch into six groups and placed Bantu under Benue-Congo (1A5). Bantu languages share similar properties of noun class system and tonality. Guthrie (1948) classified Bantu languages after the word was coined by Wilhelm Heinrich Immanuel. Lala is one of the Bantu languages. This is confirmed by Madan (1908) who writes that Lala, like Wisa is a Bantu dialect of the ordinary type.

The Lala speaking people are found in Central Province of Zambia. The people who speak Lala language are called abaLala. Lala is spoken in the areas covering Serenje, Mkushi, Luano and parts of Kapiri Mposhi districts of Zambia. According to Zambia Central Statistical Office (2012), Lala is the largest ethnic group of central province of Zambia. They make up 20.3 per cent of the total population of central province. 17 per cent of the total population of central province use Lala. Making it the second most widely spoken language after Bemba, which stands at 31.8 per cent. Lala is also spoken in some parts across the boarders in Democratic Republic of Congo. The language is classified as M52 in Guthrie's classification of Bantu languages (Guthrie, 1967).

Word formation in Lala involves phonological processes. To create a base for understanding phonology, the information on phonology of Lala is important.Lala has an inventory of five vowels adapted from Proto-Bantu language. Proto-Bantu language is the ancestral language from which all the Bantu languages come. Miti (2006) defines Proto Bantu as a hypothetical language considered to be the direct ancestor language of modern Bantu languages. The term Proto Bantu was coined by Malcolm Guthrie (1948).Table 1 shows the inventory of the vowel system of Lala.

	Front	**Back**
HIGH	i	u
MID	e	o
LOW		a

Table 1: Vowel Inventory of Lala

The consonants in Lala are distinguished on the basis of their manner and point of articulation. Table 2 indicates the consonant inventory of Lala language.

	Bilabial _ +	**Labialdental** _ +	**Alveolar** _ +	**Postalalveolar** _ +	**Palatal** _ +	**Velar** _ +
Nasal	m		N		ɳ	ŋ
Plosives	P *b		t *d			k *g
Fricatives	ß	F	S	ʃ		
Affricates				tʃ dʒ		
Lateral			L			
Approximants					j	W

Table 2: Phonetic Inventory of Consonants and Semi vowels in Lala

The phonemes with asterisk before them are used only before nasals.
The following is a list of examples in the use of the consonants and semi vowels in Lala.
/b/ a voiced bilabial plosive used in kumba before a nasal.
/p/ a voiceless bilabial plosive as in panini 'slowly'
/m/ a voiced bilabial nasal as in tema 'cut'
/d/ a voiced alveolar plosive as in londolola 'explain'
/k/ a voiceless velar plosive as in kula 'grow'
/g/ a voiced velar plosive as in lingula 'marry'
/ŋ/ a voiced velar nasal as in mung'ng'a 'cry baby'
/ɲ/ a voiced palatal nasal as in inyanje [iɲa:ɲdʒe] 'maize'
/j/ a voiced palatal approximant as in yaama [ja:ma] 'uncle'
/β/ a voiceless bilabial fricative as in biila 'announce'
/f/ a voiceless labio-dental fricative as in fuma 'come out'
/t/ a voiceless alveolar plosive as in tema 'cut'
/s/ a voiceless alveolar fricative as in samba 'wash'
/ʃ/ a voiceless postalveolar fricative as in infinshi 'darkness'
/tʃ/ a voiceless postalveolar affricate as in ichiisho 'chatting palce'
/l/ a voiced alveolar lateral as in labila 'talk'
/dʒ/ a voiced post alveolar affricate as in njilya 'that'
/w/ a voiced labio-velar approximant as in webo 'you'

1.1. Syllable Structure of Lala

A syllable is a phonological unit which consists of the syllabic nucleus which is either a vowel or a syllabic consonant and a consonant. The first consonant is known as an onset while the last is coda. The vowel or syllabic vowel creates the nucleus of the syllable. The closed syllable is made up of onset nucleus and coda. Open syllable has onset and a nucleus.Most words in Lala are made up of open syllables. Words are made up of one or more syllables. The syllables in Lala are significant in understanding the formation of new lexical items. The structure of the syllable for Lala language is shown below.

(Onset) + Nucleus + (coda)

The word, munanda 'in the house' is made up of three syllables. These are; a). mu- which is an open syllable whose structure is CV. b). na- is also an open syllable. And c).nda- another open syllable made up of onset and the nucleus.

1.2. Purpose of the Study

The purpose of the study was to analyse the lexical morphology of Lala.

1.3. Objectives

This purpose was realised through three specific objectives as:

- To analyse the morphological processes involved in word formation in Lala;
- To explain some phonological processes involved in word formation in Lala; and
- To analyse some syntactic aspects involved in compound nouns as word formation process in Lala,

2. Literature Review

Lala has scanty literature. The first part of the literature review investigated some of the known literature that has been written on Lala language. The second part discussed related literature on lexical morphology in other Bantu languages in Zambia. The third part investigated studies related to lexical morphology in other Bantu languages within Africa. Finally, the last part reviewed works on lexical morphology in non-Bantu languages.

2.1. Literature on Lala Language

Madan (1908), who was a missionary, wrote a Lala Handbook in which he brought out the grammar of the language. The work by Madan brought out different parts of speech in Lala. The study provided a base for the current study on the nature of some parts of speech in Lala. Noun classes are crucial in lexical morphology of Lala. The work by Madan highlighted ten noun classes. However, from the data analysed by this study on the noun classes in Lala, the study has established that there are eighteen noun classes in Lala. This study did not analyse the word formation processes of Lala language.

Madan (1913) wrote the dictionary of Lala and Lamba. The dictionary by Madan is a combination of Lala and Lamba. The dictionary contributed greatly to the corpus on different parts of speech found in Lala. The study by Madan was also useful in guiding the spelling of lexical items. The dictionary by Madan (1913) did not discuss the morphology of the words. Only the semantic aspects were discussed. The parts of speech involved in word formation were not discussed. Therefore, word formation processes in Lala under lexical morphology were not discussed in Lala-Lamba-English Dictionary by Madan.

The Lala bible has been translated from English, though this is only New Testament. There are also hymn books that have been written in Lala. The Bible and Hymn books provided corpus for lexical items in Lala. As secondary data, they complemented the primary data that was collected on lexical items in Lala. The Bible and hymn book only provided words for study. They did not provide a description of the formation of the words from other words. The current study analysed word formation processes that are involved in lexical morphology of Lala.

2.2. Related Studies on Lexical Morphology in Other Bantu Languages in Zambia

Verbal extensions are used in verbal derivation in many Bantu languages. Chanda(2006) postulates that the ending of verbal extensions in Bantu languages can be analysed in three ways. These are pre-ending, the ending and the post ending. The pre-ending comes before the ending while the post-ending takes the final position in the verb. The final is essential in the formation of tenses, mood, and polarity. In some Bantu languages; the pre-ending is used to denote some aspect of the verb to which they are attached. This is the aspect of verbal extension that is responsible for verbal derivation. The work by Chanda informed this study on the aspects of different verbal affixes that are responsible for various linguistic changes in Bantu verbal forms. It is from the foregoing discussion that the difference between the verbal extensions and the pre-endings are drawn. The work by Chanda gave a direction on the analysis of verbal extensions in the current study. The insight to this study was that there are many phonological processes that go along with affixation as word formation process. The understanding is that formation of the new verbal radical from the verbal extension may involve phonological processes.

Applying Lexical morphology Theory, the current study discussed the extent to which the phonological processes go in affecting the morphemic presentations of different affixes in the verbal form during affixation that involves verbal extensions. And since the affixation of verbal extensions to verbal radicals result in the formation of new verbal radicals, the current study adopted the view that verbal extensions are derivational morphemes. Unlike pre-ending, verbal extensions bring about a change in the verbal root once they are affixed, though the change is class maintaining. These extensions are however, affected or they affect the linguistic environment in which they are attached. This results in morphophonological processes. Analysis of phonological processes involved in verbal derivation is generalised and applied to other derivational and compounding processes in Lala.

Doke (1938) wrote on Lamba grammar under the title, 'Text Book of Lamba Grammar.' Unlike the works done by Madan (1913), Doke did not mix Lamba with any other language. This provided a clear guide for the current study that Lamba and Lala are two separate languages that can be studied separately.Doke (1938:98) writes, "Personal nouns indicating the agent of the action are formed by changing the final vowel of the causative form of the verb to '-i' and adding a prefix in class 1." The researcher gave the following examples; Lamba: sambilisha 'teach' to umusambisi 'teacher'. The

researcher established that a few personal nouns are formed by prefixing class 1 prefixes to verb perfect stems. For example, Lamba: tanga 'begin' becomes; Katanga 'beginner'. Class prefixes in Lamba are crucial in lexical morphology.
The work by Doke illustrated that lexical morphology is possible in Bantu languages. It informed the current study on how nouns are derived from verbs by means of suffixation and prefixation.

In his discussion of word formation processes in Kaonde, Muke (2014) posits that a noun is a single word that can be basic such as (i), stem alone or with non-derivational affixes; Kaonde: ng'ombe 'cow'. (ii) Derived; containing derivational affixes as in Kaonde;mu-jim-i 'farmer' or compound, containing two or more stems: Kaonde: mutunjishi-kata 'teacher-master'. Apart from derivational affixes, nouns in Bantu languages have inflectional affixes that show number. The study by Muke was important to the current study because it provided the premises for investigating derivations as a sub-category of lexical morphology of Lala.

In the study entitled, 'The Phonology of Verbal Derivation in Bemba' Kula (2002) observes that suffixation in Bantu generally involves derivational affixes although some inflectional suffixes such as the perfect, do occur. The study noted that the verb in most Bantu languages is central in the derivation process. The verb was used by the current study in the formation of deverbatives.

Kula (2009) studied compound nouns in Bemba under the title 'Nominal Compounding and Associative Phrases in Bemba'. Kula established that compound nouns are of two types. Root nominals that are directly fused without a linking element and those involving nominals linked by an element called associative marker. As in examples; kabumba wa nongo 'moulder of clay pots'. Wa 'of', a genitive pronoun, is the element being referred to as an associative element. According to Kula, such compound nouns are also referred to as associative phrases or associative noun phrase compound nouns. The study established the characteristics that define compound nouns in Bemba. Associative compound nouns according to Kula straddle between compound nouns and phrases. They have syntactic features of a phrase and that of a noun. The study however, established that associative compound nouns are functionally equivalent to compound nouns because they share distribution properties such as the syntactic headedness.
Kula observed that morphology interacts with syntax in phrasal properties that, according to the scholar, is against a position by Lexical Integrity Hypothesis which has been associated in the study to writers (Lapointe 1980, Disciullo & Williams 1987, Bresnan & Mchombo 1995 and Spencer 2005). However, Kula drew insights from Ackeman & Neeleman (2004) who developed a model based on Jackendoff (1997) that treats morphology as a subcomponent of syntax in their term 'word syntax'. The argument is that morphology creates structures that get inserted into syntax proper and that it is able to refer to some features that syntax does.

The points of reference from the study by Kula are that associative phrases function as compound nouns and that sometimes, morphology operates in the module of syntax in compound word formation. The current study refers this interplay between morphology and syntax to morphosyntax.

Following the literature that was reviewed, as relating to word formation in Bantu languages in Zambia, it was apparent that none of the studies above analysed lexical morphology in Lala exhaustively. Under derivation, no study has investigated verbs formed from other word classes, locativization, and how particles can be used in derivation process like the current study. None of the study reviewed above discussed compounding in Lala and inflections in compounding. Reduplication in word formation in Lala, which was investigated by the current study, was not tackled by the reviewed studies above. None of the studies reviewed analysed word formation processes using LMT and X-Bar Theory like the current study. The areas alluded as gaps in the studies above warranted the investigation of lexical morphology in Lala by the current study.

2.3. Related Studies on Lexical Morphology in Other Bantu Languages outside Zambia

Working on Swahili language, Palome (1967), asserted that deverbatives are derived nouns formed by adding a nominal suffix to a simple verbal root or to the verbal theme already containing one or more derivational suffix. And according to the Swahili Language, the nominal derivational suffix takes the place of the final affix in the relevant verbal stem.

Palome instantiated the evidence of deverbative nominals in Swahili by citing suffixes like '-i'. This suffix, according to Palome, is agentive. It mostly indicates the person or thing performing action expressed by the verb. The nouns derived with it belong to the {m}class of autonomous individualised beings. At times the deverbatives in '-i' may express the whole process by which action is expressed. The agentive suffix '-i' added to Bantu verbal derivational suffix '–agj' expressing a constantly repeated action or a habitual state. For example: Swahili: Winda 'hunt'- mindi '(occasional) hunter' – mwandanji 'professional hunter'

To indicate the state, Palome indicated that Swahili attaches the suffix '-u' to intransitive verbs with class prefix {m}. It indicates someone in definite state. The state itself is expressed by the use of the class prefix {u}. For example: tulya 'be quiet' – mtulivu 'gentle quite person'- utulivu –'calmness'

The suffix ' –o' has double function, indicating two things. First, it indicates the implements which perform action. And secondly, the ultimate result of the action. For example: swahili: funika 'cover'-kifuniko 'lid'. Fungua 'unfasten'-ufunguo 'key'

The current study benefited from the work by Palome (1967) in defining and categorizing the verbal nominalizers in nominal derivation. The study by Palome led this study on the area of nominal derivation.
Mulaudzi (1996) distinguished between the personal deverbatives, non-personal deverbatives, deverbatives which are formed from passive extended verb roots and those which are derived from verb roots which may take the suffix [-e].

Personal deverbatives are characterised by a class prefix placed before the verb stem and replacement of the verbal ending. The following example in Tshiguvu was given: mushimi 'worker' from mu- + -shim- + -i. non-personal deverbatives have a class prefix before the verb stem and an ending –o, -i, -e instead of –a in Tshiguvu. For example; munwalo (writings) mu- + -nwal- + -o. The researcher wrote that the deverbatives based on passive extended verbal roots are formed by simply prefixing the relevant class prefix to the root. Analysis of the relationship between class system and deverbative nouns was done.

The study by Mulauzi provided a basis for analysing the formation of deverbatives in Lala. A description of Tshiguvu deverbatives, which is a Bantu language, was instrumental in the description of deverbatives in Lala.

On the same word formation processes, the current study reviewed the study by Johannes (2007) who studied on Ki-Nata Noun Structure. The study established that noun derivation in Bantu covers the formation of noun stems from verbs, adjectives and other elements and the specification of the classes with which the noun stems may be associated in the construction of nouns. The study indicated that the nouns are mainly derived through affixation.

Johannes (2007) quoted (Palome 1967:77) who asserted that the majority of derived nouns are deverbals. This meant that adding a nominal suffix or nominal class prefix to simple verb root/stem derives a noun. Johannes illustrated ways of deriving nouns from verb stems by using suffixes -u, -e, -i and –o. The researcher referred the suffixes to nominalising suffixes. According to Johannes, in Ki Nata [-i] is agentive nominalizer suffix and is attached to specific class prefixes. The suffix [-o] on the other hand, has essentially a double function in most Bantu languages. It indicates the implement which performs the action and the ultimate result of the action. He gave examples in Kiswahili: lisha'feed' to malisho 'pasture' which is made up of; ma- lish-o. sikia 'hear' to sikio 'ear' The class prefixes with which the agentive nominalizer suffix was illustrated. The suffix [-e] indicates the person or object undergoing the action. The nominalizing suffix forms nouns from verbs using specific noun class prefixes. For example; m-tum-e 'apostle' from tuma 'send'. Ki-umb-e 'creature' from umba'create'

Johannes (2007) premised the study on Lexical Phonology theory. The same theory was used by the current study in analysing lexical morphology in Lala. The scholar elucidated that the theory accounts for the interaction of morphological and phonological processes in the formation of words in the lexicon. The scholar observed that according to the theory, each stage of word formation process is tied to rules of a certain level. The output of each word formation process within the lexicon itself is accounted for by phonological rules of its level. The phonological rules therefore apply after each step of word formation. The study established that Ki-Natal nouns derived from verbs as a result of morphological processes can be assigned to level one and two of morphology and phonology in the lexicon.

Though the concentration of the study by Johannes was on derivation, it provided a lot of areas of consideration for the current study. The study brings to light that LMT can be used to analyse word formation processes.

Tanacs, Csendes, Vincze, Fellbau, and Vasseni (2008) carried out a research in which they discussed the aspects of derivation. They established that the process of derivation of nouns from verbs is the most productive. They indicated that, when nouns are derived from verb roots, a noun prefix as well as a deverbative suffix is required. For example; -fund- 'learn' to u-mu-fund-i 'student' to i-m-fund-o 'education'

The study established that deverbative nouns may have more than one suffix if the deverbative noun is derived from a verb root that has been extended. U-mu-fund-is-i 'teacher' –s- is a causative extension which changes the meaning of –fund- 'learn' to 'cause to learn'

The study contributed to the understating of deverbatives in Bantu languages which was a great tool for analysing Lala lexical morphology in derivation process.

Appah (2003) carried out a study on Nominal Derivation in Akan. The study illustrated that the nominal prefixes for Akan language is either a vowel or a homorganic nasal. The language has suffixes which are for the most part derivational. According to the researcher, it is possible to derive nouns from lexical items of different forms, classes as well as from many clauses and phrases of different types in Akan.

The study looked at subject dropping, object fronting, compounding and affixation as derivational processes in Akan. On affixation, the researcher established that affixation in Akan involves addition of a nominalizing affix (prefix, suffix or both to a structure that enters the derivation process.)

The suffix –fo (Ak/fa), either occurs together with certain prefixes marking plurality in the stems they are attached to. The following example was given; o – pinyin. 'elder' becomes m-panyim-fo 'elders'

The suffix –ni derives citizenship or nationality nouns. As in the following examples: Ghana to Ghana-ni 'Ghanian' and Sodaa 'military' to Sodaa-ni 'soldier'

Appah illustrated that two suffixes –wa and –ba mark diminutivity and/or feminity as shown below. Kuro 'town' kuro-wa 'village'. The suffix –nom is used to pluralise kinship nouns as in the following examples. Agya 'father' agya-nom 'fathers'.The study by Appah was an indicator that though there are similarities in word formation in Bantu languages, there are remarkable differences as well from one Bantu language to another. This study was necessary to the current study because it provided a broader understanding on word formation. That was helpful in analysing lexical morphology in Lala.

Drawing examples from Gikuyu language of Tanzania, Mugane (1997) studied Bantu nominalizations. The researcher establishes that nominalized verbs in Gikuyu bear both noun morphology (noun class marking) and verbal morphology (both inflectional and derivational.)

To account for the distinction between pure, split and mixed category elements, the study used the idea from Extended Heads in Grimshaw (1991) and Bresnan (1996). The theory of Lexical – Functional Grammar (LFG) by Bresnan

(1982) was also used. The theories helped the study to relate affixal information on words directly to grammatical function. Mugane illustrated that deverbal nouns do encapsulate the properties of nouns and verbs simultaneously.
Mugane illustrated that there are derived nouns with prefixes and those derived from verbs. All nominal morphology in Gikuyu is determined by a class system with exception of prepositions. According to the study, nouns exist in two broad types. These are underived and derived nouns. Derived nouns take two forms, those that use prefixation and those that use suffixation. Preprefixation consist solely of diminutive ka- and tu- of class 12 and 13. The augmentative ki- of class 7 as well as collectives ma- of class 6. In the nominalization process of the verb, the study indicated that prefixes and suffixes are added to the root simultaneously.

The study by Mugane (1997) was useful to the current study. This is because it provided the premises for studying affixation in word formation in Lala. It guided this study on the nominal prefixes as locus of derivation in many Bantu languages.

The review of the literature on word formation in other Bantu languages outside Zambia was helpful to this study. It provided the necessary understanding on word formation in Bantu languages outside Zambia. The study by Johanness(2007) on Ki-Nata Noun Structure provided the understanding that LMT is apossible tool for analysing lexical morphology. However, it is apparent that none of the literature reviewed above studied word formation in Lala using both LMT and X-Bar Theory. The current study was necessary because Languages differ morphologically. For example, while in Akan language (Appah,2003) the suffix –ni is derivative for personal noun of citizenship as in Ghana-**ni** 'Ghanian', the nominalizer suffix is used in Lala as an object nominalizer with noun class nine as in in-doba-**ni** 'fishing hook'. The studies reviewed above did not analyse other word formation such as, reduplication and locativization, which this study investigated. Such areas provided a gap that needed to be filled by the current study.

2.4. Related Studies on Lexical Morphology in Non-Bantu Languages

In investigating the pronominal system in standard Arabic, Albuhayri (2013) indicated that in Arabic, there are two main types of word formation as far as root and stem is concerned. The first, according to the study is root internal in which a discontinuous vocalic morpheme is infixed in the root of the word. The following example was given, Arabic: Kataba 'wrote' and Kaatib 'write'. The second process of word formation in Arabic, according to the study was by adding a derivational affix before and after a stem.

The study by Albuhayri concentrated on affixation as word formation process. The study by Albuhavri indicated the possibility in human language of infixing a morpheme in the root of the word. The current study benefited from the examples which were given. That was because some word formation in Lala involves the phonological process of imbrication, where the consonant is inserted inside the root of the word during word formation. It also involves consonant insertion. For example, in the formation of the verb from the onomatopoeia, the verbalizing consonant is inserted before the final vowel, as in Poo**t**a 'fall suddenly'.

Another reviewed literature was by Hladky (1979) who carried out a study on the functions of deverbative nouns in –er English agentive suffix. He indicated that –er is one of the highly productive means of derivation in modern English. Hladky (1979) distinguished three basic types of the –er deverbatives relating to persons. The derived noun may denote (i) a profession or trade (composer), (ii) a person apt to perform the action implied by the verb (goer) and (iii) a person performing an action or being in a certain state at the moment in question (sitter).

All the studies reviewed above on non Bantu languages are instrumental in laying understanding the general concept of word formation which is necessary for the current study. However, since the languages differ from the Language under the current study, there is a considerable difference between the lexical morphology of Lala and the work in the languages reviewed above. For example, Both Arabic and English do not use a prefix for the derivation processes while Lala uses that. The difference in language morphological structure is gap enough to justify the current study.

3. Methods of Data Collection and Analysis

Data were collected using qualitative research design. Semi-structured interviews were conducted on thirty participants for primary data. The participants were purposively selected for the study basing on their proficiency in the language. These were native speakers of the language. Stories were also used to collect primary data. Secondary data were collected from a few known books in Lala such as Lala Bible, hymn book, Lala Lamba Wisa English Dictionary and Lala-Lamba Handbook. Data were organised according to specific parts of speech and analysed using two theories namely; Lexical Morphology Theory for morphophonological process involved in word formation, and X-Bar theory of the Government and Binding Theory, for analysing the syntax of compound nouns.

Lexical morphology theory was first used by Petetsky (1979) and developed by Kiparsky (1982) and theory holds that lexical rules (morphological and phonological rules found in the lexicon) are organised in a hierarchical manner. The application of the morphological rules precipitates the application of the phonological rules. Therefore lexical rules are cyclic. In this way, a word in the lexicon is a product of the interaction between morphological and phonological rules in the given stratum.

The X-bar theory wasmodified to fit in the analysis of compound nouns. This was because the theory was modelled to analyse English phrasal categories. Selkirk (1982) analysed the words such as 'airports' using X-bar schema. He justified the headedness of the English compound nouns and its characteristics. This study adopted this stance and analysed compound nouns using the X-bar theory.

4. Results and Discussion

This section brings out the findings of the results and the discussion of the findings on lexical morphology in Lala.

4.1. Derivation

Derivation is a process of forming new lexical items from already existing ones. The results of the study were that the process of derivation is an active process of word formation in Lala. Derivation was categorised in the following; a) verbal derivation, b) derivation of verbs from onomatopoeias, c) Derivation of adjectives from verbs, d) nominal derivation, e) locativization in derivation and f) reduplication in derivation. Under verbal derivation, verbal extensions are used as derivational suffixes.

4.1.1. Verbal Derivation in Lala

Example (1) below illustrates the formation of new radical by using applicative verbal extension.

1. Pop-a
hammer – FV
pop-il – a popela 'hammer for'
hammer-APPL - FV
[2[popa] il-a 1] 2] Verb + APPL = popela 'harmer for'

In example (1) above, formation of the new radical popil- 'hammer for' is necessitated by the addition of the applied extension –il-. There is phonological process of vowel harmony where the high front vowel /i/ in the extension –il- is changed to low mid vowel /e/ by the mid back vowel /o/ of the radical. The interplay between morphology and phonology happens in level one of the lexicon.

4.1.2. Derivationof Verbs from Onomatopoeias

Derivation of Verbs from onomatopoeias involves insertion of verbalizer consonant. Example (2) below illustrates the formation of the verb from onomatopoeias.

(2) poo
Onomatopoeia (sound made by falling water)
Poo-t-a
Fall with thunder –VZER- FV

The illustration below shows the formation of the verb from onomatopoeia in the lexicon.

[2 [1 [poo-]onomatopoeia –t- a 1] 2]Verb =poota 'fall with thunder'

In the formation of the verb as illustrated in example (36), the affixation of the final vowel /-a**/** to the onomatopoeic stem poo 'sound made by falling water' prompts the phonological process of consonant insertion. In this case, the voiceless alveolar plosive /t/ is inserted in the root by the process called imbrication. In this case, the consonant becomes part of the verbal root. The work of this consonant is to transform the onomatopoeia into a verbal root. This study therefore referred this consonant to verbalizer (VZER). Miti (2006) postulates that a verbalizer maybe a single consonant or a sequence of vowel and a consonant. This phonological process of imbrication is common to most of the word formation process of deriving verbs from onomatopoeias in Lala.

4.1.3. Derivationsof Adjectives from Verbs in Lala

Some adjectives can be derived from verbs. Formation of such adjectives is illustrated in example (3) below.

(3) a. –sweta
be light
Umu-lumbwana umu-swet-il-e akoisa. 'light complexioned young man is coming'
NCL 1-youngman NCL 1 – be light- EXT-FV is coming

The process of the formation of this adjective is interpreted in the lexicon as shown below.

[2 umu- [1 [sweta] Verb -il-e 1] adj.2] ADJ + SG. = Umuswetele. 'light complexioned'

In the formation of the adjective in example (3) above, the extension -**il**- and the FV –**e** are added at once in stratum one. This results into the formation of the adjective stem –swetele 'light'. In stratum one, the morphological process of affixation of the extension precipitates the phonological process of vowel harmony. Through vowel harmony, the mid front vowel /**e**/ in the root, causes the high front vowel in the extension **/i/** to change to a mid-front vowel **/e**/.

4.1.4. Nominal Derivation in Lala

Some nouns in Lala are formed by affixing a nominalizer to a verbal root and then prefixing it with noun class prefix. These are deverbatives. Example (4) illustrates this word formation process.

(4). tanik-a
crucify-FV
Umu-tanik-i 'crucifix'
NCL 3-crucify-NZER

The strata below illustrate the affixation process shown above in the lexicon.

[2 NCL 1[1 [tanik-]Verb –i 1] Noun2] Noun + SG = umutashi 'crucifix'

In example (37a) above, derivation of the object noun umutashi 'crucifix' occurs in the first and second strata. The NCL 1 and the suffix [–i] are added to the root tanik-'crucify' in the second and first strata, respectively. They are not attached at the same time. Affixation of the high front vowel to the verbal root in level one, results in the phonological process of spirintization or fricativization. The voiceless velar plosive /k/ changes to a post alveolar fricative sound /ʃ/,before the high front vowel /i/. There is also a process of nasal deletion before a fricative.

4.1.4.1. De-nominals in Lala

Nouns in Lala can be derived from other nouns. This is done by prefixing the noun class 7 and 8 prefixes for pejorative or augmentation. Diminutive nouns are formed by prefixation of noun class 12 and 13. This is shown in example 5.The morphological structure of the noun is PREPREFIX + V + PREFIX + NOUN.

(5). Umutwi
NCL 3 head
Ichi-a-mutwi ichamutwi 'big bad head'
NCL 7-V- head

The lexicon representation of the word formation is shown below.

[2 NCL 7 –a- [1 NCL 3 [twi]Noun 1] Noun + SG 2] Noun + pejorative = ichamutwi 'big bad head'

In the formation of the pejorative noun ichamutwi 'bad big head', the process of vowel deletion is induced. The vowel is deleted from the noun umutwi 'head'.

4.1.5. Locativization in Derivation in Lala

Locatives are attached to a demonstrative so that they assume the role of a demonstrative. This study adopts that locatives attached to the demonstrative pronoun functions as a locative demonstrative. The structure of the locative demonstrative is; PARTICLE (N) +PREFIX + STEM. The particle n is used for emphasis. In his comments about demonstrative in Lala, Madan (1908) states that there are four groups of demonstratives all formed on the concord prefixes and each group with a simple form and an emphatic made by prefixing n. This study refers the emphatic nasal to a particle. The Examples in (6) below show the formation of locative demonstratives.

(6) n-pa-lya mpalya 'there' not very far
PARTL-NCL 16-there

In the example given in (6) above, locative demonstratives are formed by affixing a simple locative to the demonstrative. Affixation of the particle n prompts phonological processes of regressive assimilation. In this case, the alveolar nasal /n/ becomes a bilabial nasal /m/in anticipation of voiceless bilabial plosive /p/ in the locative.

4.1.5.1. Reduplication as a Word Formation Process in Lala

Reduplication is a word formation process which involves repeating nouns, verbs, adjectives, numerals and idiophones to form a new lexeme. Example (7) shows formation of the word by reduplication.

(7) Ichilopa
NCL 7-blood
Ichilopalopa 'bloody scene'
NCL 7-blood-blood (REDUPL STEM)

The formation illustrated above can be depicted in the lexicon as shown below.

[2 ichi- [1 [-lopa] Noun [-lopa] Noun1] REDUPL.STEM. 2]REDUPL STEM + NCL 2 =ichilopalopa 'bloody scene'.

In the first stratum, the new stem is formed through the process of reduplication. The new stem formed is –lopalopa 'bloody scene'. This formed noun stem should receive a class just like any other noun in Lala. The choice of the noun class marker is a preserve of the noun stem.

4.2. Compounding as Word Formation Processes in Lala

Compounding is also used as a word formation process in Lala. Compound nouns in Lala are classified under semantic and syntactic categories based on their composition. Lala compound nouns are generally left headed. Under semantic classification, there are nouns in Lala which have semantic heads and others do not have. Endocentric compounds have heads. The head indicates the sub-grouping within the class of entities that it denotes. In the compound noun amatembo ngombe 'big wasp', the left word gives the semantic category of the compound. On the other hand, exocentric compounds do not contain semantic heads. The meaning of the compound is not easily predicted from any of the constituents of the compound noun. For example, in muntu ngulya 'evening time before dusk', the meaning is opaque. In copulative compounds, the two words involved in a compound noun contribute to the meaning of a compound noun. For example in amapandwa nshila 'junction', the two words amapandwa 'splinted parts' and inshila 'way' contribute to the meaning of the compound on equal status.

Syntactically, all compound nouns in Lala have heads. The head of a compound noun percolates its syntactic features to the rest of the constituents. In most cases, the other constituent acts as a modifier of the head word. Using the X-Bar schema, Figure 1 illustrates the composition of the compound noun muntu ngulya 'evening'

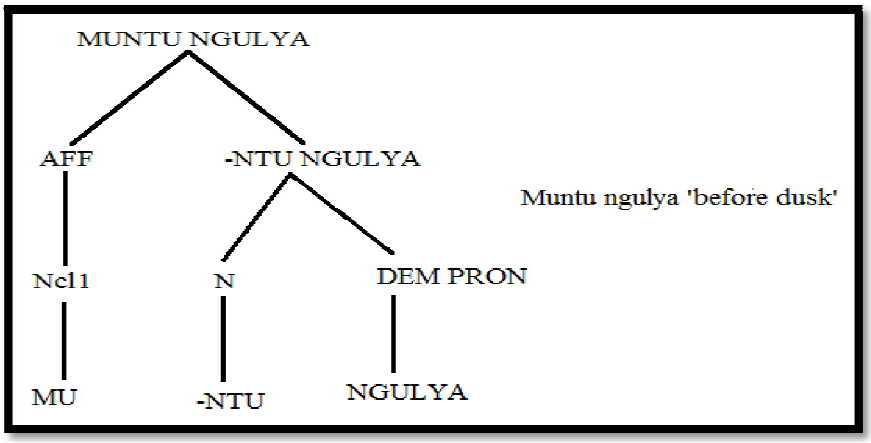

Figure 1: Formation of the Compound Noun -Muntungulya

Formation of the compound muntu ngulya 'evening' from the words umuntu 'person' and ngulya 'that', involves phonological process of vowel deletion from the first word. The left most word umuntu 'person' percolates all its syntactic features to the other word. The features of plurality and singularity are passed on to the rest of the compound noun phrase from the head word. The noun is formed from two syntactic words, namely, a noun and demonstrative pronoun as shown in the X-Bar schema above.

5. Conclusion

Word formation in Lala is a preserve of the lexicon. It involves phonological processes at every level in the strata of the lexicon. Morphological processes give in to phonological processes and vice versa. Hence, word formation is a cyclic process. Derivation and compounding are involve formation of the lexical category from another. Derivation in Lala involves affixation while compounding involves conjoining lexical items which can occur elsewhere as independent words. Compounding in Lala involves conjoining of both full lexemes and abbreviated lexemes. There is evidence of morphosyntax in the formation of compound nouns in Lala. Syntactic aspects of feature percolation and headedness like in phrasal category are evident in compound nouns in Lala. Syntactically, all compound nouns in Lala have heads. Syntactic heads are always found on the left part of the compound noun. They are responsible for sharing their syntactic features to the rest of the compound noun. .

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