

Aspects of Koro Word Formation Processes

Uwumarogie Peter & Yakubu Jacob Umaru

News Agency of Nigeria (NAN) Bauchi & Department of Languages and Linguistics, Nasarawa State University, Keffi, Nasarawa State.

updlinguist@yahoo.com&umaruyakubu@nsuk.edu.ng

Abstract

This paper examines the concept, structure, and formation of the Koro (Migili) words. The analysis is based on the information obtained from Koro (Migili) speakers. The dearth of research on the morphology of the language triggers this research, in view of the relevance of word formation to syntax and the development of the orthography of any language. The analysis of the data identifies prefixation, compounding, reduplication and borrowing as productive morphological processes in the language and shows that prefixation plays both inflectional and derivational roles. The derivational prefixes are: **í**, **mú**, **nyí**-, **nyε**- and **mù**- and they nominalise prefixes: **í**-, **mú**-, **nyε**- and **mù**-. It is shown that **n**- is not a plural prefix and previous claims that **nyí** – and **í**- only play inflectional roles are also disclaimed. The boundaries of the words to be compounded can be strong or weak. It is a strong word boundary when segment or syllables are not elided during compounding. The study addresses the foundational levels of the morphology of Koro (Migili) by exposing some of its morphological patterns and laying the background for the study of syntax of the language, which scholars and students will find very useful for scholarly and pedagogical purposes.

Keywords: Aspect, word formation, affixation, compounding, borrowing

1. Introduction

Word formation is an important part of the grammar of any language. Little wonder volumes of literature on *word* and its formation have been given rigorous studies over the years as is evident in Nida (1949), Worth (1972), Matthews (1974), Aronoff (1976), Anagbogu (1990), Anagbogu, Eme and Mbah (2010) and Omachonu (2011). The concept ‘word’ is as important as that of the sentence if not more since morphology provides the basis for the study of syntax. In view of this importance, Booij (2005) asserts that there are two kinds of grammar: the grammar of words and that of sentence. Booij’s explanation on the kinds of grammar shows that the grammar of words provides the fundamental blocks for the grammar of sentence as no sentence is formed if the words are not there. Booij (2005) gives two basic functions of morphological operations as: the creation of new words (lexemes) and spelling out the appropriate form of a lexeme in a particular syntactic context. Anagbogu (2011), Madondo (2001) describe the first function as those of derivation and the second, inflectional morphology. There can be no form of lexeme if there is no lexeme, hence the word ‘taxation’ will not be without the lexeme ‘tax’; so also, in Yoruba *ràá* ‘buy it’ will not exist without the lexeme *rà* ‘to buy’. O’Grady, Archibald and Katamba (2011) claim that ‘nothing is more important to language than words. Sentences are made up as needed and then discarded but words are permanently stored in a speaker’s mental dictionary or lexicon. This lends credence to the importance of words to language and linguistics generally.

In contemporary linguistic research, a lot has been done on *word* and its formation in languages like English, Yoruba, Ìgbò, and Hausa. However, there are languages which are yet to get such attention and Koro (Migili) happens to be one of such. Hence, the need for a study of this nature on word formation in Koro (Migili). However, this is not to say that there are no existing literatures on the morphology of Koro (Migili). Past research (Agwadu and Agwadu, 2012, Igube, 2013 and Oyesunkanmi, 2011) paid more attention to

morphological processes without detailed examples in the language. The study seeks to answer the following questions:

- 1 How is a word identified in Koro (Migili)?
- 2 What are the morphological processes in Koro (Migili)?
- 3 How are loan words domesticated phonologically in Koro (Migili)?

1.1 Genetic Classification

Genetically, Koro (Migili) has been classified as belonging to the Benue-Congo subgroup; Platoid branch; Plateau Southern cluster (Blench 2006). Phonologically, the language is a tonal language; several Koro (Migili) words have more than one meaning. In speech making, the tone determines what a speaker implies, and in writing, diacritic determines the meaning of the message. The language is specifically a register tone language with high, mid and low tones. Tone in this language plays both lexical and grammatical functions. Oyesunkanmi (2011) asserts that the language has twenty nine (29) consonants and 14 vowels which comprise seven (7) oral vowels and seven (7) nasal vowels. Co-articulated sounds such as /kp/, /gb/, /gw/, /kw/, /ky/, /ɲm/ characterise the language. Syllabically, the language permits CV, CVV, CVC, CCV, and CCVV syllable structures (with the structure CVC on rare instances).

1.2 Methodology

Though Koro as a language is spoken in pockets of states outside Nasarawa, however the population for this study is based on the Migili dialect (Upper dialect) spoken in Nasarawa state. This study has adopted a descriptive approach to analyze the word class system in Koro (Migili). Mugenda and Mugenda (1999) point out that descriptive research determines and reports the way things are. The data for this study has been elicited through primary where native speakers of the villages whose ages range from 40-70 were interviewed with special preference for those who have not travelled outside those places and secondary sources. For the secondary data, undergraduate projects on the morphology and syntax of the language and other languages were also use. For the instruments for data collection, Blench's (2014) wordlist rendered into Koro (Migili) has been used to supplement the other data. The collected data has been systematically sorted and analysed after due authentication by teachers and students of Koro (Migili) so as to verify the data collected. This is to account for the integrity as well as the validity of the data. The data collected has been systematically sorted and analyzed by the use of a descriptive method, with the help of a research assistant. This method was favoured because it adequately captures the description of linguistic data, the way they are.

2. Review on Word Formation Processes

Word formation processes are means by which new words derived in a language either of existing words or other innovative mechanisms. In the following sections, we have provided overviews on some of the word formation processes.

2.1 Affixation

Affixation is a morphological that structures a stem and an affix together to form a larger stem, to which another affix can be attached to form another even larger stem, as long as the appropriate semantic and selectional restrictions are obeyed (Ito and Mester, 2013). Haspelmath and Sims (2010, p.19) argue that an affix is attached to a word or main part of a word. It has an abstract meaning and an affix cannot occur by itself. For instance, the word "fight-er" as in "fight" with "er" come together to form "fighter" but "er" can not stand on its own and make a complete sense. In other words, affixation as a morphological process involves attaching a bound morpheme to the root (or stem) of a word. Affixation includes: prefixation, suffixation, infixation, suprafixation and circumfixation. For the pupose of this study, prefixation and suffixation shall be explained.

Prefixation involves the addition of a bound morpheme to the root so as to derive a new word while suffixation on the other hand is the attachment of bound morphemes to the root word but at the end of such root word. Consider examples 1 as follows.

Prefixation	Suffixation
<i>l. Re -</i> -take	Teach- <i>-er</i>
<i>In -</i> -form	Bake- <i>-ing</i>
<i>Con-</i> -firm	Cook- <i>-s</i>
<i>Im -</i> -possible	Walk- <i>-ed</i>
↓	↓
Prefixes	Suffixes

Anagbogu, Mba and Eme (2010)

2.2 Compounding

Compounding is “a process that combines together two or more words to form a new word” (Yusuf 2007, p. 92). Fromkin and Rodman (1978) describe compounding as the recombination of old words to form new ones. Similarly, Pei (1966) notes that a compound word is a word that contains more than one free form. From these definitions, it is obvious that compounding involves the combination of two or more words to form a totally new word.

In Katamba’s (1993, p. 291) view, a prototypical compound “is a word made up of at least two bases which can occur elsewhere as independent words”. This entails that compounding involves the combination of two linguistic forms that can stand independently in a dictionary or mental lexicon of native speakers of such language. From the above definitions, it is obvious that the inputs of compounding are independent lexical items that can exist on their own. Therefore, a compounded entity must have a resemblance of the combined forms clearly at the surface representation. For example the compound word ‘*classroom*’ can be seen to be the product of ‘*class*’ and ‘*room*’. Croft (1991) and Heine and Reh (1984) as cited in Madondo (2001) have noted that certain phonological processes interface with compounding especially in weak word boundaries and in this study, these processes have been discussed under the morphophonemic processes in view of the interaction between phonology and morphology vis-à-vis word formation.

2.2.1 Types of Compounds

Lieber and Stekauer (2009) assert that compounding is an intensively studied word formation process. Booij (2012) opines that its defining property is that two or more words (in the sense of lexemes) are concatenated. The notion of a head in compounding is often used to explain the two categorizations into which compounds can be grouped which are endocentric and exocentric compounds. Bauer (1995, p. 35) notes that “endocentric compounds denote a sub-class of the items denoted by one of the elements”. Booij (2012) explains further by asserting that in endocentric compounds one of the constituent words is the semantic and syntactic head. This means that in an endocentric compound there must be a head and this head in the view of Iordachioaia (2015, p. 14) is the only lexical item that can take inflection. In languages that have normal inflection, there are two (2) possibilities:

- a) The head of a compound bears inflection, but its non-head does not
- b) Non-head bears a compound-specific inflection.

Iordachioaia (2015) opines that exocentric compounds have no head. Having looked at these two types of compounds, it is not out of place to say that the concept “head” is the determining factor for either exocentric or endocentric compounds.

Compounding as a morphological process is common to languages and has been intensively studied as noted by Lieber and Stekauer (2009) but the process of compounding in different languages however shows some peculiarities especially in the way heads of compounds are positioned. Booij (2012) notes that in English and other Germanic languages the right most constituent is the head. Explaining further, Booij (2012) asserts that in languages with gender such as Dutch the gender of the compound is also determined by the gender of the right constituent (as referred to as the head). For instance, in English, a *post-office* is a particular type of office and not a kind of post. Also in Dutch, the gloss for post office is *post-Kantoor*. Its head *kantoor* is of neuter gender and hence, the word *post-kantoor* (Booij 2012, p. 6). This is to say that the position of head in compounds is language-specific (Booij 2012, p. 7). To illustrate this assertion, Booij (2012) gives an example to show that Indonesian compounds have their heads positioned to the left. Hence, the Indonesian word for “post office” is the compound *Kantoor-pos* (with *Kantoor* and *pos* being loans from Dutch), with the reverse order of the two words. In view of Lieber and Stekauer’s (2009:5) compounding is an intensively studied area of morphology, such claim is also confirmed in Koro.

2.3 Reduplication

Iloene and Yusuf (2007:90) define reduplication as “a morphological process whereby some morpheme is copied in part or wholly to form a new word”. Osuagwu and Nwaozuzu (1997) see this concept “as a process by which a root or stem is repeated in the derivation of a new form”. Adejoh (2013) opines that in reduplication either a part of a whole stem is copied and affixed to the stem of a word either as a prefix or suffix. In another view, Madondo (2001, p. 7) defines reduplication “as a morphological process whereby the same morpheme is used more than once in a word”. Similarly, Bauer (1995, p. 25) defines reduplication ‘as using some part of the base (which may be the entire base) more than once in the word’. From these definitions it is clear that reduplication involves the use of the whole or part of the same morpheme more than once in a word. However, these definitions fail to mention the semantic implication of reduplication that is whether there is a change or retention of meaning or word-class when new words are formed through reduplication. In an attempt to view reduplication from the semantic angle, Rubino (2005) sees reduplication as “the systematic repetition of phonological material within a word for semantic or grammatical purposes” this definition shows that reduplication plays some semantic roles in morphological analysis. Explaining further the function that reduplication serves in different languages, Rubino (2005, p. 19) asserts that reduplicative morphemes can carry a number of meanings, and in some languages the same reduplicative morpheme is used to denote quite contrary meanings. Rubino (2005) asserts that reduplication may be used to denote a number of things such as number (plurality, distribution, and collectivity), tense, aspect and conditionality. Oyebade (1992) and Rubino (2005) identify two forms of reduplications: *partial and full*. Oyebade (2002) sees partial reduplication “as involving copying only the consonant or vowel and putting this in prefixal position or adding it to the root in suffixal position”. Rubino (2005, p. 11), opines that partial reduplication “may come in variety of forms, from simple consonant gemination or vowel lengthening to a nearly complete copy of a base”. On the other hand, Oyebade (1992) sees full reduplication as involving “total copying of the root word”. Rubino (2005) see full reduplication as “the repetition of an entire word, word stem (root with one or more affixes), or root”. Rubino (2005) give the following examples in Tausug (Austronesian Philippines):

2.	i.	dayang	‘madam’
	ii.	dayangdayang	‘Princess’
	iii.	laway	‘saliva’
	iv.	laway-laway	‘land snail’

2.4 Borrowing

According to Al-Qinai (2000), linguists working on loan-words (borrowing) opine that “a pure language is a poor language”. This lends credence to the fact that all languages borrow and no language is entirely self-sufficient when it comes to the words used by such language. The concept of borrowing rests on language contact. Gleason (1961) defines borrowing as “the copying of linguistic items from one speaker of another speech form”. Hartmann and Stork (1972) define the term as the “introduction into a language, elements from another language or dialect by contact or imitation”. Similarly, Howard and De Amvela (2000) see the same concept as “when speakers imitate a word from a foreign language and at least, partly, adapt it in sound or grammars to their native language”

These definitions point to the fact that the concept of borrowing is tied to a transfer of foreign words from a particular linguistic community to another through contact. From these definitions, it is however true that Gleason and Hartmann and Stork (1972) see borrowing as just receiving foreign words into another language; they did not tell if these foreign words undergo some modifications to be able to fit into the language (native). In view of this, the study deems Howard and De Amvela’s (2000) definition suitable for being explicit about the foreign words. Gleason (1961) and Hartmann and Stork’s (1972) definitions make borrowing seem like using a foreign word in a native language without any modification. All languages have their own rules and systematic way of patterning the words that exist in their own language. Howard and De Amvela’s use of term “adapt” proves that foreign words would have to be tailored into the native language so they could exist and these modifications could be phonological. Phonological adaptation of loan words involves tailoring foreign words to fit the standard of the sound system and phonotactics of the native language. In view of this, Howard and De Amvela’s definition has been favoured by this study as being exhaustive for the context within which the study is based.

Some linguists have questioned the use of the technical word “borrowing” (Gardner-Chloros 1999). Their views are triggered by the fact that when languages borrow, they never pay back. I strongly disagree with this view. In my own opinion, languages pay back borrowed words in a way when such language also loans her morphological entities to other languages which in turn, snowballs into the earlier statement that a pure language is a poor language: hence; when languages borrow, they somewhat payback by loaning theirs to other languages. Though this presents a case of robbing Peter to pay Paul; but it is somewhat a kind of payment since there is only one common ground where this borrowing and loaning takes place: language.

Omachonu (2011, p. 101) asserts that, there are two reasons for borrowing. According to him, borrowing is one of the implications of languages in contact. Secondly, languages of the world tend to borrow lexical items that are absent in their lexicon. Omachonu (2011, p. 101) reveals that the Igala language is assumed to have borrowed the under-listed from English, Hausa, and Ìgbò languages respectively.

3	i.	English	Igala
		table	ítébùlù
		engine	íjìni
		church	íchòchì
	ii.	Hausa	Igala
		achana	àcháná ‘match box’
		lafya	òlàfíyà ‘health/healthy’
		sadaka	òhídáka ‘sacrifice’

Iloene (2007, p. 192) classifies borrowing into three categories: *importation*, *adaptation* and *substitution*. Explaining further, Iloene describes importation as the outright transfer from some languages. Examples are given as follows in 4.

	Source Language	Word	Ìgbò	
4i.	English	atom	atom	‘atom’
		limbo	limbo	‘limbo’
ii.	Hausa	súyà	súyà	‘roast meat’
		wàyó	wàyó	‘cheat, trick’
iii.	Yoruba	àkàrà	àkàrà	‘bean nugget’
		ibà	ibà	‘fever’
iv.	Efik	ekpo	ekpo	‘child mask’
		isam	isam	‘periwinkle’

Adaptation on the hand involves the various forms of modifications of the source language words for the sound, meaning and function in the target language (Iloene 2007). Iloene explains further that adaptation could be *phonological* if the sound is modified, *semantic* where there is a word for word translation from a source language into Ìgbò. Adaptation could also be *pragmatic* when the physical form, and, or qualities of the referent are utilized. Examples of phonological adaptation as given by Iloene (2007, p. 193) are:

5i.	iyeri	‘earing’	English
ii.	jara / gyara	‘extra, bonus’	Hausa

Substitution involves outright creation of a new word to refer to source language concept. Sometimes, dialect words are used and their meanings extended to describe new concepts in the target language.

iii.	<i>onyonyoo</i>	‘television’
iv.	<i>asambodo</i>	‘certificate’

3. Word Formation Processes in Koro (Migili)

Koro (Migili) like every other language employs various techniques to derived words to expand its vocabulary. The techniques commonly found in Koro (Migili) are affixation, compounding, reduplication and borrowing. These shall be discussed in detail.

Word formation is a derivational or formation of words through some processes or strategies. It focuses on how words are constructed, what constitute them, and the processes (morphological and phonological) that take place in their construction. Morphemes are the building blocks of words in any language; in view of this, we shall examine the different types of Koro (Migili) morphemes that are used in the building of Koro (Migili) words. Koro (Migili) morphemes are different in form and in application. This results to various types of the morphemes such as bound, free and zero.

The bound morphemes of Koro (migili) are *a-*, *i-*, *mu-*, *amu-*, *mi-*, *nyí-* and *nyε-*. Although morphemes have meaning, bound morphemes cannot convey any wholistic meaning on their own without being used in conjunction to other bound morphemes.

Koro (migili) free morphemes on the other hand have been exemplified as in (6i-vi) below to include:

- (6 i) *áwá* ‘fear’,
- (ii) *kíshísha* ‘story’,
- (iii) *kúswé* ‘fish’,
- (iv) *íseni* ‘river’,
- (v) *kíci* ‘tree’,

(vi) *rúgḍ* ‘mountain

The last type of the morpheme is the *zero morphemes*. Koro (Migili) zero morpheme indicates a grammatically significant absence of a morpheme in a word-form. This occurs in plural formation of certain words as shown below: *ina* ‘scorpion’, *imru* ‘beard’, *isho* ‘bee’, *aza* ‘name’. These words have their plural forms same as the singular because the plurals of these words are formed using the zero morpheme.

It is however note-worthy to state that suffixation in Koro (Migili) is not as productive as others. The few examples are those given by Oyesunkanmi (2011) as shown below:

	word	meaning	plural
(7)	gbḍ	fall	gbere
	gru	wash	gùgra

This has been exemplified in the sentence below for clarity.

- (8i). Kúpì nègbḍ
Wall the fall (pst)
‘The wall fell’
- (ii). Ápì nè gberε
Walls the fall (pst)
‘The walls fell’

3.1 Prefixation

This process in Koro (Migili) performs both grammatical and derivational functions in the language. The most commonly used prefixes are: *á-*, *mú-*, *í-*, *mù-*, *àmù-*, *mí-* *nyí-* and *nyε-*. Of these prefixes, *á-*, *àmù-*, *mí-* only play inflectional functions that shall not be discussed in view of the scope of this work. *Nyí-*, *mù-* and *nyε-* only play derivational functions. While *mú-* and *í-* play both derivational and inflectional functions. In all, derivational prefixes in Koro (Migili) are *í*, *mú*, *nyí-*, *nyε-* and *mù-* as illustrated below. It should be noted that in Koro (Migili), when prefixation plays a derivational role, it often results to nominalisation as show below:

(9 i)	nyí-	ígwàrà jèrε mèrε zwe nyízwekúpì	‘opening’ ‘plant’ ‘learn’ ‘build’ ‘builder’	nyígwàrà nyíjèrε nyíjèrε kúpì	‘one who opens (doors)’ ‘one who plants’ ‘learner’ ‘wall’
(ii)	í-	jèmijē kwàna Pó gbe ‘to receive’	‘to direct’ ‘admre’ ‘to intoxicate’	íjemijē íkwàna ípó ígbe	‘direction’ ‘admiration’ ‘intoxication’ ‘reception’
(iii)	nyε-	múgá múzḍ ‘journey’	‘magic’ ‘traveller’	nyεmùgá nyεmùzḍ	‘magician’ ‘traveller’

From the data (9i-ii) above, it is evident that the prefixes *nyí-* and *í-* play derivational roles which result to nominalisation. While the prefix *nyí* plays the role of agentive marker in Koro (Migili), *í-* serves as a nominalising prefix as exemplified in (9i-iii) above.

Since prefixation in Koro (Migili) plays a derivational role that results to nominalisation in the language, we shall look at nominalisation as a product of prefixation in Koro (Migili). In Koro (Migili), a noun is formed from a combination of a prefix and a verb or from the combination of a prefix and other lexical categories. Nominal in Koro (Migili) can also be derived through the morphological process of compounding as discussed 10 above. *Í, mú, nyí-,nyε-* and *mù-* are the major nominalising prefixes known to Koro (Migili) language. These have been discussed below. The structures of Koro (Migili) nominalisation that we will examine in this work can be summarised as

- a. Nom. Prefix + verb (Vb)
- b. Nom. Prefix + Noun (Nn)
- c. Nom. Prefix + verb (Vb) + Noun (Nn)

Nom. Prefix + vb

10i)	í	#	kwàna	→	íkwàna
	Nom. Prefix		‘to admire’		‘admiration’
ii)	í	#	brɔ	→	íbrɔ
	Nom. Prefix		‘spoil/destroy’		‘destruction’
iii)	mú	#	zwá	→	Múzwá
	Nom. Prefix		‘good/beautiful’		‘goodness/beauty’
iv)	mú	#	sá	→	músá
	Nom. Prefix		‘sweet’		‘sweetness’

From the data above, it is evident that *í, mú* are nominalising prefixes. Also revealed is the fact that there is tonal stability, specifically the low and high tones when words are nominalised in Koro (Migili) as seen in (10 i) where the tone of *kwàna* ‘to admire’ is maintained. However, the mid tones are changed to high as evident in *brɔ* and *zwa* which become *brɔ́* and *zwá* when nominalised.

Nom. Prefix + Nn		→ Noun		
11i).	nyε	#	áklodzi	nyéèklodzi
	Nom. prefix		‘money’	‘wealthy man’
ii).	nyε	#	múgá	nyεmùgá
	Nom. prefix		‘magic/charm’	‘magician’
iii).	nyε	#	múzɔ̃	nyεmúzɔ̃
	Nom. prefix		‘journey’	‘traveller’
iv).	nyε#		mízě	nyémízě
	Nom. Prefix		‘market’	‘trader’
v).	nyε	#	kúpò	nyékúpò
	Nom. Prefix		‘village/place’	‘villager’
(vi)	nyí	#	kpókína	nyíkópókína
	Nom. prefix		‘farm’	‘farmer’

From the data in (11i-iv) above, it is evident that the *nyε-* prefix has a different tonal pattern compared to the other nominalising prefixes. The *nyε-* nominalising prefix changes the tone of the vowel of its stem to an all low tone pattern as in *nyε+múzɔ̃* ‘magic/charm’ = *nyεmúzɔ̃* ‘magician’, while the mid tone is retained as in *nyε+áklodzi* = *nyéèklodzi* ‘wealthy man’. The prefix also in some cases especially when it precedes a vowel as seen in (11i) above where the initial vowel assimilates the vowel of the prefix while the tone of the vowel is assimilated by the

vowel of the nominalising prefix to have *éè* as seen in the word *nyéèklodzi* ‘wealthy man’. The nominalising prefixes in the data (11 i-vi) above, *nyé-* and *nyí-* play agentive roles.

Nom. prefix + vb + Nn				→	Noun	
12 (i)	mù	#	zðrɔ	#	mùgǎ	Mùzðrómùgǎ
	Nom. Prefix		‘do’		medicine	‘medicine man’
(ii)	mù	#	wɔ	#	mínyɛ	mùwómínyɛ
	Nom. Prefix		‘kill’		‘people’	‘murderers’
(iii)	Nyí	#	Kũ	#	ńkpĩ	nyíkũńkpĩ
	Nom.prefix		‘guard’		‘place’	‘guard man’
(iv)	Nyí	#	Krɔ	#	kúcɔ	nyíkrɔKúcɔ
	Nom. Prefix		‘park’		‘head’	‘barber’

The data (12i-iv) above also shows how words are nominalised using the structure *Nom. prefix+ vb+Nn*. There is also evidence of tonal stability for low and high tones whereas the mid tone becomes high when nominalised irrespective of the tones of the nominalising prefixes as shown in (12i-iv) above where *mù* ‘nominalising prefix’ *zðrɔ* ‘do’ *mùgǎ* ‘medicine’ which were combined to form *mùz ðr òmùgǎ* ‘medicine man’. However, when the vowel of the verb is having a Mid tone it changes to a high tone as shown in (12 i-iv) where *zðrɔ* ‘do’, *wɔ* ‘kill’, *kũ* ‘guard’, *krɔ* ‘park’ with mid tones becoming high as in *zðrɔ́*, *wɔ́*, *kṹ*, and *krɔ́*.

3.2 Compounding

This is a process of word formation in which two or more free morphemes (words) are combined to form a new word. The process of compounding involves two processes which have been classed based on the boundaries of the words to be compounded. The boundaries of the words to be compounded in Koro (Migili) can be strong or weak. It is a strong word boundary when segment or syllables are not elided during compounding. Examples are shown below:

13i)	kúcɔ	#	rúgð		kúcórúgð
			‘head’	‘mountain’	‘mountain top’
ii)	dzá	#	zhé		dzazhé
			‘child’	‘king’	‘prince’
iii)	zhé	#	lúkɔ		zhélúkɔ
			‘king’	‘war’	warrior’
iv)	kúsolo	#	kpò		kúsolokpò
			‘finger’	‘elder’	‘toe’
v)	ídzi	#	mùzã		ídzímùzã
			‘buttocks’	‘stream’	‘stream bank’
vi)	ntrí	#	fùlé		fùléntrí
			‘yam’	‘flower’	‘yamflower’

From the data in (13 i-vi) above it is evident that the individual words that come together to form the compound words have none of their segments or syllables elided. This is to show that phonology has no effect on the derived forms. The examples above are examples of the strong word boundary. Also noticed is the fact that compounding in Koro (Migili) is a nominalising tool even though the individual words that make up the compound might not all be nouns. It should be noted that Koro (Migili) compounds have a pattern as to how they are structured during derivation. In Koro (Migili), the head of the compound always appear first after compounding irrespective of their positions before compounding. From the examples above, *kúcɔ* ‘head’ is the head of the compound and not *rúgð* ‘mountain’, hence its position at the beginning of the compound. In (13 vi) above, the head of the individual words to be compounded is *fùlé* ‘flower’ and not *ntrí* ‘yam’, hence *fùléntrí* ‘yam flower’.

(14 i)	dzá	#	nyevèlè	dzávèlè
	‘child’		‘male’	‘boy’
ii)	kùyo	#	àdùwa	kùyodùwa
	‘room’		‘pray’	‘church’
iii)	ízā	#	itsi	ítsízā
	‘grave’		‘yard’	‘graveyard’

The examples (14 i,ii and iii) show what we refer to as weak word boundary. This is because of the elision of segment and syllable. In (14i), *nye* was deleted while *à* and *í* as segments were elided in (14 ii and iii) respectively. This weak boundary shows the contribution of phonology to Koro (Migili) word formation. The phonological process(es) that apply to the examples (14 i-iii) above have helped to eliminate that part that could have blocked the application of compounding in the formation of *dzávèlè*, *kùyodùwa* and *ítsízā*.

Moreso, in Koro (Migili), elision plays a vital role in word-formation as a process which brings compatibility between different items which may be words in compounding. This phonological process helps to eliminate the part(s) that may block the application of the morphological rule(s). It may separate a vowel and the consonant of the same syllable.

In compounding, it is normally the terminative vowel of the first noun or the initial vowel of the second item that is open to elision. This is exemplified in following examples.

(15 i)	Kùyo	#	àdùwa	Kùyodúwa
ii)	Dzà	#	nyevèlè	dzávèlè

In some instances, it is the whole morpheme that is elided as it is the case in the example 15 below; where the singular prefixes are elided before adding the plural prefixes during pluralisation.

(16)	múwa	‘snake’	íwa	‘snake’
------	------	---------	-----	---------

3.3 Reduplication in Koro (Migili)

This is a morphological process whereby either part or a whole stem is copied and attached to the root either at the beginning or end. In Koro (Migili), this process is often seen as a derivational process which majorly adverbializes morphemes from other parts of speech. The process can also be used to adjectivize words in Koro (Migili). Reduplication can be split into two: complete and partial. In Koro (Migili) we have these two kinds. We shall discuss the complete reduplication as it applies to Koro (Migili). Examples of complete reduplication in Koro (Migili) include the following in data 17.

(17	i)	flò	‘slow’	‘adjective’	flòflò	‘very slow	‘adverb’
	ii)	pàplà	‘quick’	‘adjective’	pàplàpàplà	‘quickly’	‘adverb’
	iii)	rúgò	‘sick’	‘adjective’	rúgòrúgò	‘sickly’	‘adverb’
	iv)	m̀b̀b̀	‘sand’	‘noun’	m̀b̀b̀m̀b̀b̀	‘sandy’	‘adjective’
	v)	ńkó	‘powder’	‘noun’	ńkóńkó	‘powdery’	‘adjective’
	vi)	ńce	‘saliva’	‘noun’	ńceńce	‘salivary’	‘adjective’

From the examples in (17 i-vii) above, it is clear that reduplication is a tool for adjectivisation and adverbialisation. The examples in (17) above are those of complete reduplication. As it has been revealed, the reduplicated data copies the complete stem without any segment or syllable being elided. In (17i), *flò* ‘slow’ becomes *flòflò* ‘very slow’ while *rúgò* ‘hill’ becomes *rúgòrúgò* ‘hilly’. It should however be noted that in reduplication, the derived forms always maintain the tones of the words that are reduplicated as seen in (17v) *ńkó* ‘powder’ where the high tone on the vowel is maintained in the reduplicated form *ńkóńkó* ‘powdery’.

We also have the partial reduplication in Koro (Migili) where part of the word has been reduplicated. This is illustrated in (18) below:

18 i).	ágbã	‘odour’	‘noun’	ágbágbã	‘smelling’	‘adjective’
ii).	ńkwáɛ	‘water’	‘noun’	ńkwáńkwáɛ	‘watery’	‘adjective’
iii).	áwa	‘leaf’	‘noun’	áwáwa	‘leafy’	‘adjective’

In (18) above, the reduplicated forms are not complete as only parts of their stems have been reduplicated. This means that a segment or a syllable has been elided. In (18 i and iii), *ã, á* were elided while in (18 ii) *ɛ* was elided. It is also evident that the reduplicated forms whose segment or syllable has been partly copied appearing first in the reduplicated forms as shown in *ágbágbã, ńkwáńkwáɛ* and *áwáwa* where the stems which have been partially copied structured at the beginning of the reduplicated form. It is noteworthy to state that reduplication in Koro (Migili) does not play any grammatical function like pluralisation and indicating tense in sentences.

3.4 Borrowing

This is an important aspect of word formation process in Koro. It is a process whereby foreign words are incorporated into the language usually with phonological and morphological modifications so as to be congruent with the Koro (Migili) phonological and morphological paradigms in order to avoid any violation of the Koro (Migili) sound patterns. This section examines any systematic segmental or supra segmental alternations in loanwords. The aim is to determine the changes that English loanwords into Koro (Migili) undergo to become Koro (Migili) words. Some of the changes that loanwords undergo are: sound change/replacement, declusterization and insertion. Some of the loanwords from English undergo sound replacement or substitution in view of the difference that exists between the phonologies of English and Koro (Migili). It is discovered that most of the sounds that end up being replaced are often diphthongs and foreign (English) sounds which the Koro (Migili) phonology lack. Examples are shown in 19 below.

(19 i)	/ei/ replaced with /e, ɛ, ee/	
	Table/teib/	/tébɔ/
	Paper/peipə/	/pépà/
	Cake /keik/	/Kéiki/
(ii)	/ə/ replaced with /a, ɔ, o/	
	Pastor /pa:stə/	/pasto/
	Father /fa:ðə/	/fàdá/
	Bishop /bɪʃəp/	/bishɔpu/
(iii)	/əu/ replaced with /o/	
	Radio /reidiəu/	/rídíyò/
	Telephone /telifəun/	/tèlɛfón/
(iv)	/^/ replaced with /a/	
	Cupboard	/k^bɔsd/ /kábɔdì/
(v)	/dʒ/ replaced with /y/	
	Jesus /dʒi:zəs/	/yésù/
(vi)	/i:/ replaced with /ii/	
	Tea /ti:/	/tíi/
(vii)	/u:/	
	Cashewn /Kæʃu:/	/Kashúù/

From the data presented in (19 i-vii) above, it is evident that sounds (foreign) are often replaced by its nearest homorganic equivalents. Thus the English sounds ei, ə, əu, dʒ, i:, u: are changed to e, ɛ, ee, a, ɔ, o, and y. Koro (Migili) change sounds which do not exist in Koro (Migili) without changing the original structure of

the word. Koro (Migili) often change loanwords by substituting foreign phonemes by their nearest homorganic Koro (Migili) equivalents. At times, the language even replaces foreign phonemes by heterogeneous (heterorganic) substitutes. It is imperative to accommodate such changes lest Koro (Migili) should be infiltrated by foreign phonemes. It is worthy to note that Koro (Migili) does not replace initial consonants of borrowed words from English language.

Epenthesis is another process involved in borrowing in Koro. In order to break consonant clusters, Koro (Migili) interpose or insert a vowel to break the cluster. This is not to say that Koro (Migili) does not permit clusters, as *áklodzi* ‘money’, *kúmrúu* ‘wind’, *átrá* ‘arrow’ are few examples, though not in all cases, but insertion of vowel after a final coda of a word to make the loanwords always an open syllable structure of CV instead of C or CC at final position.

(20)	Koro (Migili)	English Word	
i)	/bèrédi/	/bred/	bread
ii)	/kéekì/	/keik/	cake
iii)	/mílíkì/	/milk/	milk
iv)	/kábòdì/	/k^bòd/	cupboard
v)	/jǒǒjì/	/dʒ^dʒ/	Judge
vi)	/bókítì/	/b^kit/	bucket
vii)	/píyà/	/peə (r)/	pear
viii)	/táyà/	/taɪə (r)/	tyre
ix)	/wáyà/	/waɪə/	wire

From (20 i-ix) above, (i) and (iii) show evidence of declusterization where ‘br’ ‘CC and ‘lk’CC were declusterized into CV *bé* and CV *li* respectively. While (ii), (iv), (v) and (vi) show vowel insertion at final position. Loanwords with coda often changes to open syllable structure by insertion of a vowel to derive a CV structure rather than a C structure as seen above. In (ii), (iv), (v) and (vi) the vowel /i/ is inserted after k, d, j, and t respectively to ensure that the last segment (consonant) of every loanword which closes the last syllable is changed to an open syllable. Also, in (vii), (viii) and (ix), the diphthongs and triphthongs are changed to align with the sound system of Koro (Migili) by breaking the diphthong and triphthong as seen above where ‘peə,’ ‘taɪə’ change to *píyà* and *táyà* respectively. Koro (Migili) uses the secondary feature of the loanword to break diphthongs in the language and in this case the palatalization feature of ‘pear’, ‘tire’ and ‘wire’ determine the insertion of a ‘y’ to derive *píya* ‘*táyà* and *wáyà*.

In all, Koro (Migili) often changes any English word with CC structure to CV by substitution, declusterisation and insertion. This implies that Koro (Migili) interfere with the pronunciation of foreign (English) phonemes and alter the structure of loanwords to conform to the canonical patterns of Koro (Migili). Also, it is observed though not in all cases but most, that the stress of the English word determines how Koro (Migili) assigns tones to borrowed (English) words. If the stress (primary) falls on the first syllable of the English word, the corresponding word in Koro (Migili) will have the vowel of the word carrying a high tone. This is illustrated below.

21 i)	Jesus	/dʒi:zəs/	/yéù/
ii)	Bible	/baɪbl/	/báífbə/
iii)	bench	/benʃ/	/bénci/
iv)	paper	/peɪpə(r)/	/pépà/
v)	biro	/baɪrəu:/	/bíro/
vi)	table	/teɪbi/	/tébo/
vii)	lace	/leɪs/	/léɛsì/

Borrowing provides the language with a new set of words which is slightly different from the Koro (Migili) original words. In all languages, it is one tool that is used to increase vocabularies and Koro (Migili) has used this tool shown in the data above. However, this is not without modifications or some forms of remodelling in accordance with the phonological and morphological paradigms of Koro (Migili). Phonologically, every sound or phoneme that is not in the phonology of Koro (Migili) is replaced with either a homogenous or heterogeneous sound/phoneme. Morphologically, loanwords conform to the structure of Koro (Migili) word. In addition, every borrowed English word is broken to a CV structure from a CC or a CVC to ensure that loanwords with closed syllables are changed to open syllables.

4. Conclusion

The study reviewed some of the word formation processes employed by Koro (Migili) for increasing its vocabulary. The reviewed processes are affixation, compounding, reduplication, and borrowing. Some of these processes are derivational while others are inflectional. In Koro (Migili) prefixation is the only word formation process which serves both derivational and inflectional purposes. Prefixation is a morphological process that results to nominalisation. In Koro (Migili), it is revealed that, of all the prefixes *nyí-*, *mù-* and *nyε-* only play derivational functions as they are capable of changing the word class of Koro (Migili) words. The analysis of data reveals that compounding in Koro (Migili) is used as a nominalization tool as most of the compound derivatives are nouns. Both partial and complete reduplication are attested in Koro (Migili). Reduplication in Koro (Migili) plays derivational role. It should be noted that reduplication does not play any grammatical or semantic function such as plural formation marking aspects in sentences. Nominalisation in Koro (Migili) has three structures and four nominalising prefixes of *í*, *mú*, *nyí-*, *nyε-* and *mù-*. The analysis of the data shows that borrowing is an important word formation process in Koro (Migili) which undergoes both phonological and morphological modifications. The analysis of the borrowed English words shows that Koro (Migili) breaks close syllables at final position to open. It is worthy to note that Koro (Migili) does not replace initial consonants of borrowed words from English language.

Similarly, all foreign (English) sounds are changed with the homogenous or heterogeneous sounds in Koro (Migili). English words borrowed into the language with primary stress at word initial position often reinsert a high tone in a similar position of the Koro (Migili) word equivalent. Also secondary feature of articulation determines the selection of certain sounds in the process of modifying English loanwords into Koro (Migili).

References

- Adejoh, M. O. 2013. Derivational Processes in the Idoma language. *Journal of Ìgbò Language and Linguistics* 6, Pp 21-28.
- Agwadu, K. K.; & Agwadu, Y. 2012. Aspects of the Koro (Migili) Morphology. Undergraduate project, Nasarawa State University, Keffi.
- Al-Qinai, J. B. S. 2000. *Morphophonemics of Loanwords in Arabic*. Studies in the Linguistic Sciences 30.2, 1-26.
- Anagbogu, P. N. 1990. *The Grammar of Ìgbò Nominalizations*. Onistsha: University Publishing Company.
- Anagbogu, P. N. 1995. The Semantics of Reduplication in Ìgbò. *Journal of West African Languages* 25,1.
- Anagbogu P. N. 2011. Morphology. *NSUK Texts in General Linguistics*. Ed. G.S. Omachonu. Enugu: Rossen Publication Ltd. Pp 99-137
- Anagbogu, P. N.; Mbah, B.M.; & Eme, C.A. 2010. *Introduction to Linguistics*. 2nd edition. Awka: Amaka Dreams Ltd.

- Aronoff, M. 1976. *Word Formation in Generative Grammar: Linguistic Enquiry Monograph one*. Massachusetts. M.I.T Press.
- Bauer, L. 1995. *Introducing Linguistic Morphology*. Edinburgh: Edinburgh University Press.
- Blench, R. M. 2006. *Archaeology, Language and the African Past*. Lanham: Altamira Press.
- Blench, R. M. 2014. *The Jijili (Koro) Language of Central Nigeria and its Affinities*. Cambridge: Kay Williamson Educational Foundation.
- Booij, G. 2005. *The Grammar of Words*. Oxford, UK: Oxford University Press.
- Croft, W. 1991. *Syntactic Categories and Grammatical Relations: The Cognitive Organisation*. Chicago: University of Chicago Press.
- Fromkin, V.; & Rodman, R. 1978. *An Introduction to Language*. New York: Holt, Rinehart and Winston.
- Gleason, H. A. 1961. *An Introduction to Descriptive Linguistics*. New York: Rinehart and Winston.
- Hartmann, R. R. K.; & Stork, F.C. 1972. *A Dictionary of Language and Linguistics*. Amsterdam.
- Haspelmath, M.; & Sims, A. 2013. *Understanding Morphology*. London: Routledge.
- Howard, J.; & DeAmvela, E. 2000. *An Introduction to Modern English Lexicology: words, Meaning and Vocabulary*. Troubridge: Cromwell Press.
- Iloene, G. (2007). Ìgbò Phonology. *Basic linguistics for Nigerian*. Ed. O. Yusuf. Awka: M & J Grand Orbit Communications. 163 – 180.
- Igube, P. 2013. Inflectional Morphology of Koro (Migili). Undergraduate project, Nasarawa State University, Keffi.
- Iordachioaia, G. 2015. *Compound: Definition and Modelling*. Stuttgart: University of Stuttgart press.
- Ito, J.; & Mester, A. 2013. *Word Formation and Phonological Processes*. Santa Cruz: University of California.
- Katamba, F. 1993. *Morphology*. London: Macmillan Press Ltd.
- Lieber, R.; & Stekauer, P. 2009. *The Oxford Handbook of Compounding*. Oxford: Oxford University Press.
- Madondo L. M. M. S. 2001. Some Aspects of Word-formation in IsiZulu: with Special Reference to Morphological and Lexical processes. Doctoral Dissertation, University of Zululand.
- Matthews, P.H. 1974. *Morphology: An Introduction to the Theory of Word Structure*. Cambridge: Cambridge University Press.
- McGregor, W.B. 2009. *Linguistics: An Introduction*. London: Bloomsbury Publishing Plc.
- Mugenda, O.; & Mugenda, A. 1999. *Research methods: Quantitative and Qualitative Approaches*. Nairobi: Acts Press.
- Nida, E.A. 1949. *Morphology: The Descriptive Analysis of Words*. Michigan: University of Michigan Publication.
- O'Grady, W.; Archibald, J.; & Katamba, J. 2011. *Contemporary Linguistics: An Introduction*. Harlow: Pearson Educational Limited.
- Omachonu, G.S. 2011. Phonetics and Phonology. *NSUK Texts in General Linguistics*. Ed. G.S. Omachonu. Enugu: Rossen Publication. Pp36-59
- Osuagwu, B.N.; & Nwaozuzu, G.I. 1997. *Fundamentals of Linguistics*. Owerri: Colon Concepts.
- Oyebade, F. O. 1992. Morphology. *Introduction to Linguistics*. Ed. O. Yusufu. Ijebu-ode, Nigeria: Shebiotimo.
- Oyebade, F. O. 1998. *A Course in Phonology*. Ijebu-Ode: Shebiotimo Publication.
- Oyesunkanmi, K. I. 2011. Aspects of Migili Morphology. Undergraduate Project. University of Ilorin.
- Pie, M. 1966. *Glossary of Linguistic Terminology*. New York: Columbia University Press.
- Rubino, C. 2005. Reduplication: Form, Function and Distribution. *Studies on Reduplication*. Ed. Hurch. Berlin: Mouton de Gruyter. Pp. 595-623.

- Worth, D. S. 1972. *The Slavic Word*. Mouton: The Hague.
- Yusuf, O. 2007. Phonetics. *Basic Linguistics for Nigerian Teachers*. Ed. O. Yusuf. Port Harcourt: Grand Orbit Communications. Pp 29-50.