

**A MORPHO-PHONOLOGICAL ANALYSIS OF REDUPLICATION IN LUKISA
DIALECT**

BY

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DECLARATION

Declaration by the candidate

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ABSTRACT

Reduplication is a grammatical aspect that occurs in human language in which a whole linguistic constituent or part of it is repeated to form a new constituent. Reduplication can be both a morphological and phonological process of forming a compound word by repeating all or part of a word. Morphological reduplication involves semantic change through another word formation process while phonological duplication is where the copying picks the closest phonological input restricted to cases of phonological necessity repeated exactly or with a slight change. Lukisa, a Luhya dialect, is expected to exhibit reduplication patterns which vary from a single element being copied to an entire phrase through morphological reduplication which involves the creation of a new stem type and phonological doubling which entirely depict reduplication as a limitless linguistic resource and a naturally integrated facility in language. The focus of this study is to explore the manifestation of morphophonological reduplication in Lukisa dialect. The purpose of this study was to analyze MorphoPhonological reduplication in Lukisa. The objectives of the study were to: establish the morpho semantic features of reduplication in Lukisa dialect, describe the manifestation of phonological copying in Lukisa dialect and explore how pseudo reduplication is manifest in Lukisa dialect. Inkelas and Zoll's (2005) Morphological Doubling Theory (MDT) was adopted for this study where the aspect of reduplication results when morphology calls twice for the constituents of a given semantic description with a possible phonological modification of either or both constituents. A Descriptive Research Design was employed in this study. The study was carried out in Khwisero Sub County of Kakamega County. The study population was the native Lukisa dialect speakers. The study targeted a sample of 20 Lukisa native speakers purposively sampled from 208 members of Buchero Educational and Cultural Society to provide data for this study. Three written texts on Lukisa oral literature and history were purposively sampled to provide data for analysis through Focus Group Discussions. Native speaker intuition and competence of the principal researcher also enabled more data collection and to ascertain data authentication process. A pilot study on FGDs was used to ensure that there was the validity and reliability. Data was qualitatively analyzed through content analysis of the morphemes, stems, roots and lexical items with reference to the corpus of reduplication cases to bring out the morphosemantics of reduplication that changed or maintained the word classes, the phonological processes of copying of vowel lengthening, vowel change and syllable weight and linguistic pseudo reduplication in which the inputs cannot be separately analyzed. The findings were presented through thematic description and explained through themes and sub themes. The study revealed that in Lukisa, semantics is a linguistic phenomenon that is part of the morphology of reduplication. The reduplication results to notions such as: diminution, frequentativeness and augmentation. The research further revealed that various lexical categories such as verbs, nouns and adverbs manifested phonological copying processes of duplication where there was the doubling of a sound in a given phonological environment, at times with some alteration of the sound through the processes of vowel lengthening, vowel substitution and change in syllable weight. Finally, pseudo reduplication was manifest in that the resultant reduplicative construction had no meaningful semantic and syntactic connection with either of the input daughters of the mother node when separately analyzed. The research revealed the applicability of the tenets of MDT on inputs in phonological copying and morphological doubling. This study suggests a further study to be carried out on: the morpho-phonological reduplication in coastal Bantu languages, a comparative study of pseudo reduplication of the Luhya dialects and the change in the supra segmental features that accompany phonological copying in other Luhya dialects.

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LIST OF ABBREVIATIONS AND ACRONYMS

Ø	End results of a deletion
1 Sg	1 st Person singular
2 Sg	2 nd Person singular
3 Sg	3 rd Person singular
SsS	Singular subject
PL	Plural
F	semantic feature bundle
f	input (daughter or reduplicant)
AUG	Augmentation
PROG	Progressive aspect
EMPH	Emphatic
MDT	Morphological Doubling Theory
FGD	Focus Group Discussion
IPA	International Phonetic Alphabet
RED	Reduplicant

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

This section provided the background information to this study which comprises: Reduplication, Bantu morphology, Bantu phonology, the Luhya Language group and Lukisa dialect in particular and the Lukisa segmental inventory.

1.2 Reduplication

Reduplication is broadly defined as the repetition of part or all of one linguistic constituent to form a new constituent with a different function, occurring in many parts of the spectrum from phonologically defined partial duplication to the morphologically defined total reduplication to the repetition of syntactic phrases (Inkelas and Zoll, 2005). Stageberg (1981) states that a new word is formed by morpheme reduplication. Reduplication is a morphological phenomenon in which the base, root, stem of a lexeme or part of it is reduplicated completely or with a slight alteration (Spenser & Zwicky, 2001).

According to Urbanczyk (2006), reduplication is further defined as a word formation process in which all or part of a word is repeated to convey some form of meaning. Urbanczyk observes that reduplication is both a morphological and phonological process. Morphologically, it is a process in which the root of a word or part of it or even the whole word is repeated exactly or with a slight change. Phonologically, duplication is defined in one or two different ways, either; as duplicated segments (sequences of consonants and vowels) or duplicated prosodic units (syllables and moras).

Morphological doubling is morphologically driven, morphologically mandated doubling that is at works in total reduplication as where the nominal pluralization calls for two instances of the singular stem. Following Inkelas and zoll (2005), we assume that we have morphological

reduplication resulting from the double insertion of the morphological constituent. In some cases, the morphological constituent in question is the entire word, but in other cases, it may be a subconstituted stem, root or even affix as in the Dyirbal minimalists that fully mark the plurality through total reduplication.

midi-midi “lots of little ones”

gulgi- gulgi “lots of prettily painted men”

Reduplication can be total or partial reduplication. Ngunga (2005) suggests that “total reduplication is a morphological process where the reduplicant and the base are identical at the segmental level. The entire stem, the base constitutes the reduplicant which is affixed to itself. Basically, it is in full reduplication where the entire word is repeated for instance what Okello (2007) identifies in Dholuo:

pi:ɔ “quickly” *piɔ pi:ɔ* “very quickly”
sa:ni “now” *sanisa:ni* “emphatic now”

Okello (2007) further observes that the second form of reduplication is partial where only a part of a word is reduplicated. It is semantically referred to as micro-reduplication as in: *ra-kwa:r* “red one” *rakwarkwa:r* “reddish one” in which *ra* which is a derivational affix is not reduplicated.

Gachungi (2007) posits that phonological doubling can occur through vowel lengthening where a vowel in the penultimate position is lengthened for emphasis. This is evident in reduplicated forms since sometimes reduplication serves a function of emphasis. The vowel in the penultimate position is lengthened for emphasis as demonstrated in Kiyumu: *kavɔra* “slowly” *kavɔrakavɔra* “slowly by slowly” then *kavɔrakavɔ:ra* “slowly by slowly for emphasis”. Vowel is used for emphasis. The reduplicated form */kavɔrakavɔra/* has the semantic value “slowly by slowly.” However, the vowel in the reduplicative is lengthened when the speaker wants to create emphasis.

Wasko (2013) observes that reduplication equally occurs in English although in most cases it appears as word play. The study shows that there is evidence of ablaut reduplication where words change by changing a vowel. This may be the common way in which reduplication occurs, for example: *chit-chat*, *clippy-cloppy*, *dilly-dally*, *ding-dong* and *fiddle faddle*. In these cases of ablaut reduplication, there is a change in vowel from that of the base to that of the reduplicant. The study further exemplifies that reduplication occurs in rhyming words when the second half of the word rhymes with the first. This occurs mainly in productive words such as *bees-knees*, *clap-trap*, *toy-boy* and *hob-nob*. Another example of reduplication in English occurs through rhyming words where a consonant sound changes in the rhyming words as such as *razzle-dazzle* and *hoity-toity*. Exact reduplication is present in English language reduplication as in the reduplication examples of *bye-bye* and *din-din*.

Marantz (1982) posits that a wide range of patterns are found in terms of both form and meaning expressed by reduplication. Since a new form always arises because of the base to which it is attached, it raises many issues such as the nature of the repetition mechanism, how to represent reduplicative morphemes and whether or not a unified approach can be applied to account for the full range of patterns. Further to this, Marantz (ibid) observes that reduplication is found in a wide range of languages and language groups although its level of linguistic productivity varies through derivation and inflection. According to Marantz (ibid), the range of patterns in reduplication varies from a single segment being copied to the entire phrases. The copying can occur on its own, phonologically or be accompanied with other word formation processes. The meanings can also range from highly iconic meanings such as repetition to more abstract morphosyntactic meanings, difficult to precisely define. Among this diversity, several themes emerge related to

accounting for the form of reduplication, which can loosely be categorized in terms of the shape, segmental quality, morphological structure and the repetition mechanism. The current study on Lukisa dialect was on the morpho-phonology of reduplication. The present study further analyzed the semantics of reduplication in Lukisa dialect, the phonological duplication which involves a single, closest segment being copied without bringing in semantic change. The present study deviates from the study by Marantz (ibid) which dwelt on morphosyntax that analyzed phrases which went beyond a word category. In the current study on Lukisa dialect reduplication, the unit of analysis shall be the word as a lexical category.

According to Laura (2000), many Bantu languages have the process of partial verb-stem reduplication, with the meaning of doing the action of the of the verb “here” and “there” and “from time to time”, a common position of the reduplicative morpheme (RED) underlined to occur immediately preceding the morpheme stem. Reduplication serves a wide range of functions cross linguistically and within languages. These functions range over the standard morphological functions of deviation and inflection. The study sought to validate the assertion that reduplication is a morpho-phonological process and equally explore how pseudo-reduplication manifests in Lukisa dialect which goes beyond the study by Laura (ibid) which majorly dwelt on partial verb stem reduplication.

Jiji (2008), while studying Lutiriki noun derivation established that derivational noun morphology is achieved through the processes of affixation, compounding and reduplication. The study reveals that the reduplication process fuses a base lexeme and a reduplicant to achieve a reduplicated word form. The data was analyzed through Natural Generative Phonology and Morphological Doubling Theory. In Tiji’s study on Lutiriki noun derivation, the study was purely an undertaking on morphological derivation in the noun class. The current study on Lukisa reduplication, unlike

the study by Tiji, not only dwelt on the noun as a word class but also analyzed reduplication in both the open and closed word classes of nouns, verbs, adverbs, adjectives (open word classes) and the pronouns and demonstratives, for the closed word categories. The study went further and analyze the semantic changes that emerge from reduplication or the lexical class maintaining reduplication and also establish the manifestation of pseudo reduplication in Lukisa. This study on Lukisa reduplication sought to accomplish this through the use of Morphological Doubling Theory in which derivational morphology that accounts for semantic change is embedded.

Amwayi (2020) explores the use of reduplication in lexical items used in the health sector in Khwisero sub county. In his study on the lexical adaptation of *Olukisa* in the health sector, the lexical items reflecting forms of illness among *Olukisa* speakers. Amwayi mentions reduplication as a strategy used by medics and patients to incorporate new action words in *Olukisa* in the health sector include: *okhwiyakayaka* which means to “continuous scratching of oneself” as a symptom of having rashes on the body and *okhurumaruma* which means to “jump all over” and this means promiscuity. The words are formed through total reduplication. However, much of the study dwells on reduplicated medical terms. His study takes a sociolinguistic perspective in which the medical terms were used to inform the public on various forms of ailments as the concept of reduplication was not in the scope of the study. The study did not dwell on how the lexical items reduplicates: either partially or totally and whether they were class maintaining or class changing forms of reduplication, an area of interest that the current study on the morpho-phonology of reduplication in Lukisa seeks to explore. Furthermore, the present study seeks to explore phonological doubling in Lukisa dialect basing on the thesis of phonological doubling as per MDT.

Matthews (1974) studies reduplication as a morphological process in Kiambu. In the study, he discusses the different forms of morphological reduplication in Kiambu as partial, total, prefixal and suffixal. The four types of morphological reduplication are of interest to this study. Although Matthews (ibid) undertook a morphological study basing on the Morphological Doubling Theory, the current study on Lukisa dialect reduplication will differ from it as it will further study reduplication from both the morphological and phonological points of view basing on the Morphological Doubling Theory as the framework to help analyze, discuss and interpret data with regard to the morpho-phonology of Lukisa reduplication. This was done through insertion of constituents which meet the same morpho-semantic description. Phonologically, MDT addressed Lukisa reduplication through phonological constituent copying restricted to cases motivated by phonological necessity. Moreover, the study not only restricted itself to the morphological aspects of partial and total reduplication but also went further to identify and analyze the morpho-semantic implications of morphological reduplication, equally examined how reduplication interacts with phonological copying in Lukisa and equally establish how pseudo reduplication manifests in Lukisa. The current study furthermore sought to establish if Lukisa dialect reduplication is present in closed word class categories such as pronouns. This is unlike the study by Matthew (1974) which only dwelt on the open word class categories such as verbs, adverbs, nouns and adjectives in particular. Moreover, Matthews (1974) study did not explore the interface between phonological copying and reduplication which the present study on Lukisa dialect delved in.

Nyaga (2014) in the study of the morphological reduplication in Kiambu observes that total or complete reduplication was established to be the most common type of reduplication in Kiambu which also had some grammatical functions. This study was carried out basing on the

Morphological Doubling Theory. The study established that the stems and roots of a word which is morphological are doubled in Kiambu reduplication. The root and the stem of a word are basically what reduplication targets. In Nyaga's (ibid) study, derivational and lexical suffixes are not targeted in Kiambu reduplication because affixes are constant parts of a word and are deleted in various morphological processes such as plural formation. The existence of root reduplication in Kiambu provides evidence for morphological doubling. Examples of cases of reduplication include the adjectives: *ndoro* "sour", *ndoro ndoro* "very sour", *nene* for "big", *nene nene* for "very big", the adverbials *reu* for now, *reureu* for "just now", *remwe* "once" *remweremwe* "just once" and the prepositions *ndare* for "inside" and *ndarendare* for "completely inside". The study by Nyaga (ibid) is of interest to the current study which explored derivational morphology and phonological copying in Lukisa reduplication basing on the Morphological Doubling Theory. The study by Nyaga concluded that reduplication in Kiambu is a case of morphological doubling rather than phonological copying. The study confirmed that semantic identity and not phonological identity is what defines the base and the reduplicant. This study on Lukisa went beyond Nyaga's study by exploring how reduplication interacts with phonological process in Lukisa hence the occurrence of phonological doubling of given phonological constituents.

Ondondo (2013) explores underlying vowels in Lukisa interjections from a phonological view point governing word-hood in Lukisa. The study sought to bring out the semantic connotations of the various interjections in Lukisa. This is unlike the present study which sought to describe the phonological processes that accompany reduplication in Lukisa dialect. This study went beyond an exploration of the aspects governing word hood formation and equally explore the phonology of duplication basing on the thesis of phonological copying as per MDT. The current study sought to explore how phonological processes that involve copying of consonants, vowels and even

syllables in given proximal phonological environments were a manifestation of phonological copying in Lukisa dialect unlike Ondondo's study which was not on reduplication but only studied vowel lengthening as a phonological feature in different Lukisa words to express different concepts eg *o-mw-eesi* for "moon", *omu-esi* for "month" and *wul-a* for "defeat" and *wuul-a* for "pound in a sack."

Novotna (2000) studied reduplication in Swahili, a study that was based on the formal properties of reduplication in Swahili. The study investigated the phenomenon of the reduplicant (Red) *kidogo kidogo* which was in question from a functional perspective. Further, the study examined pseudo-reduplication as an additional phenomenon pertinent to reduplication in Swahili, observing that there are a great number of words which consist reduplicated syllables (one or more of them). However, as implied by the word pseudo-reduplication, there is no reduplication present in these cases such that the lexical represent a single morpheme and therefore neither the expression containing an element nor the underlying form exists. Novotnas (ibid) study attempted to examine the formal properties of reduplication in Swahili and the functional characteristics of reduplication in Swahili. Later, the study concentrated on pseudo-reduplication in Swahili as a linguistic situation where words seem to be reduplicated although they really signify repetition but not necessarily linguistic reduplication. Pseudo-reduplication is an independent aspect of the language of reduplication which the current study on the morphophonological reduplication of the Lukisa shall seek to dwell on. The MDT theory by Inkelas and Zoll (2005) was used to analyze data from Lukisa with close reference to the phonological tenet of copying a proximal sound, vowel, consonant or syllable purely for phonological purposes. The current study dwelt on how partial reduplication of given elements of the syllabic constituents of the first daughter input on given word classes brought out pseudo-reduplication in Lukisa dialect unlike Novotna's (2000)

study which explored how total reduplication of given constituents brought out pseudo reduplication as a linguistic process in Swahili.

Miller (2003) explores how pseudo reduplicated nouns in Kinubi are used to explore plurality or variety. The study was from a syntactic perspective where the analysis was done on Kinubi sentences. The study concluded that there exists total reduplication in Kinubi nouns. The study by Miller (2003) did not explore the formation process of the nouns in pseudo reduplication, that is, either through partial, total reduplication or phonological copying. The study on Kinubi pseudo reduplicated nouns only concentrated on the functions of the pseudo reduplicated forms but did not delve into other word classes hence a narrow scope. This contrasts with the current study on Lukisa dialect which ventured into other word classes as such as verbs denoting processes and adjectives which the study on Kinubi did not address.

1.2.1. The Bantu Morphology

Durrant (2013) posits that Bantu languages have characteristically agglutinating morphology which makes its structure rich and complex. Agglutination is a linguistic process pertaining to derivational morphology in which complex words are formed by stringing together morphemes without changing them in spelling or phonetics. The languages that widely use agglutination are called agglutinating languages. In agglutinating languages, words may contain different morphemes to determine their meanings but all these meanings including the stems and affixes remain in every aspect unchanged in their unions. Agglutinative languages tend to have a high rate of affixes or morphemes per word and are very regular in particular with regular verbs. Agglutinative suffixes are often inserted irrespective of syllabic boundaries for example by adding a consonant to the syllable coda as in English "tie.... ties"

Guthrie (1967) posits that the Bantu noun class systems are universal and almost always marked by prefixes, occasionally by suffixes. All nouns comprise a stem and one of a set of singular and plural prefixes and are grouped into classes on the basis of these markers. Guthrie further observes that most words in Bantu sentence are marked by a prefix indicating the category to which the noun used by the same sentence belongs.

Bantu words are typically made up of open syllables of the type of CV (consonant- vowel) with most languages having syllables exclusively of this type. The morphological shape of Bantu words is typically CV, VCV and CVCV. A strong claim of this language family is that almost all words end in a vowel, precisely because closed syllables (CVC) are not permissible in most documented Bantu languages with few exceptions such as Kiswahili, Bantu languages are tonal. Mchombo (2007) observes that Chichewa is a Bantu language spoken principally in Malawi. He notes that in its morphological structure, Chichewa is typical of the Bantu languages. It is a tone language, displaying the characteristics of grammatical and lexical tone. It has the elaborate system of noun classification and highly agglutinative and complex verbal morphology that characterize Bantu languages in general.

Moreover, Bantu languages are especially known for their often complex tone systems. The vast majority, perhaps 97% have distinctive tone. Nearly all tonal Bantu languages are fundamentally two level languages with one tone per syllables, frequently augmented with downstep. A few written languages such as Tuki and Yabassi that have undergone front vowel deletion have true three-level systems so the languages have expanded the surface inventory via contextually restricted modifications of the high-low contrast. The current study will seek to explore how the Bantu morphology is directly relevant to the phonology works in Lukisa dialect reduplication.

The most prominent grammatical characteristic of Bantu languages is the extensive use of affixes. Each noun belongs to a class and each language may have several numbered classes. The class is indicated by a prefix that is part of the noun as well as the agreement markers on the verb and qualitative roots connected with the noun. Plural is indicated by change of class, with resulting change of prefix. All Bantu languages are agglutinative.

1.2.2 The Bantu Phonology

Mauseen (1997) observes that an understanding of Bantu phonology is facilitated by an understanding of Bantu morphology. That there is a detailed reconstruction of proto Bantu grammatical morphemes. Mauseen (1997) further posits that nouns have somewhat arbitrary genders which are marked with singular versus plural class prefixes or higher and generally paired so that nouns with a singular have a plural. Verb morphology is especially rich but also highly variable, with intense inflection across languages. The root extensions exhibit the highest degree of phonological coherence and interaction. Mauseen (ibid) further posits that the combined richness of Bantu morphology is directly relevant to how the phonology works because paradigmatic variation in the sounds of morphemes and control over environmental variables can usually be accomplished easily.

A widespread characteristic of Bantu phonology is the vowel height harmony. Hyman (2009) observes that there are two main issues of recurring interest in Bantu phonology pertaining the syllable structure, that is the syllabic status of consonantal clusters and the resolution of the vowel heights. In this study, we sought to explore phonological copying as a feature of Lukisa dialect of the Bantu language family. This included an analysis of how duplication in Lukisa interacts with phonological copying processes such as vowel lengthening, vowel substitution and syllable weight. In this respect, an understanding of the Bantu phonology is key in data analysis and interpretation. This was achieved with regard to the phonological tenets of MDT in which

phonological copying is restricted to cases of phonological necessity where what is copied is proximal, targeting the closest eligible element in a phonological environment. The phonological copying may be accompanied by a modification of one or both copies in the reduplication process. In conclusion, Maussen (1997) posits that an understanding of Bantu phonology is facilitated by an understanding of Bantu morphology. For example, verbal morphology is especially rich but also highly variable intense inflection across languages. The combinational riches of Bantu morphology are directly relevant to how the phonology works because paradigmatic variation in the sounds of morphemes and control over environmental variables can easily be accomplished easily.

1.2.3 The Luhya Language Group and Lukisa Dialect

Luhya is a Bantu language of Western Kenya. Luhya people are closely related to the Masaba (Gisu) whose language is mutually intelligible with Luhya. Their migration to the current Luhyaland (a term of endearment referring to Luhya primary place of settlement in Kenya after the Bantu expansion dating back to as early as 1450's, (Wambunya, 2007). Further to this, Luhya refers to both the people and their language. There are 19 sub tribes that make up the Luhya which bring out the following Luhya dialects: *Lubukusu, Luidakho, Luisukha, Lukabras, Lunyore, Lusamia, Lutachoni, Lutiriki, Lutsotso, Luwanga, Lukhayo, Lumarachi from East, Lumarachi from West, Lulogoli, Lumarama, Lunyala, Lumasaba, Lushisa and Lutura*. Musimbi (1989) observes that the initial traditional settlement of the Luhya was the then Western province of Kenya comprising of the current Kakamega, Busia, Bungoma and Vihiga counties although there is a spill following migrations to Transzoia and Uasin Gishu counties.

Lukisa is spoken by *Abashisa* of Khwisero Sub County in Kakamega County in the Western region of Kenya. Khwisero Sub County is divided into two administrative units, namely: Khwisero West and Khwisero East divisions. It has a population of about 147,268 people,

according to the 2019 population census. The divisions are further divided into four locations: Kisa central, Kisa West, Kisa East and Kisa North. Khwisero sub county borders Butere sub county where the dialect of interaction is *Olumarama* spoken by *Abamarama*, which has the highest mutual intelligibility with the Lukisa which is under this study (Ethnologue, 2010).

Lukisa is a dialect of the Luhya language among the Bantu speakers. According to Durrant (2013), Bantu languages have a characteristically agglutinating morphology which makes their structure rich and complex. Agglutination is a linguistic process pertaining derivational morphology in which complex words are formed by stringing together morphemes without changing the spelling or phonetics. The rest and extensions of Bantu languages exhibit the highest degree of phonological coherence and interaction and this group is often in terms of derivational stem which

combines with inflectional stem. The aspects of agglutinating morphology and the highest degree of phonological coherence and interaction in terms of the derivational stem which combines with the inflectional stem makes the choice of Lukisa an appropriate representative of reduplication as a linguistic phenomenon among the Luhya language speakers which falls under the Bantu languages.

1.2.3.1 Lukisa Segmental Inventory and Orthography

This section provides basic information regarding Lukisa. It begins with the Lukisa consonants, giving the orthographic representation and their IPA symbols. It also provides the Lukisa vowel system. This will be relevant in the analysis of data on phonological duplication whereby phonological segments of mora, syllable or foot are necessary in the phonology of the Morphological Doubling Theory

1.2.3.1.1 Lukisa consonantal inventory – IPA

Lukisa has a total of 19 consonants as in the table 1. The consonants are classified according to the manner of articulation, state of the glottis and place of articulation. This information aims at providing basic information regarding Lukisa sound system. The information was useful in facilitating the discussion and understanding of phonological copying in the open word categories of nouns, verbs, adverbs and adjectives.

Table 1: Inventory of Lukisa Phonemes

	Bilabial	Labiodental	Alveolar	Palate alveolar	Palatal	Velar	Glottal
Stops	p		t			k	
Affricates			ts	tʃ			
Fricatives	β	f	s	ʃ		x	h
Nasals	m		n		ɲ	ŋ	
Trill			r				
Lateral			l				
Glides	w				j		

Ondondo (2015:17)

Table 2: Orthographical presentation of Lukisa consonants

The 19 Lukisa consonants above are orthographically represented as:

	Bilabial	Labio dental	Alveolar	Palatal Alveolar	Palatal	Velar	Glottal
Stops	p		t			k	
Affricates			ts	ch			
Fricatives	b	f	s	sh		kh	h
Nasals	m		n	ny		ng'	
Nasal stop	mb		nd			ng	
Nasal Affricate			nz	nj			
Trill			r				
Lateral			l				
Glides	w				y		

Ondondo (2013:54)

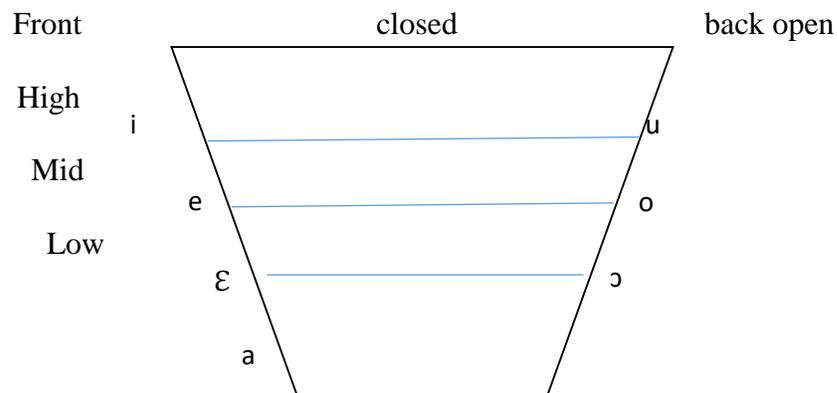
1.2.3.1.2 Lukisa dialect vowels

Ondondo (2015) in her study on Lukisa verb phrase observes that Lukisa dialect has seven vowels just like any other Bantu languages as shown below.

These vowels in Lukisa dialect helped the researcher in data analysis to assess the interface between reduplication in Lukisa dialect with such phonological copying processes as: vowel lengthening, vowel substitution and syllable weight among others together with the manifestation of pseudo-reduplication of various word classes in Lukisa. Inkelas & Zoll (2005) posit that

phonological duplication occurs when there is copying of the closest phonological unit or in narrow contexts restricted to phonological necessity with no semantic change involved. What is copied in phonological duplication is a phonological segment of mora, foot or syllable.

Table 3: Lukisa vowel chart



Ondondo (2015: 17)

According to Ondondo (2013), Lukisa has five phonemic vowels which occur both as short and long forms. Underlying vowel length in the roots is contrastive in Lukisa. In their description, long vowels are indicated by doubling the vowel while short vowels are shown by a single vowel.

Table 4: Lukisa vowel sounds and the tongue positions

Front	Front	central	Back	Back
High	i		u	High
Mid	e		o	Mid
Mid	ɛ		ɔ	Mid
Low		a		Low

Ondondo (2015:17)

1.3 STATEMENT OF THE PROBLEM

Reduplication is a grammatical aspect that occurs in human languages resulting in a wide range of patterns, serving a wide range of functions cross linguistically and within languages. These functions range over the standard morphological functions of derivation which pertains a word formation process in which meaning is expressed by doubling an affix, or root to the phonological level in which a sound segment of a consonant, vowel or syllable that is proximal is copied to serve phonological purposes. Just like other languages, Lukisa is expected to exhibit a wide range of patterns in reduplication which vary from a single element being copied to an entire word. Although linguistic forms have been explored at the lexical and functional levels, there is need to validate reduplication as a limitless linguistic resource in linguistic creativity, a central meaning making strategy and a naturally integrated facility found in a variety of human languages. Since a new form always arises in reduplication because of the root to which it is attached, it raises many issues such as the nature of the reduplication mechanism, how to represent the morphemes and whether or not a unified approach can be applied to account for the full range of patterns which range from a single sound being copied to an entire word. In the morpho-semantics of reduplication, the doubling either directly reflects semantic change or change in word class or both and that the phonology of reduplication occurs out of phonological necessity when a given phonological unit picks on the closest phonological unit for copying.

1.4 RESEARCH QUESTIONS

The proposed study seeks to answer the following research questions:

- i) How are morpho-semantic features of reduplication manifest in Lukisa dialect?
- ii) Which phonological processes accompany reduplication in Lukisa dialect?
- iii) In what ways is pseudo- reduplication exhibited in Lukisa dialect?

1.5 OBJECTIVES OF THE STUDY

The main objective of this study is to carry out a morpho-phonological analysis of reduplication in Lukisa dialect. The specific objectives shall be to:

- i) Establish the morpho-semantic features of reduplication in Lukisa dialect.
- ii) Describe the phonological processes that accompany reduplication in Lukisa dialect.
- iii) Describe how pseudo reduplication is manifest in Lukisa dialect.

1.6 SCOPE AND LIMITATIONS

The study was carried out among the Lukisa speakers of Khwisero sub county. Buchero Educational and Cultural Society among the Lukisa dialect speakers was purposively sampled to provide Focus Group Discussants to help generate data for this study. With the above objectives, the research focused on the morpho- semantic and phonological analysis of Lukisa reduplication. This was approached from the domains of morphology and phonology. The study attempted to explore the interphases between morpho-semantics and morpho-phonology through phonological copying. In this study, the semantic reduplication is part of morphology that is either word class maintain or changing or both. Reduplication plays an important role in derivational and inflectional morphology in many languages including phonological copying, where a phonological constituent is doubled but it is not amenable to morphological doubling analysis as it does not result to change in meaning. The researcher focused on both the open and closed categories of speech to analyze the manifestation of reduplication in Lukisa dialect.

1.7 JUSTIFICATION OF THE STUDY

Reduplication is a characteristic of Bantu languages. Reduplication serves a wide range of functions cross linguistically and within languages. These functions range over the standard morphological functions of derivation and inflection. Since a new form always arises because of

the root to which it is attached, it raises many issues such as the nature of the repetition mechanism, how to represent the reduplicative morphemes and whether or not a unified approach can be applied to account for the full range of patterns which range from a single segment being copied to an entire phrase. Lukisa is a Bantu language group. This study is therefore important in contributing to theoretical linguistics in general as well as Lukisa and Bantu language linguistics in particular. The study on the morpho-phonology of Lukisa reduplication as a linguistic phenomenon is also anticipated to enrich the study of morphology and phonology in Lukisa.

The study sought to explore the morpho-phonology of reduplication in Lukisa. This is a departure from the earlier studies in Lukisa which explored other linguistic aspects. Amwayi's (2020) study explored the lexical adaptation of *Olukisa* in the health sector in Khwisero Sub County which took a sociolinguistic perspective to describe ailments in *Olukisa*. The current study is also a shift from Ondondo's (2013) study which dwelt on the word-hood in Kisa. The study took a morphological perspective to show the relationship between words and their meanings. This is unlike the current study on the morpho phonology of reduplication in Lukisa which seeks to explore reduplication as a word forming process and the interface between phonology and reduplication in Lukisa. Further, the findings of this study will assist researchers and linguistic scholars in undertaking a comparative study of reduplication of different languages and Luhya dialects.

This study sought to delve into language and the nature of language, in particular, Lukisa dialect as a subject of Luhya language. It made an attempt to explore the diversity of Lukisa dialect and its typological characteristics. The documentation of these research findings on reduplication as a naturally occurring integrated facility in language as much as languages differ cross linguistically hence helping unpack Lukisa as a language based on theoretical tenets.

1.8 THEORETICAL FRAMEWORK

1.8.1 Morphological Doubling Theory

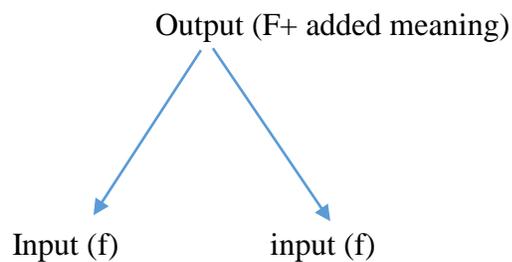
Inkelas and Zoll (2005) produced a thought provoking and solid proposal for a different way to look at reduplication than the widely used Base Reduplicant Correspondence Faithful constraints of McCarthy and Prince (1995). The Morphological Doubling Theory (MDT) was developed in 2005 by Sharon Inkelas and Cheryl Zoll who were both professors of linguistics. It was developed for a morpho-semantic or morphological reduplication.

The theory postulates that reduplication results when morphology calls twice for the constituents of given semantic description, with possible phonological modification of either or both the constituents. In the Morphological Doubling Theory, reduplication couples morphological constituents (affix, stem, root or word) which agree with their semantic specification. The two constituents, related morpho-semantically, are not required to match phonologically. In essence, one would say that morphological doubling theory agrees that the two mechanisms of morphology and phonology are involved, although opts to lean on the side of morphological duplication, Inkelas & Zoll (2005).

Inkelas and Zoll (2005) argue that morphological doubling which occurs for a morphological purpose such as creating a change in meaning or creating a new stem type is the result of doubling of a morphological category such as root, stem or affix. Morphological doubling modelled via the double insertion mechanism. It is not derived by phonological correspondence and therefore is not subject to any phonological properties of phonological duplication, further stating that morphological doubling is morphologically driven.

The MDT makes two assertions; firstly, that reduplication construction calls for morphological constituents (affix, root, stem or word, not phonological constituents of mora, syllable, foot, and secondly, that reduplication calls for semantic identity of its daughters, not phonological identity. It presupposes the double (or multiple) occurrence of a morphological constituent meeting a particular morphosemantic description. The present study sought to assess the morphosemantics of Lukisa reduplication. In an effort to achieve this objective, the researcher applied the MDT tenet of doubling or multiplying a morphological constituent to meet a particular morphosemantic description. As the reduplication of the constituents (reduplicants) is done, in this study, calling twice for the constituents of given semantic description, the researcher went out to analyze the semantic change of the said resultant reduplication.

The morphological doubling theory assumes the basic structure for morphological reduplication. A reduplicated stem has two daughters and are featurely identical, that is, they mean the same thing.

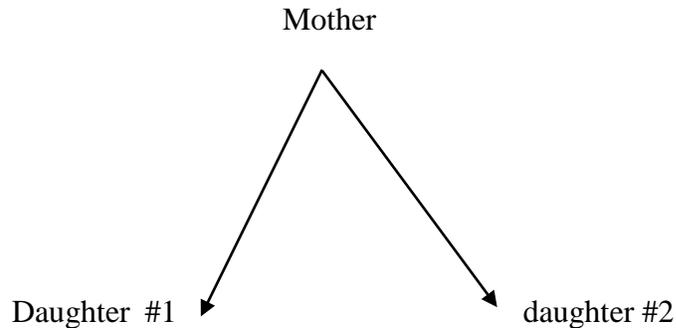


(Adapted from Inkelas and Zoll (2005:7))

Where (f) means the semantic value of a word. The two sisters (inputs) are required to be identical semantically. The inputs in the above structure refer to morphological constituents and the output is the reduplicated form. The current study was explored how various morphological constituents such as stems in the Lukisa dialect, constituents which must be

semantically equal resulted into an output that has some added meaning hence the morphological function of reduplication.

In the Morphological Doubling Theory, the reduplicant and the base are both generated by the morphology as part of a construction which also embodies semantic and phonological realizations about the output of the reduplication.

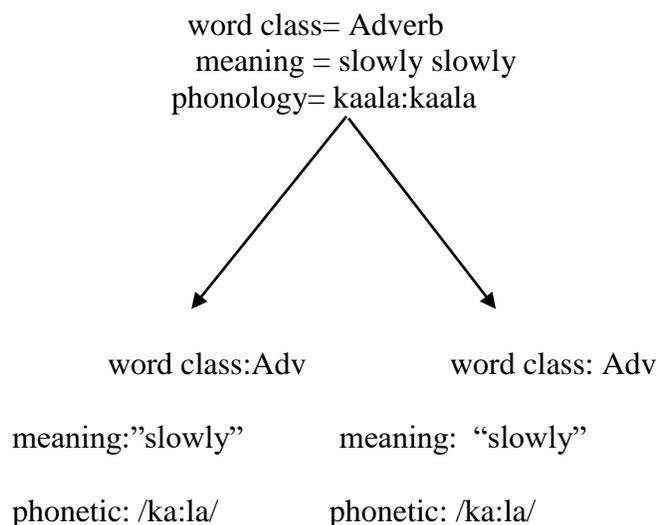


(Meaning= that of Daughter #2 = may be Subject to special phonology)

(Meaning=that of #1= may be subject to special phonology)

(Adapted from Inkelas and Zoll, 2005:8)

Morphological reduplication in MDT is a double selection (insertion) of morphological constituents such as stem or root. This can be illustrated in the following schema with a Lukisa word.



In MDT, as illustrated in the above schema, reduplication couples morphological constituents that agree in their semantic identity and syntactic specification. These constituents do not need to match phonologically. MDT makes heavy use of the concept of morphological construction to handle reduplicative semantics and phonology. A “construction” broadly speaking is any morphological rule or pattern that combines sisters into a single constituent. Each individual affix, compounding rule and or reduplication process is a unique morphological construction.

The following are the two claims of the Morphological Doubling Theory; first, that a reduplication construction calls for morphological constituents (affix, root, stem or word), not phonological constituents of mora, syllable or foot. And second, that reduplication calls for semantic identity of its daughters, not phonological identity.

Morphological Doubling Theory therefore departs from the previous theories in which the reduplication is treated as an abstract morpheme, RED, whose substance is provided by phonological copying. These include the proposition by Marantz (1982), Steriade (1988) and those theorists who focused on base correspondence like McCarthy and Prince (1995). In MDT, the reduplicant (the part that is reduplicated) and the base are both produced in morphology as part of a construction which also embodies semantic and morphological generalization about the output of the reduplication. Inkellas and Zoll (ibid) state that the morphological doubling results from double insertion of a morphological constituent (infix, suffix, prefix) that meets a particular morphosemantic description that inputs must carry similar meaning.

According to these theories, reduplication is driven by the presence of an affixal morpheme RED, which has the grammatical requirement to phonologically copy material in a phonologically adjacent string. The morpheme “RED” phonologically copies the base. They further state that

MDT is however; *“a native identity theory in the sense that surface phonological identity between the copies occur as a side effect of semantic identity, often as the simplest, or the only way to ensure semantic identity is to select exactly the same morphological entity for the two daughters”* (Inkelas and Zoll, 2005)

1.8.1.1 Thesis of Morphological Reduplication in MDT

MDT proposes that the essential identity between copies is semantic rather than phonological. This could be as a result of: the copies being identical in their input but differ in out put because of normal or special reduplicative phonology and when the copies are different in input.

Morphological reduplication in MDT is a double insertion or selection of morphological constituents such as stem or root. The reduplication couples morphological constituents that agree in their semantic (and syntactic) specification. These constituents do not have to match phonologically. In MDT, the essential identity in reduplication is semantic. It doesnot require phonological identity. MDT sees the role of phonological copying and its scope to be restricted to narrow sets of contexts.

According to Abdulaziz (2002), reduplication is a common phenomenon in Bantu languages and it is to form either the frequentative or diminutive verb. Frequentative denotes that an action is done repeatedly. In frequentative verb, the stem means one thing of the action but when reduplicated, it means to carry out an action repeatedly. In this case of frequentativeness, the input usually shares a semantic description with the reduplicated output only that the reduplicated output has some added information.

The diminutive nature of reduplication shows the semantic relationship between the stem and the reduplicated word. The output gets some added information while the input shares a similar meaning. This is supported by Inkelas and Zoll (2005) MDT view that morphological doubling

involves double insertion of morphological constituents which meet a particular morphosemantic description.

Reduplication denotes words which requires special weight or forcefulness showing something important. This study sought to explore how forcefulness is brought out when reduplication as emphasis in a morphological process of a word occurs. The intention of this is to bring out emphasis on the semantic value of a root word and this was explored in Lukisa dialect under this study.

1.8.1.2 Thesis of Phonological Doubling in MDT

According to MDT, the primary phonological issues arising in reduplication seek to answer the following questions: that, first, are the copies in reduplication phonologically modified relative to how they would appear in isolation, and second, is the surface phonological identity an extrinsic requirement of reduplication?

In MDT, as stated earlier, the essential identity in reduplication is semantic. It does not require phonological identity. MDT sees the role of phonological copying and its scope to be limited to narrow sets of contexts. Phonological constituent copying is restricted to cases motivated by phonological necessity. It is therefore the pursuit of the proposed study to delve into the phonological constituent reduplication in the Lukisa dialect with evidence of motivation of reduplication out of phonological necessity.

The MDT recognizes the place for purely phonological copying, but limits this to cases of phonological necessity, where there is no semantic change involved. Inkelas and Zoll (2005) look at phonology in the daughter and mother nodes of MDT reduplication. It postulates that MDT is a native identity theory of reduplication, that is, each reduplicant has its own phonology that is not dependent on the others phonology. A corollary is that there is no phonology that is specific to reduplication; rather, one need only applies the phonology of the language in general. The same

phonology that applies to reduplication can apply elsewhere. Their concept of “cophonology” is phonology associated with each morphological construction. A specific rule is not associated with the construction, but rather the entire bundle of rules that comprise what the cophonology is.

As much as it is emphasized that in MDT, the defining property is semantic, rather than phonological identity, there are phenomena that have been labeled reduplicative, in that a phonological constituent is doubled, but which is not amenable to a morphological doubling analysis in part because the doubled element is something very small, like a single consonant or vowel and in part, because the doubling has a purely phonological purpose, rather than being associated with change in meaning. In some cases, the duplication of the consonant is driven purely phonologically, by the need of a syllable onset. Auto segmental phonology would spread a consonant to the onset position, in optimality theory; ONSET would compel the insertion of a consonant which agrees featurally with a nearby consonant. This study therefore sought to, basing on his tenet explore how reduplication as phonological copying manifests in the Lukisa dialect without affecting meaning or the morpho-semantics but purely for phonological convenience.

Inkelas and Zoll (2005) propose some criteria of tenets for determining when a copying effect is morphological reduplication and when it is phonological reduplication, as in;

- i) Phonological duplication serves a phonological purpose; morphological reduplication serves a morphological purpose by either being a word formation process itself or by enabling another word formation process to take place.
- ii) Phonological duplication involves a single phonological segment such as an onset driven consonant copying; morphological reduplication involves the entire morphological constituent (root, affix, stem or word) potentially truncated to a prosodic constituent (mora, syllable and foot).

iii) Phonological duplication involves, by definition, phonological identity, while morphological reduplication involves semantic, not necessarily phonological identity.

iv) Phonological duplication is local, for example, a copied consonant is a copy of the closest consonant, while morphological reduplication is not necessarily local, as there are cases in syntactic reduplication in which the two copies are separated by other words; mainly parallel examples in which base and reduplicant are separated exist in morphology.

The Morphological Doubling Theory distinguishes two types of morpho-phonological reduplication: reduplication and phonological copying. Phonological copying is supposedly differentiable from morphological reduplication because the former: is not morpho semantic, it is proximal, thus, it targets the closest eligible element and that it copies only one segment. Basing on these four aspects, the phonological tenet of the MDT then equally helped in analyzing data related to the phonology of Lukisa dialect reduplication to bring out the phonological processes involving sound segments of vowels, consonants and syllables that interact with the grammatical aspect of reduplication in Lukisa dialect.

1.8.3 Tenets of Morphological Doubling

MDT presupposes that the essential identity between copies is semantic rather than phonological. Inkelas and Zoll (2005) posit that it is common for the two copies in reduplication to differ phonologically. This could be as a result of: the copies being identical in their input but differ in output because of normal or special reduplicative phonology and when the copies are different in input.

Morphological reduplication in MDT is a double selection (insertion) of morphological constituents such as affix, stem or root. The reduplication couples morphological constituents that agree in their semantic (and syntactic) specification. These constituents do not have to match phonologically. In MDT, the essential identity in reduplication is semantic. It does not require

phonological identity. MDT sees the role of phonological copying and its scope to be restricted to narrow contexts.

Inputs in phonological copying do not bear the same semantic features but have phonological features implying that there is usually no formal similarity features that link each of the reduplicative construction. This is because the input daughters do not semantically stand in isolation (are not semantically independent) hence serving purely a phonological purpose rather than being associated with semantic change.

MDT sees the role of phonological copying and its scope to be limited to narrow sets of contexts, thus, phonological constituent copying is restricted to cases motivated by phonological necessity. What is copied is proximal, thus, targets the closest eligible element and that it copies only one segment.

1.9 Summary

This chapter introduced the area of morpho-phonological reduplication in Lukisa dialect. It gave the background information leading to the statement of the problem. It outlined the objectives of the study, the scope and justification of the study. Lastly, it presented the theoretical framework which was applied in the analysis of data, The Morphological Doubling Theory by Inkellas and Zoll (2005).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter discusses research on reduplication. It also gives a glimpse into the aspects of: establishing the morpho-semantic features of reduplication, a description of the phonological processes that accompany reduplication and an exploration of how pseudo reduplication manifests in languages.

2.2 The Morpho-Semantic Features of Reduplication

Durrant (2013) observes that Bantu languages have characteristically agglutinating morphology which makes its structure rich and complex. Agglutination is a linguistic process pertaining to derivational morphology in which complex words are formed by stringing together morphemes without changing them in spelling or phonetics. Languages that use agglutination widely are called agglutinating languages. The term agglutination is sometimes used more generally to refer to the morphological process of adding suffixes or other morphemes to the base of a word. To this extent therefore, agglutinating languages often have more complex derivational agglutination than isolating languages. This study therefore sought to examine how agglutination as a characteristic of Bantu language manifests in Lukisa reduplication through affixation to bring out semantic change in lexical items, phonological copying out of necessity and pseudo reduplication. Katamba (1993) observes that agglutinative suffixes are often inserted irrespective of syllabic boundaries, for example by adding a consonant to the syllable coda in English “tie to ties”. The term agglutination was introduced by Wilhem Von Humboldt to classify languages from a morphological point of view. It is derived from a Latin verb “agglutinare” which means “to put together”. To this end, agglutinative languages tend to have a high rate of affixes or morphemes per word and very few irregular verbs.

According to Laura (2000), many Bantu languages have the process of (partial) verb –stem reduplication, with the meaning of doing the action of the verb here and there and from time to time, a common position of the reduplicative morpheme (RED) underlined to occur immediately preceding the morpheme stem. Reduplication serves a wide range of functions cross linguistically and within languages. These functions range over the standard morphological functions of derivation and inflection. This study differed from Laura’s (ibid) study as it sought to go further and explore the morpho-semantics, the manifestation of phonological duplication and the aspect of pseudo reduplication in Lukisa dialect, and if the suffix form of reduplication that occurs in Lukisa dialect differs from the one the study by Laura, (2000). This study was done within the parameters of the Morphological Doubling Theory by Inkelas and Zoll (2005). Further to this, as much as Laura’s (2000) study was both inflectional and derivational, the current study on Lukisa dialect was purely derivational with an embodiment of phonological copying.

Peng (1991) studies reduplication in Kikuyu. The study majorly concentrated on the aspect of reduplication of the Kikuyu verb. The study applied MDT to analyze the data whose findings showed that reduplication in the Kikuyu verb helped bring out three senses; a little, somewhat and a diminished force. The study looked at the Kikuyu verb root and explained the parts of the stem that takes part in reduplication. The study by Peng (ibid) informed this study as we make an attempt to analyze the Lukisa reduplication. As much as the study by Peng (ibid) majored on the kikuyu verb, the present study went further to analyze other linguistic units as nouns, adjectives and adverbs and how they are morpho-semantically changed or affected by the linguistic process of reduplication. This arose following the application of MDT in data analysis and discussion. Morphological reduplication here called for the double insertion of a morphological constituent of either an entire word or in other cases, it can be a sub constituent. All this reduplicated lexical

items in Lukisa dialect embodied morpho-semantic and phonological generalization the output of the reduplication.

Hyman *et al* (2009) in their study of morpho-phonological correspondence in Bantu languages argue in support of MDT. They observe that it is in reduplication that an ideal testing ground for theories of morphology, phonology and their interface is provided. The study posits that prosodic study of reduplication by phonological copying theories does not account for partial reduplication because they treat reduplication as a total copy of the abstract morphological structure of the base. Their study concludes that reduplication is not wholly a prosodic phenomenon. This study by Hyman *et al* (*ibid*) was of relevance to the present study on the Lukisa reduplication investigating the morpho-phonology in Lukisa dialect reduplication. However, in analyzing the linguistic aspects affected by reduplication, the MDT was the point of focus in data analysis from a morphological dimension to bring out the morpho-semantics of reduplication which will differ from Hymans (*ibid*) study which majored on the aspect of prosody which is more phonological. In deviating from Hyman's (2009) study which focused on total reduplication, the present study dwelt on both partial and total reduplication. In partial reduplication, part of or a section of the root is doubled for semantic change which is either class maintaing or class changing. There was a manifestation of cases of phonological copying to bring out phonological processes of reduplication.

Nyaga (2014) in the study of morphological reduplication in Kiambu concludes that total or complete reduplication was established to be the most common type of reduplication in Kiambu which also had some semantic effects. This was carried out basing on the Morphological Doubling Theory. The study established that stems and roots of a word which is morphological are doubled in Kiambu reduplication. The root and stem of a word is basically what reduplication targets.

Derivational and lexical affixes are not targeted in Kiambu reduplication. This is because affixes are constant parts of a word and are deleted in various morphological processes such as plural form formation. The existence of root reduplication in Kiambu provides evidence for morphological doubling which brought out the semantic aspects of augmentation in the adjectives as *ndoro* “sour” and *ndorondoro* for “very sour”, *nini* for “small” and *nini nini* for “very small”, intensification in adverbials of manner such as *nae* “bad” and *nae nae* “extremely bad”. The study by Nyaga (ibid) is of interest to this study which addresses the effect of either derivational or inflectional morphology. However, for the purpose of this study, only the derivational aspect of morphology was applied to bring out the morpho semantics of Lukisa reduplication. In diverting from Nyaga’s (2014) study, the present study was basically derivational as it was based on derivational reduplication to bring out the morpho-semantics of reduplication in Lukisa dialect. The phonological processes of vowel lengthening, vowel change and syllable weight were manifest basing on the tenet of phonological copying where the proximal sound is copied for phonological purposes.

Stolz.*et.al* (2001) observes that there is still a large diversity in meanings to be observed with total reduplication. It is also the case that many partial reduplication constructions have meanings within reduplicative semantics. In this case, it is probably unwise to lump all partial reduplication together. For example, if one is pursuing the objective that form and function are correlated, one might wish to distinguish between partial reduplication involving minimal words and partial reduplication involving smaller syllable sized constituents. This is because it might turn out to be the case that grammatical function of minimal sized partial reduplication vs partial reduplication of smaller constituents. This study therefore sought to explore the grammatical function of morpho-semantics and value or meaning of given lexical items that constitute Lukisa

reduplication. In this case, Morphological Doubling Theory by Inkelas and Zoll (2005) was applied in the data analysis of morpho-semantic, phonological duplication and tonal aspects of Lukisa reduplication respectively. As much as Stolz.et.al (2001) study was basically on the morphology of reduplication through partial reduplication, the current study applied both partial and total reduplication to bring out the morphosemantics and equally explore the processes of phonological copying that accompanies reduplication.

2.3 Reduplication and Phonological Doubling

Reduplication, broadly defined as the repetition of all part of or all of one linguistic constituent to form a new constituent with a different function, occurs at many points on the spectrum from phonologically defined partial duplication to the repetition of syntactic phrases. The range of patterns varies from a single segment being copied to phrases (Urbanczyk, 2006). Furthermore, the copying can occur on its own or be accompanied by other word formation processes. The meanings can also range from highly iconic meanings, such as repetition to more abstract morphosyntactic meanings, difficult to define precisely. Because of this diversity in form and meaning, reduplication has been a subject of great deal of research, both descriptive and theoretical. Among this diversity, several themes emerge related to accounting for the form of reduplication, which can loosely be categorized in terms of shape, segmental quality, morphological structure and the repetition mechanism. Ideally, the model of reduplication should be to predict the range of possible patterns that arise from a given form of reduplication. This section on reduplication of phonemic clusters of consonants and vowels in Lukisa explored the phonological aspect of reduplication with regard to the part of the word that supplies the phonologically repeated segment.

Okello (2007) studies reduplication in Dholuo; A Morphological perspective. The study dwells on the phonological processes of reduplication in Dholuo in an effort to establish the linguistic

elements affected by reduplication in Dholuo and to what extent reduplication interacts with morphology and phonology. The study reveals that there are some processes on vowels which are perceived as cases of phonological copying. The processes include; vowel deletion, vowel lengthening, vowel harmony and glide formation. Examples of vowel lengthening in Dholuo reduplication are: *kɛ:m - kɛm-kɛ:m* “bitter or sour”, *ti:n - tin- ti:n* “rather small/ smallish”. Okello (2007) observes that the phonological shape of the first syllable in the reduplicative is different from that of the second syllable due to the stress placed on it. The second syllable in Dholuo data is stressed, hence a heavy syllable while the first syllable is light, not stressed. On vowel deletion, Okello observes that this involves loss of segments. This leads to compensatory lengthening of the remaining vowel sounds as in: *lɛ + aciel la:ciel* “one axe” in the reduplicative, the mid front vowel segment /ɛ/ in the daughter input is deleted in the reduplicative *la:ciel* “one axe” as a consequence, the low central back vowel /a/ in the reduplicant construction is lengthened to compensate for the loss of /ɛ/ through deletion.

This was of interest to this study as the researcher sought to investigate the linguistic aspect of reduplication and the phonological duplication processes involved in the Lukisa dialect. The point of divergence from this study shall be that, although Okello (ibid) based her study on Dholuo, a Nilotic language which has an isolating morphology and majorly used the MDT, the current study shall be on the Lukisa among the Luhya Bantu speakers, and in analyzing the phonological processes in its reduplication with regard to the phonological tenets of the Morphological Doubling Theory that addresses the concepts of phonological duplication where out of necessity, the phonological process of copying picks on the closest phonological input. Lukisa, which falls among the Luhya-Bantu language speakers exhibits an agglutinating morphology, quite different from the Dholuo isolating morphology.

Oduor (2002) dwells on the syllable weight and its effect on Dholuo phonology. The study addresses reduplication in terms of syllable weight. The study majorly looks at reduplication as a repetition of syllables basing on the Base Reduplicant Correspondence Theory, BRCT. This was of interest to the current study as the researcher attempted to assess and analyze the phonological effect of syllable weight in Lukisa dialect basing on basing on the phonological tenet of Morphological Doubling Theory. The point of divergence of the current study was that the study was based on a dialect of the Bantu speakers while Oduor's was on Dholuo which is a Nilotic language while the current study is based on the Lukisa among the Luhya Bantu speakers. Lukisa being a Bantu prototype language characteristically exhibits an agglutinating morphology whereas Dholuo being a nilotic language exhibits isolating morphology. The point of divergence between Oduor's (2002) study and the current study is that the former was on Dholuo, an isolating Nilotic language based on BRCT while the present study was on Lukisa dialect of Luhya, an agglutinating language based on MDT.

Nyaga (2014) studies the morphological analysis of reduplication in Kiambu using the Morphological Doubling Theory as a theoretical framework. In this research, phonological processes that interact with reduplication in Kiambu are a point of focus. The discussion therein focuses on cases of phonological copying and also shows the effects of reduplication on the tone of a word in Kiambu. In the study, Nyaga (ibid) identifies the phonological aspects of vowel harmony between the vowel in the root on the verb and that in the infix, vowel lengthening especially in the penultimate position to connote emphasis and vowel substitution whereby there are cases in which a high vowel would be substituted with a low vowel and vice versa in Kiambu. The study also revealed that reduplication affected tone words in Kiambu where tonal patterns changed in reduplicated forms. This study by Nyaga (ibid) was of interest to the proposed study

as both Kiambu and Lukisa among the Luhya are both Bantu languages. As much as Nyaga (ibid) applied the MDT, the current study applied the phonological copying tenets of the MDT to explore the phonological processes that accompany reduplication in Lukisa dialect such as vowel lengthening, syllable weight and vowel change basing on the phonological tenet where morphological doubling makes predictions about the potential phonological modifications of elements involved and that what is copied is proximal, the closest eligible element such as a vowel, a consonant or a syllable in the phonological environment.

2.4 Linguistic Pseudo-Reduplication

Pseudo-reduplication refers to the reduplication of words that do not necessarily bring forth any grammatical function. In pseudo-reduplication, the words (morphemes) do not have any meaningful connection with any underlying element that forms the said reduplicant, Novotna 2000). Further to this, Novotna observed that there are a great number of words in Swahili which consist of one or more reduplicated syllables, however, there is no reduplication present in these cases. The lexical items present are a single morpheme and therefore neither expressions containing half of the elements (reduplicant) nor the underlying form (input root word) exist, Novotna (2000). This is referred to pseudo-reduplication. Moreover, Novotna (ibid) states that, as a result of this fact, it is almost impossible to establish a certain pattern which clarifies the same nature of lexical items concerned. The study gave some Swahili examples that do not exhibit any semantic or formal connection with other words, ie words that might be considered as the original, if any. For instance, “felefele” means an inferior kind of millet. However, “fele” does not in any sense represent any kind of millet whether inferior or superior.

The study by Norvotna (2000) was intended to be an intralanguage study, however, it could restrain from occasional interlanguage comparison since, to the researcher, in the study, it was believed that any contrastive comparison could contribute to a better understanding of the

linguistic phenomenon of reduplication. This study on Lukisa reduplication did not go interlanguage, instead, the principal researcher basically dwelt on the intralanguage manifestations of pseudo reduplication in Lukisa. The study by Norotna was also carried out from a synchronic point of view while the proposed study on Lukisa dialect was descriptive in approach, where the facts and information on Lukisa was used to make critical evaluation on the reduplication material. Furthermore, unlike Novotna's (2000) study on Swahili reduplication which assessed the formal properties of pseudo reduplication from a functional perspective, this study sought to validate the applicability of the Morphological Doubling Theory in analysis of pseudo reduplication in Lukisa.

Nyaga (2014) observes that total or complete reduplication was established to be the most common type of reduplication in Kiambu. The study was carried out basing on the MDT. The study established that the stems and roots which are morphological are doubled in Kiambu reduplication. The stem and root of the word are basically what reduplication targets. Nyaga's (2014) identifies pseudo-mreduplicated words such as: *karakara* "larynx", *varavava* "road" and *vikiviki* "motorbike" which occur in reduplicated forms but the repetition is not amenable to morphological doubling but occurs as phonological copying of the input elements. In Nyaga's (ibid) study, derivational and lexical suffixes are not targeted in Kiambu reduplication because the affixes are constant parts of a word and are deleted in various morphological processes such as plural formation. The existence of root reduplication in Kiambu provides evidence for morphological doubling. The study by Nyaga (ibid) was of interest to this study. As much as Kiambu is a Bantu language group, it only dwells on the semantic aspect of reduplication that results in other word formation processes. The study on Lukisa dialect reduplication went further

and delved into the linguistic aspect of pseudo reduplication as an autonomous component of Lukisa morpho-phonology where the words or morphemes and phonemes reduplicated do not have any meaningful connection with the underlying element that forms the said reduplicant.

Kanana (2016) posits that in Kimeru, reduplication exhibited itself if various words were repeated, because it seemed that there were two words which were used to make up one word which was reduplicated. However, the study found out that if the two words were separated, what seemed to be the root word and the reduplicant then would not have any reduplicated word because there were no syllables that qualified as inputs of given words. Therefore, the words cannot be put together to form any reduplicated word because the words do not exist in isolation. The study by Kanana (2016) found out that such cases of reduplication was common in the class of nouns. This study on Lukisa went further and sought to make an analysis of pseudo reduplication at other open word category levels of verbs, adverbs and adjectives without necessarily restricting itself to the noun class. Kanana (2016) further focused on the pseudo reduplication in Kimeru phrases that always come in pairs and appear reduplicated such as *magitanamagita* meaning “time and again”, *Kenya na Kenya* meaning “forever and ever”, and *mugongonamugongo* which means “generation to generation”. These words are used in pairs and they convey certain messages. Some of these words are found to fit only in certain contexts. This study on Lukisa dialect reduplication did not go the extent of analyzing pseudo reduplication of paired phrases as this was beyond the scope of the study which intends to restrict itself to the open word categories of nouns, verbs, adverbs and adjectives.

Arram (2011) explores pseudo- reduplication, reduplication and repetition in Arabic- Lexified Pidgins and Creoles. Particular attention is paid to the status of reduplication and to whether the occurrence of reduplication can be traced back to the lexifier and or the substrate languages. The

study posits that in Nubi, a creole spoken in Uganda and Kenya (Owens 1985, Prokosch, 1986) has several pseudo-reduplicated forms in its Arabic derived vocabulary such as *dugagdugag* “small”, *sim sim* “sesame” and *watwat* “fruit ball.” The study notes that whether *dugagdugag* can be related to a simplex form of *dugag* is subject to controversy since the various inputs cannot stand to be analyzed in isolation of the mothernode hence reflecting instances of pseudo reduplication.

Miller (2002) observes that Juba Arabic, a pidgin for some speakers but a creole for others spoken in South Sudan (Prokosch, 1986, Miller, 1993 and Owens 1997) exhibits a large number of pseudo reduplicated forms. Those of Arabic include the following: *fasfas* “lungs”, *keskes* “pleats” *suksuk* “beads”. The study concludes that such pseudo reduplicated forms cannot have their constituents morpho-semantically and syntactically analyzed in isolation. They only get their meaning in the reduplicative, a product of the two inputs.

Owens (1993) posits that Turku, a pidginized variety of Arabic, formerly Chad (Prokosch, 1986) equally has several pseudo-reduplicated forms, mostly from Arabic such as: *durdur* “wall”, *kalkal* “similar” and *semsem* “sesame”. According to the study, the two forms of *durdur* and *kalkal* are included among the great number of vocabulary items in Turku. They are only meaningful in their pseudo-reduplicated forms which is the reduplicative. However, when the various inputs are analyzed in isolation, they do not bear any semantic independence.

The above analyzed studies conclude that Arabic-lexified pidgins and creoles display pseudo reduplicated forms exhibiting total reduplication. This confirms the observation by Miller (2000) that “although there are a number of reduplicated forms in many pidgins, in almost all instances, these are fully lexicalized rather than members of productive word formation paradigm.” The meanings of reduplicated forms are frequently identical to those conveyed by repetitions.

2.5 Summary

The literature review on related previous research studies concerning areas on Morpho semantics of reduplication, phonological copying and reduplication and the manifestation of pseudo reduplication provided this study with the necessary information and reseach gaps to further build the knowledge of the morpho-phonology of reduplication in Lukisa dialect. Having reviewed and found there exists various manifestations in the morpho-phonology of reduplication through review of aspects related to the morpho-semantic features of reduplication, the interface between reduplication and phonological copying processes and the linguistic aspect of pseudo-reduplication, this research moves to discuss research methodology in the next chapter.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter highlights the methodology used in this study. It provides the details of the research design, the population of the study, the sampling procedure and the data collection techniques. The chapter also delves into the data analysis procedure, the ethical considerations observed during the research and a section on conclusion.

3.2 Research Design

In this study, a descriptive research design was used. Stacks and Hockings (1999) observe that qualitative research employs primarily no qualitative observation techniques and involves discovering a variable and attempting to define or describe it. According to Creswell (1998), a descriptive research design is effective where a language population needs to be studied and where techniques such as interviews and observations are involved. In addition, a descriptive research design requires the researcher to be a native speaker of the language under study (Milroy, 1987).

According to Mugenda and Mugenda (1999), a descriptive research design aims at describing a particular state of affair or an incident and it involves collecting data that attempts to describe human behaviour, attitudes and values. A descriptive research design is qualitative when it involves designs, techniques and measures that do not produce discrete numerical data. According to Babbie (2004), qualitative field research enables researchers to observe social life in its natural habitat by going where the action is and watch.

A descriptive research design is one of the methods of research design appropriate to language studies as it aims at describing phenomena as it occurs. Language is a phenomenon that requires a descriptive approach from the data based on observation.

The study utilized both field and secondary sources of data. The secondary data from published and unpublished sources provided the general information that contains the linguistic data on Lukisa dialect reduplication.

Selinger and Shohamy (1989) posit that a descriptive research deals with naturally occurring phenomena using data which may either be collected first hand or taken from already existing data sources. Moreover, Mugenda and Mugenda (2003) add that a descriptive research determines and reports the way things are. A descriptive research is used to establish the existence of phenomenon by explicitly describing them. According to Milroy (1987), in a linguistic descriptive study, the informants should be native speakers of the language under study. The investigator should also be a native speaker of the language under study, utilizes their competence in the language to analyze the constituents of the mother node and describe the data to arrive at a model of the grammar of the linguistic aspect being studied.

The observation by Milroy (ibid) among other scholars qualified the descriptive research design as the most appropriate for this study which analyzed reduplication as a linguistic phenomenon that concerns word formation process through morphological and phonological processes.

Babbie (2004) posits that a descriptive research design is one of the methods of research design appropriate to language studies. The design helped analyze and describe the constituents of the mother node, herein the reduplicative in a morphological reduplication. It further delineated the type of reduplication; either partial or total reduplication and the constituent inputs, whether both are semantically and syntactically independent, one of them is or whether both are not semantically and syntactically independent as in the case of pseudo reduplication.

3.3 Study Area

The study was carried out among the Lukisa dialect speakers of Khwisero Sub County of Kakamega County. Given its predominantly rural setting, the *Abashisha* who speak Lukisa form

the largest linguistic group in Khwisero Sub County, therefore, Lukisa is the predominant dialect spoken amongst the residents of Khwisero Sub County (Ethnologue, 2010). This study was on the morpho-phonology of reduplication in Lukisa. In view of this, aspects of morpho-semantics of reduplication, an exploration of the phonological processes that accompany reduplication and the linguistic concept of pseudo reduplication were delved into. The choice of the study area was purposive since it is inhabited mainly Lukisa dialect speakers who were the respondents of the study through Focus Group Discussions.

3.4 Study Population

Kothari (2007) observes that a population is the total collection of elements about which a researcher makes inferences. The study population was therefore Lukisa speakers of the Luhya language group. Following Rubin & Babbie (2001), this research considered the population as the aggregate elements from which a sample was selected. According to the 2019 Kenya Nation Housing and Population census, the population of Lukisa dialect speakers standing at 147,268. This total figure of Lukisa dialect speakers formed the study population from which a study sample was drawn. Mugenda and Mugenda (2003) posit that the target population is the population from which the researcher wants to get the results, and this was Ebuchero Educational and Cultural Society members.

3.5 Sample Size and Sampling Procedure

According to Savaranavel (1992), sampling refers to the process used to select a portion of the population of study. Palton (1991) notes that sampling procedure is a technique of judgemental sampling where samples are selected based on the knowledge of a population and the purpose of the study.

The researcher sampled the population in order to come up with a sizeable and controlled number of Focus Group Discussants who provided data and opinion about meanings or the semantics of

the reduplicated words and published secondary texts that would provide data to make the work manageable and practical within the time frame and available resources for this study. In this regard, this study employed the purposive sampling technique in the selection of focus group discussants who were native speakers of Lukisa from Buchero Educational and Cultural Society to provide data for this study. Palton (ibid) observes that the main goal of purposive sampling is to focus on particular characteristics of a population that are of interest to the objectives of the study. In purposive sampling, a sample is selected according to ones' personal judgement in order to cultivate an indepth understanding of the phenomenon being studied, (Borg and Gall, 1996). The sampled members were therefore picked because they possess the required characteristics basing on the personal judgement of the principal researcher. According to Milroy (1987), judgemental sampling involves the selection of sample members based on the judgement of the investigator using some criterion. In this study, the criterion used to select the participants was that the participants were native Lukisa speakers.

For the purpose of this study, the researcher purposively sampled Buchero Educational and Cultural society. Purposive sampling is whereby a sample is selected basing on the personal judgment of the researcher (Milroy 1987, Dornyei:2007). Through purposive sampling, the researcher was able to select focus group discussion participants to provide data for this study.

The method was appropriate because the researcher was targeting speakers of Lukisa from Buchero Educational and Cultural society members.

According to the 2020 membership register, Buchero Educational and Cultural Society has a registered membership of 208 members. Ary, Jacobs and Razarich (1997) argue that 10% to 20% of accessible population is acceptable for qualitative research. Similarly, Ramenyi *et al* (2003) agree that a sample size of between 10% and 20% is considered adequate for in depth analysis or

studies. For this reason, a study sample size of 20 members of Buchero Educational and Cultural Society comprising elders were purposively sampled to generate data for this study. This is because of the proficiency of the elderly who are expected to be competent, well grounded and proficient in Lukisa as they are native speakers too. In this study, competent refers to individuals who have gained enough proficiency in their first language, in this case Lukisa, are fluent in the language and can use it in concrete situations such as conversations. They were purposively sampled basing on the researcher's observation and their availability to participate in the FGDs. The Focus Group Discussants then filled a consent form of participation. Being a Lukisa dialect speaker, proficient, competence and good mastery of Lukisa dialect.

As it was expected, this sample size of 20 Lukisa speakers provided sufficient data that was manageable to enable justifiable conclusions. Moreover, the available literature on linguistic research warns against using large samples in language surveys because they tend to be impractical and redundant and on the whole unnecessary (Sankoff, 1980). Dornyei (2007) further notes that a qualitative inquiry is not concerned with how representative the sample is, but instead the main goal of sampling is to find individuals who can provide rich and varied insights in the phenomenon under investigation so as to maximize what we learn. Reaching saturation points or levels where no new data was generated and new cases generated are only confirmatory.

In this regard, a sample of Lukisa words were purposively sampled and extracted according to the personal judgment of the principal researcher for in-depth understanding of the concept of Lukisa reduplication from the native speakers and from published texts in Lukisa. Three written and published texts in Lukisa dialect were also be purposively sampled to provide data for this study. The texts contained lexical items in Lukisa dialect. Kothari (2007) observes that the homogeneity of the universe should be considered in sampling because if items of the universe

are homogeneous, a small sample can survive the purpose. Milroy (1987) further observes that linguistic behaviour is more homogeneous than any other type of behavior hence a large sample is not necessary.

The selection of the lexical items exhibiting reduplication followed a sampling criteria that targeted the following aspects:

- i) Those that encoded the morpho-semantics of reduplication in which reduplication led to formation of new lexical items that were either class maintaining or class altering.
- ii) Those that explored how phonological copying interacted with phonological processes of vowel lengthening, syllable weight and vowel substitution.
- iii) Those that exhibited the manifestation of pseudo- reduplication in Lukisa in which the various inputs in the reduplication process could not be independently analyzed when separated but led to the formation of an independent mother node.

These three linguistic aspects provided the researcher with data that clearly targeted on the concept of morpho-phonological reduplication in Lukisa.

Written and published texts in Lukisa dialect: *A History of the Luhya People* (Were, 1967), *Khwaraka Omuyeka* (Muluka, 2001) and *Luhya Proverbs from Kisa, Marama, Tsotso and Wanga* (Wambunya, 2005) were purposively sampled to in order to provide data on Lukisa reduplication that was of relevance to this study. Kothari (2008) observes that the homogeneity of the universe should be considered in sampling because if items of the universe are universal, a small sample can survive the purpose. Milroy (2007) further observes that linguistic behavior is more homogeneous than any other type of behavior hence large samples is not necessary.

The written sources were sampled on the strength that they were written by Lukisa dialect speakers and have words in Lukisa which were purposively sampled basing on the principal

researcher's native speaker intuition. The texts sampled were those that explored the Lukisa culture, history, traditions and oral literature written in Lukisa. On the basis of the native speaker intuition, the principal researcher was able to validate the Lukisa words.

3.6 Data Collection Techniques

Data collection for this study involved the researcher obtaining words that constitute Lukisa reduplication. The following methods were applied in gathering data for this study:

3.6.1 Native Speaker Intuition

Data was collected through native speaker intuition. The principal researcher who is a native speaker of Lukisa used his knowledge of Lukisa to collect relevant data. According to Milroy (1987), a researcher studying a native language can directly access the language by means of his or her own linguistic competence in order to generate data for the study.

With the use of a reduplication data extraction guide, the researcher who is a native speaker of Lukisa used his competence of the language to generate and extract relevant data. According to Milroy (1987), a researcher studying native language can directly access the language by means of his or her own linguistic competence in order to extract and generate data for the study. Native speaker competence is based on Chomsky's view on competence and grammatical knowledge.

According to Chomsky (1957:12) "the part of a speaker's knowledge of his language consists of knowing the lexical items of the language and based on his knowledge, the native speaker will be able to differentiate what is grammatical and what is not."

The researcher's native speaker competence aided not only in extracting data but also in verifying the data from Focus Group Discussions. Lai (2004) states that native speaker intuitions have enabled linguists to focus on relevant material with great ease and speed.

Elicitations of intuitions are usually done on thorough judgments of relevance. According to ELLO (2017), the native speaker makes judgments about acceptability of utterances which

include judgment on whether a certain linguistic form belongs to a certain language or not. This method was relevant since the study is on Lukisa involved making judgements on Lukisa reduplication.

Lai (2004) notes that native speaker intuitions are susceptible to bias and therefore cannot be used exclusively. To avoid the risk of native speaker bias, the researcher got complementary data by extracting words from written books on Lukisa oral literature, history and linguistics, which were then recorded in a note book. Schutez (1996) observes that despite the criticisms on the validity of data from native speaker intuitions, mainstream linguistics continues to accept intuitions as the primary source of data for grammatical studies.

3.6.2 Focus Group Discussions

Krueger (1988) defines Focus Group Discussion as a way of gathering information from people of similar background and experiences to discuss a specific topic of interest. This method is widely used in generating data when investigating homogeneous groups of participants as in the present case of the present study on the morpho-phonology of reduplication in Lukisa. The researcher used Focus Group Discussions to get in depth information on the participants understanding of the morpho-phonological aspects of reduplication in Lukisa.

According to Kothari (2008) the FGD process involves a facilitator and a group of about 8-12 persons who have the same background. The principal researcher constituted two focus group discussions for this study. The principal researcher picked two FGDs that had 10 participants each. The FGDs were coded as Discussants which were guided by the structured guide on Appendix C which allowed flexibility in discussing and giving opinions on the semantics of the cases of reduplication. The choice and placement of the FGDs was based on the variable of age and being a resident of Khwisero sub county by birth where Lukisa is the dialect of communication amongst the locals.

Raimenyi *et al* (2013) posits that a sample size of between 10% and 20% is considered adequate for in depth analysis or studies. For this reason, a study sample of 20 members of Buchero Educational and Cultural society which comprises a total registered membership of 208 members was purposively sampled to generate data for this study.

The researcher used FGDs as a qualitative method to get indepth information on the discussants ideas, perceptions and understanding of the manifestation of the morpho-semantics of reduplication in which semantics either as a class maintaining or class changing morphological process is subsumed in the reduplication. The study also described the the processes of phonological doubling and the manifestation of pseudo-reduplication in Lukisa.

The open ended questions on FGD's were discussed in Lukisa in order for the discussants to understand and respond to the questions objectively and avoid communication breakdown. This also allowed for group dynamics and quality control of data collection. The information gathered from the Native speaker intuition and that extracted from secondary sources complemented the FGDs. All the information from native speaker intuition and secondary sources was presented to the FGDs for discussion and understanding of the meanings subsumed in the reduplication, phonological copying and pseudo reduplication. The information from the discussions helped bridge any gaps occasioned by native speaker intuition and secondary sources of data collection. During the FGDs, the principal researcher took notes. The linguistic output during FGDs was paraphrased and recorded in writing during the FGDs and later transcribed for analysis and discussion to help interpret themes and sub themes from the data collected. The researcher had to introduce himself and explain the purpose of the study to the FGD discussants.

The FGD discussions were carried out at the ACK Eshirali church as the venue on 4 different occasions, two occasions for each FGD. On the first day of the meeting for each of the FGD

groups, the principal researcher introduced and explained to the FGD discussants the nature of the study, the ethical considerations, confidentiality of the discussants and filling in of the consent form. Using the FGD guide, the principal researcher took the discussants through the areas of concern as per the research objectives which helped generate data. The FGD discussants then provided data on Lukisa dialect reduplication and through the discussions as the principal researcher took notes. In the process of eliciting the data, the FGD discussants provided meanings (the semantics) of the words before and after reduplication which was of utmost relevance to this study.

The first days of meeting for each of the FGDs, there was the elicitation and discussion of data for objective one which was purely on the morpho-semantics of reduplication, dwelling on the derivation that was both class changing and class maintaining. The second days of the FGDs was for the elicitation of data on phonological copying and pseudo reduplication. After explanation and guidance from the principal researcher, there was elicitation of data. However, the explanation on phonological copying was beyond the scope of the FGDs, the interpretation remaining the preserve of the principal researcher, a linguist.

3.6.3 Corpus Compilation

The researcher also used secondary data to complement the primary data sources. The available works on Lukisa dialect, Lukisa oral literature, history and Lukisa linguistics were purposively sampled to form useful sources of written data. This secondary data refers to readily collected data and was retrieved from published and unpublished sources (Kothari, 2003). Written sources such as: *A History of the Luhya people* (Were, 1967), *Khwaraka Omuyeka* (Muluka, 2001) and *Luhya Proverbs from Kisa, Marama, Tsotso and Wanga* (Wambunya, 2005) were useful sources of written corpus on Lukisa reduplication. The written contained words in Lukisa. Kothari (2008) observes that the homogeneity of the universe should be considered in sampling because if items

of the universe are homogeneous, a small sample can survive the purpose. Milroy (1997) further notes that linguistic behavior is more homogeneous than any other type of behaviour hence large samples is not necessary.

The purposive sampling criteria of the texts involved the principal researcher visiting Chadwick Library under the auspices of the Anglican Church, Diocese of Butere which serves both Khwisero and Butere sub counties where Lukisa and Lumarama dialects that have a high mutual intelligibility are spoken. The principal researcher was directed in the process of purposive sampling by the Librarian in-charge.

3.7 Validity and Reliability of Research Instruments

The instruments of data collection were subjected to validity and reliability tests in order to minimize potential biases in data collection. According to Mugenda and Mugenda (1999), reliability is a measure of degree to which a research instrument yields consistent data after repeated trials. Reliability is the degree, to which a measuring procedure gives consistent results, (Postlewaite, 2005). A measuring procedure is reliable if similar results are replicated a second time following the same procedure. Validity on the other hand is the extent to which a study measures what it is intended to measure, that is the themes and sub themes emerging from the morpho-phonology of reduplication. It is the conceptual and scientific soundness of a research, (Graziano and Raulin, 2004). A pilot study was carried out as a measure of reliability. A pilot study amongst members of Shirali Teachers Welfare Association in Khwisero sub county was conducted using FGD complemented with native speaker intuition of the principal researcher and data from secondary sources. The FGD participants from Shirali Teachers Welfare Association were residents of Khwisero sub county who speak Lukisa, it was envisaged that they would be competent speakers enough to provide data on reduplication and give sound explanations on their application semantically. The principal researcher used purposive sampling in the selection of

the discussants in the pilot study as he is a member of the group. According to Joppe (2000), if the results of a study can be reproduced under a similar methodology, then the research instrument is considered reliable.

The researcher also used triangulation of the native speaker intuition, Focus Group Discussions and secondary sources as data collection instruments to ensure reliability.

The data collection instruments were validated before undertaking the research. There are three types of validity necessary when undertaking research: content, face and construct validity. The face validity is the degree, to which a test appears to measure what it reports to measure (Brown, 1996). Face validity was secured by a panel of experts who judge the appearance, relevance and representativeness. This was done through expert advice of the department of Linguistics, school Arts and Social Sciences post graduate committee, school of Graduate studies review committee and the Maseno University Ethics Review Committee. The researcher evaluated the data collection techniques to establish their credibility, relevance, representativeness, accuracy and feasibility. The researcher also measured construct validity. Construct validity refers to the degree, to which a test measures what it claims or purports to be measuring (Brown, 1996). This looked at the appropriateness of inferences made on the basis of observations or measurements. The area of study was on the morphophonology of reduplication and the researcher focused only on words that display Lukisa reduplication.

3.7.1 Pilot Study

The tools of data collection used in this study were subjected to a pilot study. Calitz (2009) defines a pilot study as a mini- version of a full scale study or a trial- run- done in preparation for a complete study. It can also be a specific pre-testing of research instruments. Thus, a pilot study is carried out after the researcher has developed a clear vision of the research topic and questions. The research instruments were pre-tested before the actual field work to ensure that they were

reliable in data elicitation. The FGDs were pre-tested on six members of Shirali Teachers Welfare Group which has a registered membership of 59 teachers who consented to participate in the discussion. This was in line with assertion by Creswell (1998) that reliability of the instruments can be predetermined by a pre-test method at two different times. In addition, the principal investigator defined key concepts in this study and elicited initial data through native speaker intuition to help ground and focus the FGD participants on the intended interests of the study. The responses from

FGD participants greatly depicted reduplication conforming to the tenets of Morphological Doubling Theory.

3.8 Data Analysis

According to Selinger and Shohamy (1989), data analysis involves sifting, organization, summarizing and synthesis of data to arrive at results and conclusions in research. It requires the breaking down of existing complex factors into simple parts together with new arrangements for the purpose of interpretation.

Content analysis was used to analyze the concept of reduplication in Lukisa. Qualitative analysis is mainly descriptive. According to Mugenda & Mugenda (1999), content analysis is a technique used in gathering and analyzing content of a text. These can be syllables, morphemes, words, phrases or sentences. The analysis involved words depicting reduplication cases, with the aim of establishing the morpho-semantic features of Lukisa reduplication, describing the manifestation of phonological copying in Lukisa and explore how pseudo reduplication is manifest in Lukisa dialect.

The data analysis in this study was done as per the objectives of the study in the following ways:

- i) Morpho-semantics of reduplication which sought to establish how morphological inputs of the affix, stem, root, word are doubled to result in a new word. The new word was then analyzed as either class maintaining or class changing.
- ii) Phonology of duplication which analyzed and described how sounds are either lengthened, deleted or affect the syllable weight when copied in the penultimate position of the reduplicant which brought out phonological doubling. The analysis here did not involve semantic change.
- iii) The Lukisa pseudo reduplication which sought to explore the manifestation of how daughter inputs are partially or totally doubled leading to the formation of semantically and syntactically independent mother nodes.

All these were analyzed basing on the Morphological Doubling Theory by Inkellas and Zoll (2005) in which the thesis of semantic identity in the morphological doubling and the thesis of phonological inputs in phonological copying. The thesis of morphological doubling presupposes that the essential identity between the copies is semantic and syntactic. On the other hand, the thesis of phonological copying postulates that inputs do not bear the same semantic features but have phonological features. There is no formal similarity among the features that link each of the inputs which have no semantic and syntactic independence.

3.9 Ethical Considerations

In order to access the research sites and interact with the FGD participants, initial clearance to conduct field work was obtained from the Dean, school of Graduate studies, Maseno University. Consequently, the researcher obtained a research permit from the Maseno University Ethics Review Committee and The National Council for Science Technology and Innovation (NACOSTI) prior to data collection.

The study involved interaction human subjects from the Buchero Educational and Cultural society. Caution was observed to ensure that the FGD participants are protected. To do so, the researcher observed the following: First, the researcher explained the nature and purpose of the research to all the concerned participants and thereafter sought their consent. The participants were requested to sign a consent form attached to the FGD data extraction guide (Appendix D). The principal researcher endeavoured to maintain the privacy, confidentiality and anonymity of the participants before and during the data collection period. The results were quoted in verbatim and coded as discussants but not being directly attributed to the names of the source participants in the FGDs.

The data was protected by storing in a computer so that it remains confidential and accessible only to the principal researcher for the purposes of this study.

The study was likely to face the limitation and potential bias of the dominance of native speaker intuition of the principal researcher in data collection and elicitation. To minimize this potential bias, the principal researcher, through use of triangulation subjected data from both secondary sources and native speaker intuition to the FGDs for discussion and interpretation of the semantics of the lexical items generated. The morphological and phonological analysis of the generated data was the domain of the principal researcher as it was purely linguistic. The use of a variety of data collection tools was envisaged to provide the element of conformability. The print or secondary sources used in this study were acknowledged and referenced to avoid the risk of plagiarism.

3.10 Summary

This chapter has outlined the methodology used in this study. It describes the research design, explains the sample size and the sampling procedure as well as data collection techniques used. In addition, the method of data analysis has also been described and the ethical considerations observed while conducting included. In the next chapter, this study undertakes an analysis of the collected and sampled data and the necessary findings discussed.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

The main concern of this study was to undertake a morpho-phonological analysis of reduplication in Lukisa dialect. This chapter deals with data analysis and discussion of the research findings. There are three sections of data analysis incorporated in this chapter which elaborate the themes and sub themes emerging from the sampled cases of reduplication. The three sections address the research objectives which are to: establish the morpho-semantic features of reduplication in Lukisa dialect, describe the phonological processes that accompany reduplication in Lukisa dialect and explore how pseudo reduplication is manifest in Lukisa dialect. The themes and sub themes are explained within Inkelas and Zoll (2005) Morphological Doubling Theory with regard to the morpho semantics of reduplication and the phonology of reduplication. The Morphological doubling theory postulates that reduplication results when morphology calls twice for the constituents of a given semantic description, with possible phonological modification of either or both the constituents.

4.2 The Morpho-semantics Features of Reduplication

The first part of data analysis presented here addresses the first objective of the study, that is; establish of the morpho-semantics of reduplication in Lukisa where the manifestation of root reduplication shows that reduplication can target morphological constituents of a word regardless of their phonological size, confirming that what is doubled in reduplication is a morphological constituent that is either partial or total. Moreover, Inkelas and Zoll (2005) MDT tenet on the targets and inputs in morphological doubling proposes the scheme of construction in the morpho semantics that two daughter components, each with their individual syntax, semantics and

phonology contribute to the mother node which has its own syntax, semantics and phonology. In this case, reduplication results when morphology twice calls for constituents of a given semantic description, resulting in the doubling of the morphological constituents of affix, stem or whole word which agree in semantic specification. Derivation is a morphological process that results in the formation of new words or lexemes where one - word category is derived from another one (Lyons,1968). Reduplication is a form of derivation that involves affixation. Its operation, however, is different in that the identity of the added material is partially or wholly determined by its base (Spencer,1991). Reduplication as a form of derivation is also called compounding (Zapata, 2007). In the morpho semantics of reduplication we can have either class maintaining or class changing as discussed herein. The morphological aspect of derivation therefore informed the categorization and sub categorization of word classes in this section into class maintaining and class changing domains of morpho-semantics.

4.2.1 Class maintaining derivation

According to Omondi (1982) class maintaining derivation is the morphological process of forming new lexemes that are of the same part of speech as the base from which they are formed. This is the derivation of new lexemes which are of the same form of class. In this case, there is either change in the class of a given lexical item that undergoes reduplication and or change in meaning of the lexical item reduplicated, thus, there is evidently an added meaning in the reduplicative as contrasted with the first input before reduplication. This study on the Morphosemantics of reduplication where morphology demands for two constituents of a given description of meaning and semantics subsumed in the morphology of reduplication had data analyzed in the following word classes in Lukisa.

In this view, it was necessary to get the discussants opinions and input on various aspects of involving the morpho-semantics of reduplication in Lukisa hence get the meanings of given lexical items of reduplication. The Focus Group Discussants who were native Lukisa speakers were therefore guided by question one on the FGD guide to get their opinions on the meanings of words presented by the native speaker, in this case the principal researcher and data from secondary sources and their responses provided.

4.2.1.1 Verbs

Verbs are defined as words that are used to describe an action, a state or occurrence and forming the main part of the predicate of a sentence (Mberia, 1993). This study noted that reduplication occurs in Lukisa verbs which are part of the open word class categories. There are two forms of reduplication; total reduplication which is a morphological process where the reduplicant and the base are identical at semantic level. The entire stem or the base constitute the reduplicant which is affixed to itself. Then there is partial reduplication which calls for the morphological constituents of an affix or only a part of the root or word. According to Ngunga (2002) that total reduplication occurs in a morphological process where the reduplicant and the base are identical at the segmental level. It is total reduplication because the entire word is repeated. This type of reduplication is common with verbs as an open word class category.

In the MDT theory, reduplicative constructions which is the mother node calls for two daughter nodes that are identical in morpho-syntactic and semantic features. Using FGDs, the sampled responses from Lukisa discussants are revealed below:

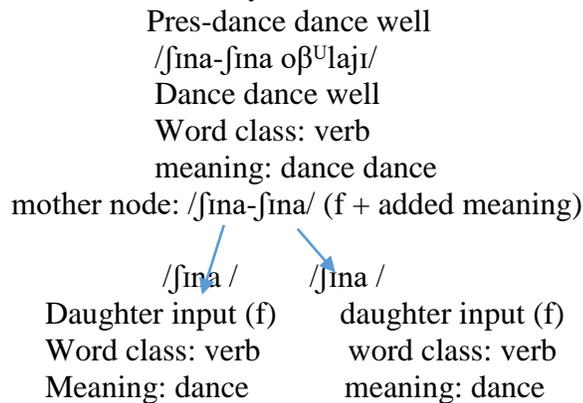
Interviewer: *Hanakhwo amakhuwa mulushisa akalimwo okhwikalushira akene na akene kanyala okhuba nikelalushira kupu nohomba kata eshipande shiatiti khuko. Amakhuwa shinga “palapala”, “fukafuka”.*

(Give us examples of words in Lukisa which have repetition within themselves or which repeat themselves.)

Discussant 1: *Khuli nende amakhuwa shinga “shinashina, liralira, semasema, tsekhatsekha.” Amakhuwa shinga yako kalimwo okhwikalushira akene ne kamanyia mbu eshikhole lebe na lebe shikholekha nishikalushira. Yako kekalushira kupu ne khandi kamanyia mbu ebikhole ibo bikholwa nomundu mulala”*

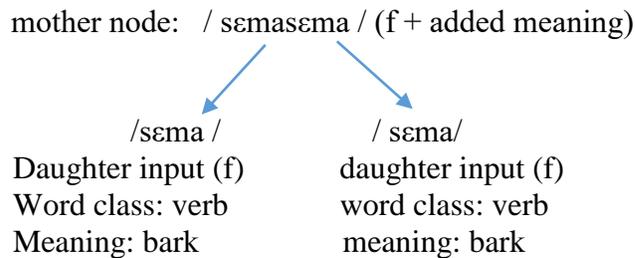
(We have words such as dance-dance, cry-cry, bark-bark, laugh-laugh. Such words have total reduplication within themselves and they show that a given action is repeatedly being done. They also show a singular form)

1. Lukisa : **shina- shina** obulayi.

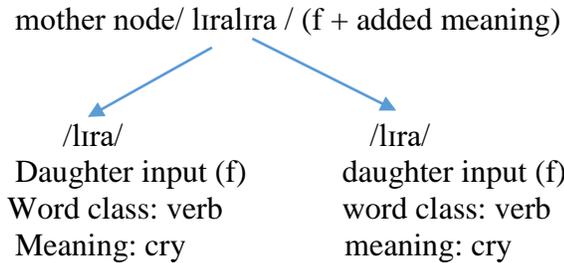


2. Lukisa: **sema- sema** shie im- bwa.

/sɛma sɛma ʃiɛ imβwa /
 Pres- bark bark like sg-dog
 Bark bark like a dog
 Word class: verb
 Meaning: bark bark



3. Lukisa: **liralira** shi-o-mwana.
 /lira lira ŋa omw-ana/
 Pres- cry cry like sg-baby
 Cry cry like a baby



In these designate data on total reduplication 1, 2 and 3 in Lukisa, MDT (2005) through the thesis of morphological targets in the morpho-semantics of reduplication presupposes that in each instance, the two sisters, herein, daughter inputs, are required to be identical semantically. The inputs in the above data are daughter nodes refer to morphological constituents and the output which is the mother node, the reduplicated form. What is coupled are the morphological constituents *shina*, *sema*, and *lira* which respectively mean “dance, bark and cry.” These constituents are semantically equal. Semantically, the reduplicants: *shina-shina* (dance-dance), *sema-sema* (bark-bark) and *lira-lira* (cry-cry) have semantically equal inputs. It is clear from this data that the thesis of morphological doubling in MDT turns the traditional conception of reduplication on its head as the degree of formal similarity must link half of the reduplicative construction. This introduces a new meaning or grammatical function of augmentation which implies an increased activity or greatness which is augmented when the root of the verb is reduplicated, that is, both the daughter input root and the reduplicant input have the same semantic connotation.

In the data 1, 2 and 3, *shina-shina* means to “dance repeatedly”, applicable in the case of nouns that depict humans when they “bark continuously” as when a dog “barks repeatedly”. In *lira* (cry) which changes to *lira-lira* (cry cry) implying to cry repeatedly too. There is an implication in

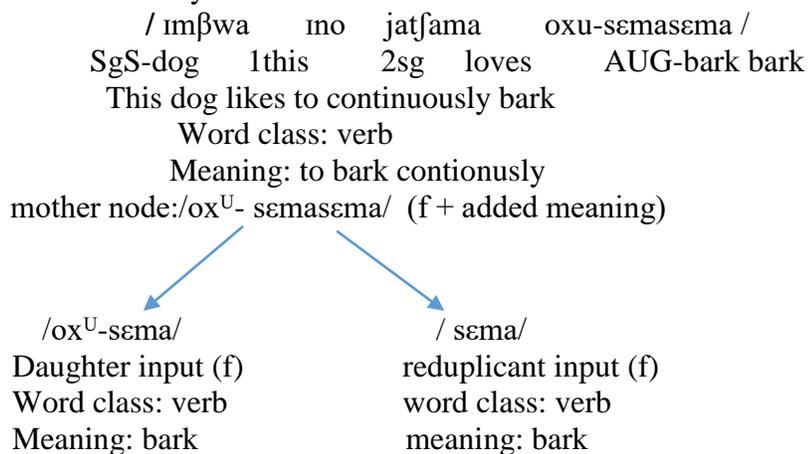
these sets of data that there is semantic change that arises in the augmentation but no change in the word class category. The lexical items remain verbs depicting the actions of “crying, dancing and barking” only that they are repeatedly done hence retaining their respective initial word classes. This is captured in MDTs (2005) thesis on morphological targets which calls for morphological constituents of stem or root word. The daughter inputs are prototypically two which are identical in their semantic and syntactic features. Moreover, the word class retains its verbal group but their meanings change as they are augmented verbs. That even after reduplication has taken place, there is no change in the word class of the respective verbs; “cry, dance and bark.”

Durrant (2013) observes that Bantu languages have characteristically agglutinating morphology which makes its structure rich and complex. In agglutination, complex words are formed by stringing together morphemes without changing them in spelling or phonetics. In the agglutination of the Lukisa verb *liralira*, the reduplicant *lira* was added to the root word “lira” to derive the reduplicative *liralira* which remains a verb but implies to cry continuously hence the grammatical function of augmentation arises since there is the increased activity or quantity of the action of crying. The verb in this case is augmented in its reduplicated form.

It was worth noting that reduplication in Lukisa verbs in the data in 1,2 and 3 was through total reduplication where the root was doubled through right alignment directionality of the reduplicant in as the reduplicant daughter input was added to the right of the root word. This is unlike the reduplication in Kiambu language verbs which Nyaga (2014) observed that some verbs were reduplicated through prefixation thus, to the left, exemplifying the left alignment directionality where the reduplicant daughter input was doubled on the left of the root daughter input as in the verbs *menemevera* which means “take care of” and *vuvanera* for “cook for another person” which

respectively change to *menamenevera* which means “take care a little bit” and *ruvaruranera* which means “cook for one another a little”. These were clear examples of prefixation through left alignment directionality in reduplication in some Kiembu verbs as much as there were also cases of suffixal reduplication such as *nemaraoka* which means “they are coming” and *komasona* which means “take from them by force” which respectively change to *nemaraokaoka* which means “they are coming closer” and *komasunasuna* which means “to take from them by a little force” which depicted prefixal cases of reduplication that take the left alignment of the reduplication. This is unlike what happened in Lukisa verbs purely through suffix reduplication, On the other hand, the Lukisa verbs *okhu-shina* (to dance), *okhu-sema* (to bark) and *okhu-lira* (to cry) do undergo semantic change through total reduplication. This is evident when the whole daughter input root is reduplicated. This kind of total reduplication can be graphically presented as:

4. Lukisa: i -mbwa ino ya- chama **okhu-sema-sema.**



5. Lukisa: O-mwana uno yayanza **okhuliralira**.

/omwana ^Uno jajandza ox^U-liralira/

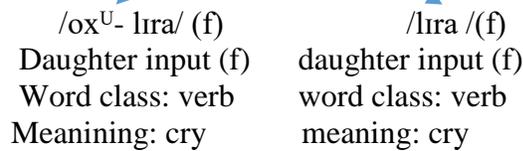
SgS-child 1 this 1sg love AUG-cry cry

This child likes to repeatedly cry

Word class: verb

Meaning: cry continuously

mother node :/ox^U-liralira/ (f + added meaning)



6. Lukisa: Omu- khasi uno ya -chama **okhu-shinashina**.

/om^U- xasi ^Uno ja- tʃama ox^U- ʃinaʃina /

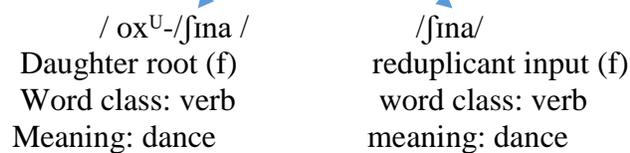
Sg-S- woman 1 sg- this 2sg loves AUG- dance dance

Woman this likes to dance repeatedly.

syntax: verb

meaning: dance dance

mother node/ox^U -/ʃinaʃina/ (f+ added meaning)



According to Abdulaziz (2002), reduplication is a common phenomenon in Bantu languages and it is employed to form either frequentative or diminutive verb. The frequentative denotes that an action is done repeatedly. From the data in 4,5 and 6, of Lukisa, the prefix morpheme marker *okhu* means “to” in Lukisa. When the respective daughter input roots *sema*, *lira* and *shina* are reduplicated then each input partially shares a semantic description with the reduplicated output; *okhu-semasema*, *okhu-liralira* and *okhu-shinashina*, only that the output had some added

information, in these data that the actions are done repeatedly. However much there is added information as a result of the total reduplication, there is the retention of the word class as a verbal group and equally the retention of the meaning of the respective verbs. As Inkelas and Zoll (2005) posit on morphological targets in MDT, that a reduplicative construction calls for morphological constituents like affix, root, stem or word. The existence of the root reduplication in the data in *shina*, *sema* and *lira* confirms that what is doubled in reduplication as per MDT are morpho semantically defined daughter inputs which are prototypically two and identical in their semantic and syntactic features hence doubling morphosemantically defined constituents.

This is unlike Peng's (1991) study on reduplication in Kikuyu based on MDT which depicted that the verb stem in Kikuyu reduplicates to bring about three senses of: little, somewhat and a diminished force which is discussed in the later section on adjectives of quantity (section 4.1.1.3.2). These functions do not emanate in Lukisa verb upon reduplication as depicted in the designate data in 4, 5 and 6. The semantic functions of expressing little, somewhat and diminished force exists in Lukisa adjective which is meant to describe or modify a given noun in a syntactic expression both, in partial and total reduplication. The Lukisa verb reduplication brought out here expresses the aspect of an action repeatedly done.

According to Inkelas and Zoll (2005), the MDT thesis on morphological targets postulates that a construction which is in its reduplicated form calls for constituents that are morphological in nature, consisting of; affix, root, stem or word. The thesis of semantic identity posits that reduplication calls for semantic identity of its daughters in morphological doubling. The daughter inputs are prototypically two, identical in their semantic and syntactic features. In the data: *okhu-semasema*, *okhu-liralira* and *okhu-shinashina* called for the doubling of the root words. In the verbs in the data depicted above the derivational prefix *okhu* which means "to", although not

targeted in the reduplication in which the daughter input roots *sema*, *lira* and *shina* (bark, cry and dance) respectively are doubled to give meaning. Root words similar to the roots in the data *okhusema*, *okhulira* and *okhushina* are doubled basing on the right alignment directionality through suffixation in order to bring out meaning. The verb *okhusema* means “to bark”, when the root was doubled, it resulted into the verb *okhu-semasema* which implies to “repeatedly bark”. The same applies to the verb *okhu-liralira* which means to “repeatedly cry” and the verb *okhu-shinashina* implying to “repeatedly dance.”

MDT (2005) thesis on morphological targets postulates that reduplication occurs when an affix, a stem, root or whole word is doubled. In the data depicted of the Lukisa verbs in 4, 5 and 6, the root words were doubled to the respective roots in order to realize semantic change in the verbs. As a result, this brings about lexical derivation to create new words. In the data 4, 5 and 6, there is a double occurrence of morphological constituents; the daughter input roots *lira*, *shina* and *sema* which meet particular morpho-semantic descriptions that equalize them to similar morphemes attached to the derivational prefix *okhu* bringing out the meaning, that in all the cases, the respective actions are repeatedly carried out.

Inkelas and Zoll (2005) MDT proposes specific schematic constructions that accomplish plural progressive. When morphologically reduplicated through total reduplication in which the daughter reduplicant input and the daughter root word input are identical at semantic and syntactic level, such plural forms of Lukisa verbal constructions accomplish the plural progressive aspect in grammar. This was exemplified in extract two using FGDs in the sampled responses from Lukisa discussants in:

Interviewer: *Hanakhwo amakhuwa mulushisa akalimwo okhwikalushira akene na akeene. Kanyala okuba kekalushira mubwitsulu nohomba eshipande khuko. Shingana mumakhuwa kano mbu” palapala” nende “fukafuka”*

(Give us examples of Lukisa words which have repetition within them or repeat themselves.

The repetition can be total or partial as in *fukafuka* and *palapala*)

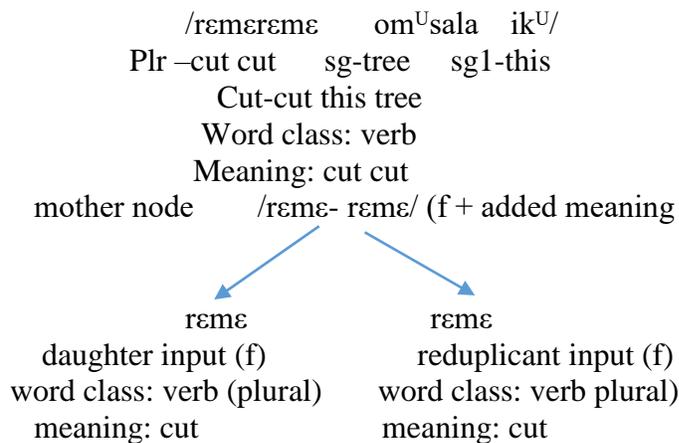
Discussant 2: *Khuli nende amakhuwa akekalushirwa akene nakene ne kamanyia mbu likhuwa likalushirwa ilio linyala okhukalukhasibwa okhumanyia mbu eshikhole shiene eshio shikholanabandu abanji shingana mbu: reme likalushira mbu /rɛmɛrɛmɛ /, /ʃinɛʃinɛ / nende /tɛʃɛtɛʃɛ/.*

(There are plural verbs in Lukisa which undergo total reduplication. They are used to show that an action in plural form is done by many people and repeatedly such as /rɛmɛrɛmɛ/, /ʃinɛʃinɛ/ and /tɛʃɛtɛʃɛ/.

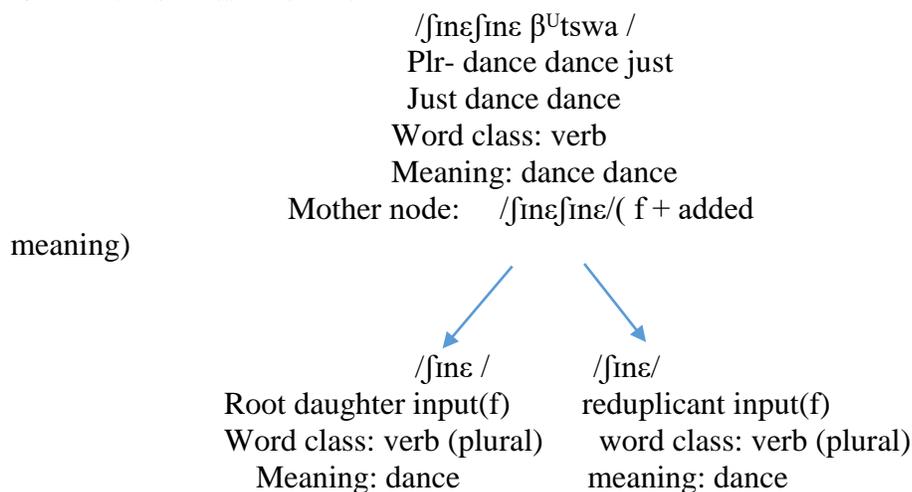
Singular form	plural form	plural reduplicative form
rema/rɛma/ cut-SG	reme /rɛmɛ/cut-PL	-remere/ rɛmɛrɛmɛ/ cut cut –PL-PROG
shina /ʃina/dance-SG	shine /ʃinɛ/dance-PL	shine-shine /ʃinɛʃinɛ/ dance dance- Plr-PROG
tsekha /tɛxa/ laugh-SG	tseshe /tɛʃɛ/ laugh-PL	tseshe-tseshe /tɛʃɛtɛʃɛ/ laugh laugh- Plr-PROG

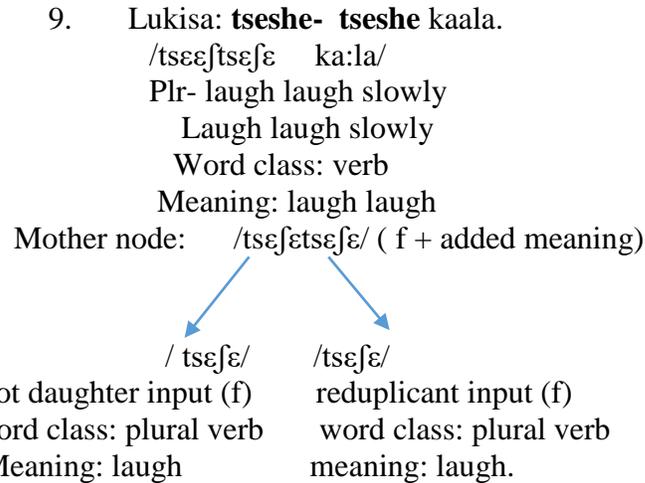
This data can be presented as;

7. Lukisa: **remere** omu-sala iku.



8. Lukisa: **shineshine** butswa.





The Lukisa data daughter input words: *reme*, *shine* and *tseshe* are plural progressive forms that respectively mean: “cut, dance and laugh”. This resulted since the verbs undergo morphological doubling and as they exhibited total reduplication, where the same daughter input root is added to another reduplicant root at the input level resulting to the reduplicant. It is worth noting that the total reduplication in these data takes the right alignment directionality through suffixation where the exact root word is repeated on the right. In the data 7, 8 and 9, the inputs are in the class category of verbs and all are in plural forms but semantically indicating the performance of an action. However, when total reduplication is carried out on the respective plural verbs, *shine*, *tseshe* and *reme* the semantic aspects of these verbs denote continuity in the actions of the respective verbs in their Likisa forms. In this case, the dancing is progressive, same to the acts in the verbs of laughing and cutting. The MDT (2005) tenet on the thesis of semantic identity postulates that reduplication calls for semantic identity of its daughters. The input daughters equally have the same syntactic features. Further to this, a reduplicative construction is a self-compound with each half of the reduplicant considered an independent input morphological construction required to have the same semantic features and “the new meaning.”

The new meaning derived by the process of total reduplication is associated with the construction as a whole. In the designate data in 7, 8 and 9 of Lukisa verbs, there are respective verbs *reme*,

shine and *tseshe* in their plural forms in Lukisa because they can only be used with plural subject nouns in any given syntactic expression. When they undergo self- compounding through total reduplication taking place, right aligned, leading to the formation of their various plural forms of *shine- shine*, *reme-reme* and *tseshe-teshe* which denote an added meaning of continuously carrying out the respective actions. Downing (2003) analyzed the various patterns of reduplication in Bukusu. The study concluded that Bukusu has two patterns of verbal reduplication; prefixing and infixing patterns. In our analysis of reduplication in the Lukisa verbal group, the findings depicted that there were neither prefixing nor infixing patterns in reduplicated verbs to express the progressive aspect. Although prefixation is a form of reduplication as per MDT (2005) it did not manifest in the data analyzed in Lukisa dialect reduplication forming plural verbs from singular forms as in “*reme- reme*, *shine-shine* and *tseshe-teshe*.”

In Lukisa, morphological reduplication of verbs can also be used to bring out the meaning of “doing for someone”. This occurs with total reduplication where the whole root is repeated and this is semantically aimed at conveying an added meaning of the verb undergoing reduplication. Basing on the thesis of semantic identity as propounded by Inkelas and Zoll (2005), the MDT of reduplication calls for semantic identity of its daughters. It presupposes the double or (multiple) occurrence of a morphological constituent (daughter input) meeting a particular morphosemantic description. In the following verbs:

10. Lukisa: O -tsitsanga **okhu-shinira–shinira** wina?

/o- tsitsanga ox^U-ʃinira-ʃinira wina/

SgS going AUG- dance dance who

Whom are you going to dance dance for?

Word class: verb

Meaning: dance for

mother node /ox^U-ʃiniraʃinira/ (f + added meaning)

/ox^U-ʃinira/

daughter input root (f)

word class: verb

meaning: dance

/ʃinira/

reduplicant input (f)

word class: verb

meaning: dance

In the data 10 on Lukisa verb reduplication, there is an added meaning that arises from the total reduplication carried out. In the case of the reduplicated construction *shinira-shinira*, the first daughter input root verb *shinira* means to “dance for” which was attached to the derivational prefix *okhu* which is a preposition “to” used together with the main verb. When total reduplication takes place, the verb means to “dance-dance for.” The verb daughter input root *lirira* means to “cry for”, in this case, when reduplicated totally, with the compounding the input reduplicant *lirira*, it has an added meaning of repeatedly cry for something or someone. In the case of the verb *sambira* which means “roast for”, the reduplication results into *sambirasambira* implying to continuously roast for someone. It also brings out the semantic aspect of quantity, thus roasting in small bits. In these three forms of data on Lukisa verb reduplication, the compounding the whole root of the verbs basing on suffixation in the right alignment as the directionality of the reduplication process in which the reduplicant is doubled on the right of the root. This gives an added meaning of the reduplicative, thus, after reduplication, the resultant constructions have meanings that “it was done for” in all the sets of data in: *okhu-shinirashinira*, *okhu-liriralirira* and *okhu-sambirasambira*. The actions are performed or carried out repeatedly on behalf of other persons involved bringing out the grammatical aspect and the semantic theme of duration. However, there is no change in the lexical category or group of the respective words because what were initially verbs retained the verbal class category even after total reduplication of the respective first input roots had taken place.

According to Inkelas and Zoll (2005), in MDT, the total reduplication here has at its core a semantic and syntactic identity between its components, thus, the two inputs of each reduplication process fundamentally had a semantic identity. Given that in morphological reduplication, semantics is subsumed in the reduplication process, this results into the various added meanings

as portrayed in the verbs denoting something being done for someone in Lukisa. Odden (1996) observes that reduplication in Ciyao verbal constructions like most other Bantu languages has been viewed as prefixation rather than a suffixation process. This is unlike the reduplication in Lukisa verbs in the data of *shinira-shinira*, *sambira-sambira* and *lirira-lirira* in which added meanings that accompany morphological reduplication is a result of doubling of the root. Amwayi (2020) explores reduplication as a strategy used by medics and patients to incorporate new words in *Olukisa*. The study posits that reduplication in *Olukisa* is mainly used to show repeated action such as *okhwi-yakayaka* which means to “continuously scratch oneself”, *okhu-rumaruma* which means “to keep jumping” which connotes one getting intimate with many people and it is often used to warn people against irresponsible immoral behaviour, *okhuchendachenda* which means “walking aimlessly” which connotes promiscuity and *okhurengarenga* which means to “shiver for a long time especially from an ailment”.

As much as Amwayi’s (2020) study dwelt on the reduplication of the discussed verbs in *Olukisa* in describing given ailments, the study did not look at the reduplication as a process used in forming Lukisa verbs. His was a sociolinguistic study although it also dwelt on the meanings or semantic connotation of the verbs depicting reduplication in *Olukisa* health sector. As much the study explored the use of verbs in their reduplicated forms to describe the ailments from a socio linguistic perspective, the study did not dwell on the processes of verb formation through reduplication as an indicator of the actions that accompany the verbal processes. There was no attention paid to their analysis either through total or partial reduplication.

One aspect of MDT is that it can be used to extract various meanings. The reduplicated words, whether partially or totally reduplicated should be similar in meaning. The tenet of the doubling is that the doubled construction must be morpho semantically identical, thus, the base and the

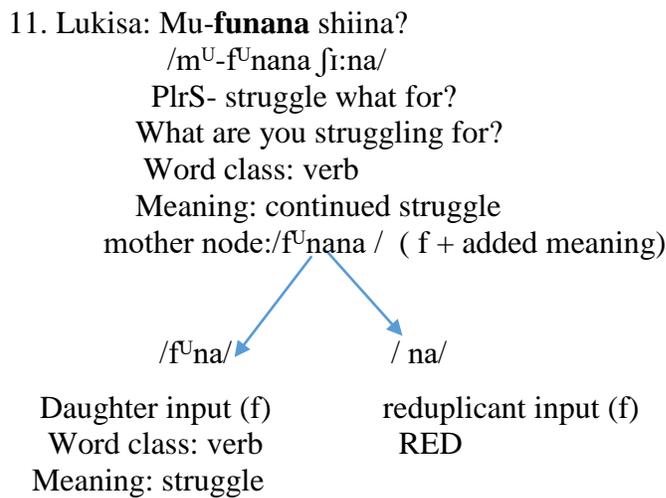
reduplicant should agree morpho semantically and that the input should be related or should share meaning. This was deduced from the Lukisa verb *funa* which translated to “struggle” over something. When partially reduplicated, the verb changed to *funana* which connotes a “persistent struggle” over something. The FGDs in sample three made an attempt to explore this manifestation in the following responses:

Interviewer: *Amakhuwa kaleena mulushisa akalimwo okhwikalushira akene na akene ? kanyala okhuba kekalushira mubwitsulu nohomba eshipande shiako nishio shikalushira shingana mbu “palapala” nohomba “fukafuka”?*

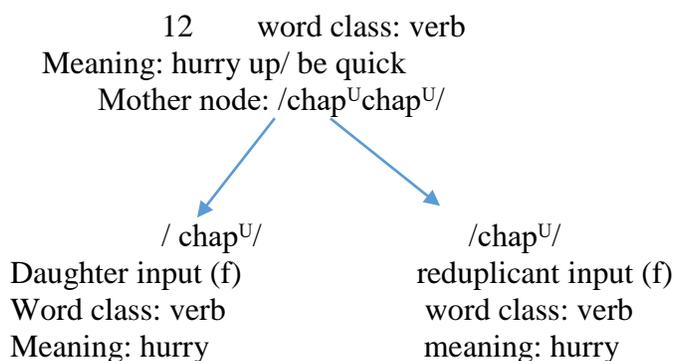
(Which words in Lukisa have repetition within themselves or repeat themselves? The repetition can be partial or total as in *palapala* and *fukafuka*?)

Discussant 3: *Amakhuwa kaliho akamanyia mbu esikhole shiikholanga mukhukalushira. “funa” liri neshifune mbu okhunyasania hakari wabaandu, ne “funana” limanyia mbu ohunyasania nimukalushira mbu litsiririra lilakama tawe. Khulola mbu akhulalushira yikho ni khwe eshipande butwa shielikhuwa elio.*

(There are those words which reduplicate indicate that an action takes place continuously, in a manner that does not signify a near end or conclusion. The word *funa* means to struggle. When part of it is reduplicated, to form *funana*, which brings out the meaning of “a continuous struggle” may be between two parties over something of that sort). The reduplication here brings out the general concept of the semantic value of a repeated occurrence that signals the morpho-semantic theme of frequentativeness. In this data, morphology calls twice for the morpho-semantic feature which brings out repeated action.

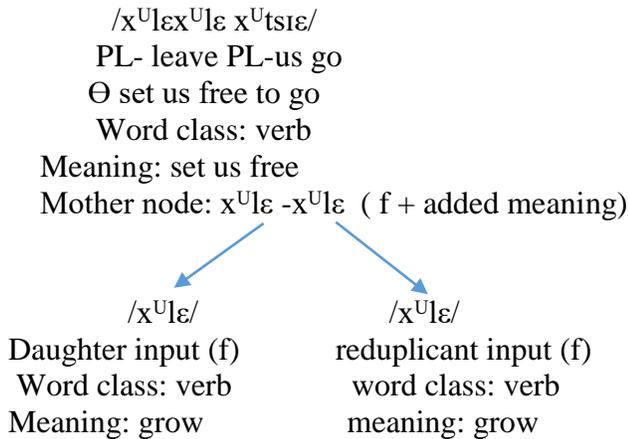


The daughter input root verb *fun* has the meaning of “struggle”. When the reduplicant suffix *na* is added which was a partial reduplicant of the verb root it changes to *funana* which connotes a “persistent or continued struggle over something.” In this data, the verb reduplicative retains its the initial verbal category of the daughter input. With the partial reduplication in which suffixation takes the right alignment directionality, an added of a continued struggle meaning comes into operation bringing out the morpho semantics of reduplication as postulated in Inkelas and Zoll (2005) Morphological Doubling theory. The partial reduplication in the verb *fun* which means “struggle” results into *funana* which means “continued struggle” is a result of suffixation where the suffix “*na*” as a reduplicant which is added to the root word *fun*. This form of verbal reduplication in Lukisa differs from Novonta’s (2000) study which explored linguistic reduplication across cultures observes that reduplication of the verbal group in Swahili serves the role of intensification but comes with reduplicated forms taking different prefixes because of sound changes as in the cases of *chapua* meaning “speed up” that reduplicated to *chapuchapu* for “hurry up or be quick.” In this data, the /a/ sound in the input was dropped in the reduplicative *chapuchapu* as depicted in:



The Lukisa verb *khulekhule* which translates to “leave us alone” or “set us free” is realized after total reduplication. In this case, the root input and the reduplicant input are semantically equivalent as in:

13. Lukisa: **Khu-lekhule** khutsie.



In the data in 11, the word class was maintained whereby the root word and the new reduplicative construction are both verbs. However, there was difference in meaning relayed by the different verbs in the daughter input nodes. The root input daughter node *khule* means “to grow” but when totally reduplicated, the mother node becomes *khule-khule* which means “set us free or leave us alone.” Inkelas and Zoll (2005) MDT tenet on the thesis of morphological targets views reduplication as a morphological construction containing the same number of daughters, prototypically two, which are identical in their semantic and syntactic features. The morphological reduplication results in the double insertion of a morphological constituent. The constituent can be an entire word or in other cases a sub constituent of a stem, root or affix.

In MDT, the double insertion is the mechanism of production. In the case of verb *khulekhule*, the morphological constituent as a reduplicant input is an entire word where the reduplicant input daughter node that is added to the first daughter input root word is its equivalent of a word. The reduplication is an input mandate or directive on the part of morphology is the right alignment in which the doubling of the root is done on the right. The morphological doubling theory assumes the same morphological structure for every case of reduplication in which the reduplicant is doubled on the right. The reduplicated construction *khulekhule* consisted of two input daughters, the first daughter input and the reduplicant input which bear the same morpho-syntactic features

of verbs although bringing about a different meaning in the reduplicated construction which translates to leave us alone.

Warren (1992) observes that there is a standard assumption that language is not static. In this case, new word meanings in particular contexts are constantly being created in language. Warren (ibid) further argues that the creation rule is governed by the acceptability of the new meanings. In the case of Lukisa, the verb root *khule* which means “grow” results into a change in meaning with the reduplicant *khule* to form the reduplicative construction *khulekhule* which “set us free” hence resulting in semantic change as postulated in the morpho semantics of reduplication through the thesis of morphological targets in a reduplication which have to be identical in their semantic and syntactic features.

4.2.1.2 Nouns

According to Schachter and Shopen (1985), the general definition of nouns involves classifying the label “noun” to the category of words which occur as the names of persons, places and things. This study explored nouns as words used to refer to people, animals, objects, substances, states, events, ideas and feelings. A noun functions as a subject or object of a verb and can be modified by an adjective.

Welmer (1973) observed that Bantu languages have nouns that morphologically consist of a noun affix and a stem. The affixes and the noun stem constitute a criterion for dividing nouns into a number of noun classes that differ from each other in a variety of grammatical categories. The system of prefixation in Bantu nouns is characterized into classes which are both semantic, in that they express the meaning of the noun, and grammatical, in that they express grammatical number in nouns.

Bauer (1963) posits that human languages are productive and this allows the native speaker to produce an extremely large number of sentences, many or most of which have never been

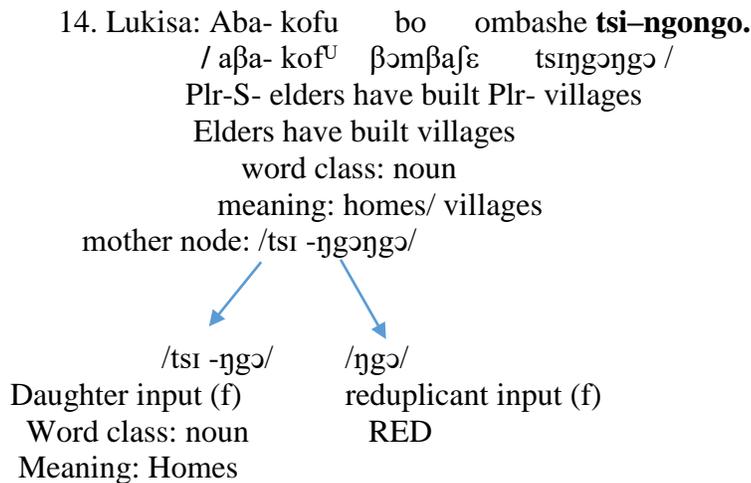
produced before. Reduplication is equally a synchronically productive word formation process in nouns. Lukisa nouns exhibit class retaining features after undergoing reduplication. The noun *tsingo* which means “homes” in Lukisa. When partially reduplicated with the doubling of the suffix *ngo*, it changes to *tsingongo* which means “villages”, a noun depicting a number of homes, that various “*tsingo*” for “homes” form “*tsingongo*” for villages. FGD data in sample four was clearly brought out through the discussants in:

Interviewer: *Hanekhwo amakhuwa ohkurula mulushisa akalimwookhwikalushira akene nakene. Okhukalushira ikhwo khunyala okhuba khwobwitsulu nohomba eshipande shielikhuwa elio shikalushire bulali mubwitsulu tawe. Ne okhwikalushira khwene okho kumanyia mbu amakhuwa kene yako kali nashifune shiina.*

(Give us examples of words in Lukisa which exemplify repetition within themselves or repeat themselves. The repetition could be partial or total. Equally share with us the meanings that arise out of the process of reduplication)

Discussant 4: *Amakhuwa kaliho akamanyia ameera kebindu. Kosi kalimwo okhwikalushira. “tsingo” tsirulamwo likhuwa mbu “tsingongo” liri neshifune mbu amataala amanji kali halala, “omusoli” lirulamwo likhuwa mbu “omusolili” naye nomusiani omuraaka, “olufwa” nalo lukasia “olufwafwa” limanyia mbu shitsakha shia obulimo. Yako kosi kalimwo okhukalushira ebipande biako bionyene butswa.*

(We have words that are names of things and how they undergo reduplication. Words such as *tsingo* “homes” which changes to *tsingongo* for “villages”, *omusoli* for an “attacker especially in a war” to *omusolili* which means “a male youth” *olufwa* “seed” to *olufwafwa* “bushy area”

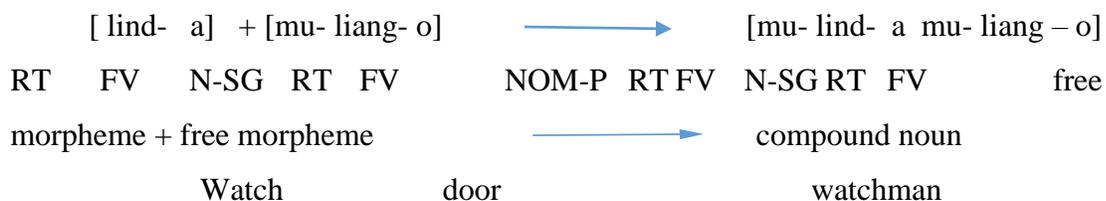


In the data in 14, the root word was *tsingo* which means homes- the plural form of “a home.”

When the reduplicant suffix *ngo* which is part of the input root word is doubled, what is formed is the reduplicative form *tsingongo* which means “villages.” MDT (2005) thesis on morphological

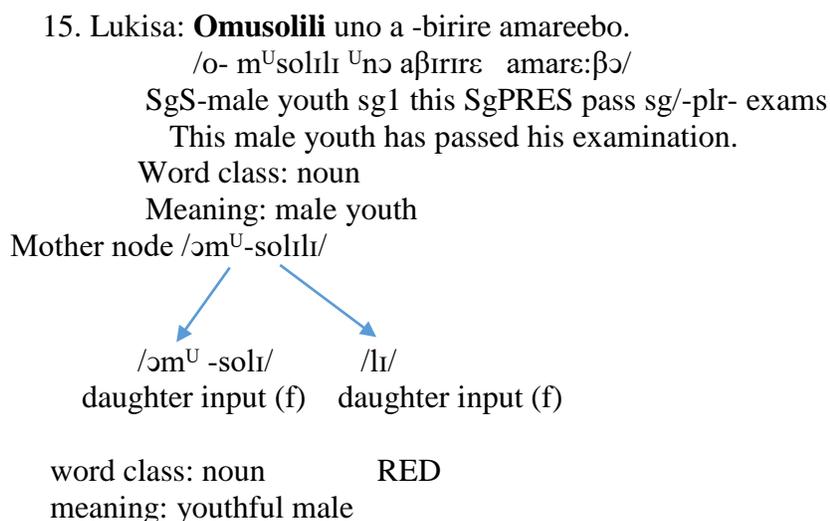
targets postulates that morphological doubling is a derivational process in reduplication morphology and can be used to extract new meanings from given daughter and reduplicant inputs. In this reduplicative construction, the reduplicant *ngo* which as a suffix is not semantically independent. However, when the daughter input root *tsingo* is partially reduplicated, there is the formation a semantically independent reduplicative construction *tsingongo* which is a plural noun in Lukisa referring to villages. In this case, there is the retention of both the verbal group word class and the semantics of “homes or villages” involved. In this case, there was the derivation of the lexemes which are in the same word class as the root from which they were formed through suffixation.

According to Durrant (2013), suffixation is a characteristic of agglutinating morphology in which new words are formed by stringing together morphemes. This is what happened with the verb *tsingo* and the derivation of the same noun class *tsingongo*. This is unlike the study by Jiji (2008) which dwelt on the study on noun derivation in Lutiriki through compounding which is a morphological process that involves joining two or more free morphemes to derive a new word. According to Matthews (1993), compounding is a process by which a compound lexeme is derived from two or more lexemes. Jiji (ibid) observes that *Lutiriki* employs compounding as a process of deriving nouns by adjoining two or more words to derive nouns. The free morphemes may belong to different grammatical classes but once adjoining, they merge into a single grammatical category of a noun as in the data:



From the above data on Lutiriki, the compound noun *mulinda muliango* is derived from the verb *linda* which means “to wait” and the noun *muliango* which means “door” Both the verb and the noun have been merged to derive a compound noun. As much as compounding is a form of derivational morphology, it is not within the scope of the current study on Lukisa. Moreover, Jiji’s (2008) study was carried out basing on the conceptual framework of Natural Generative Phonology by Hooper (1976) which assigns the phonetic representations to utterances in such a way that they reflect the speakers internalized grammar. This compounded with MDT in which reduplication results when morphology calls twice for a constituent of a given semantic description with possible morphological modification of either or both constituents. This is unlike the present study which only applies MDT in data analysis.

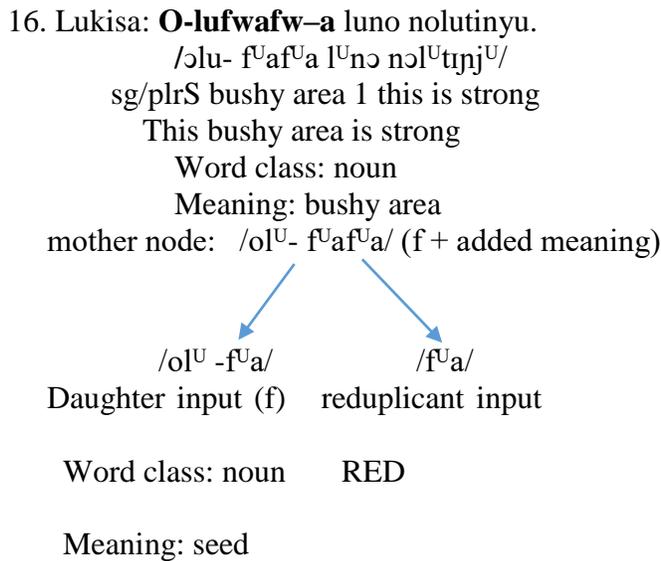
According to Marantz (1982), a variety of patterns are found in terms of both form and meaning expressed by reduplication and a new form always arises because of the base to which it is attached. In this case copying can occur on its own or be accompanied with other word formation processes. *Omusoli* is a Lukisa noun that translated to an “attacker”, one who attacks others to in a kind of retaliation to defend their own. When partial reduplication was occurred, the noun changed to *omusolili*, referring to a male youth. The resultant noun in the reduplicative construction as in;



A new word *omusolili* means “a male youth”, which in this data is a noun derived from *omusoli* which is also a noun that means “an attacker.” The word class in this case is retained while the meaning changed after reduplication. Lukisa etymology shows that the verb “okhusoola” {ox^Uso:la} means to “attack someone”, especially in a retaliatory war. From the verb {ox^Uso:la}, the noun *omusolili* is derived. This proves an etymological relationship between the verb /oxuso:la/ and the noun *omusolili*. Through partial reduplication in which the reduplicated suffix “li” is doubled to the right of the root word *omusoli* resulting to the formation of the noun *omusolili* conforms to the MDT (2005) thesis on morphological targets calls for the doubling of the morphological constituents of an affix, stem or whole word which agree in semantic specification. The doubling of the reduplicant suffix “li” gives rise to the reduplicative, which brings forth a new lexeme *omusolili*, a noun, retaining the same word class of the root word input. In addressing the linguistic aspect of productivity, Bauer (1963) contends that there is unlimited productivity in human language. This is whereby forms can be used repeatedly in language to produce further instances of the same type. In the partial reduplication of *omusoli*, an attacker, to *omusolili* (a male youth). There was a noun formed from another noun retaining the word class, only that the semantics in the nouns change. This analysis on noun derivation in Lukisa reduplication differs with what Anindo’s (2013) study explored the use of derivation through affixation and compounding in Luloogoli toponyms. However, Anindo’s (ibid) study concentrated on affixation unlike the current study on Lukisa that dwells on morphological doubling. The study concludes that various names of places form through prefixing using the possessive marker “wa” which denotes the name of “so and so” before the proper nouns as in the data “Wa-Shem” which means Shem’s home. The syllabic prefix “wa” is a derivative that refers to human owners. Whereas the study by Anindo (2013) used prefixation and compounding, our

present study on Lukisa explored morphological doubling of a given constituent of the root or the whole root in reduplication as a word formation process.

Nida (1949) observes that in morphological reduplication, morphemes that are bound do not separately occur, thus, they are not regularly uttered alone in normal discourse. Bound morphemes include prefixes, suffixes, infixes, reduplicatives and roots. Omondi (1982) says that an item generated by the application of reduplication rule does not have an independent distribution. The noun “olufwa” in Lukisa means “seed” reduplicates into another noun *olufwafwa* which connotes “a grass or bushy area” through total reduplication. In the data on *olufwafwa*, there is the derivational morpheme in the prefix “olu” which is used with both singular and plural nouns. There is the daughter input “fwa” which is doubled in the total reduplication to result to the mother node “olufwafwa” which means a “bushy area.” Through this total reduplication which is right aligned in directionality, a new lexeme with a different meaning is formed retaining the word class which is a noun. This reduplication is represented as:



The root word input *olufwa* has total reduplication to give *olufwafwa* which means “grass or bushy area” and not the original seed implied in the input *olu -fwa*. The reduplicant *fwa* is used as a

command in Lukisa to mean “die”. The derivational affix *olu* is used here to refer to both singular and plural nouns in syntactic expressions. Inkelas and Zoll (2005) thesis on morphological targets in morphological reduplication demands for morphological inputs of affix, root, stem or a whole input word and that the input daughters, which are prototypically two, are usually identical. In the data in *olufwafwa*, there are two input daughters *fwa* and *fwa*. This confirms that what is doubled in reduplication is a morphological input in this case *fwa*, bringing in semantic change. In the noun *olufwa*, total reduplication takes place to form a new word *olufwafwa* which retains the noun category. The reduplicant, which was the total input *fwa* is compounded with the daughter input root *olufwa* that gives rise to a new word with a new meaning which meets a morpho semantic description in Lukisa hence the morphology of reduplication affected the semantics of the reduplicative. In this data, the new lexeme *olufwafwa* refers to “a bushy area”, a lexeme formed from the lexeme *olufwa* which means a seed. In this data, there is derivational morphology through affixation whereby the suffix *fwa* is doubled to the root word basing on the right alignment directionality to derive a new lexeme.

Mberia (1993) notes that nouns belong to a group of words that share the identical prefix, although not usually the case with all nouns in Kiambu. This is because two nouns belonging to the same class may have different prefixes for historical reasons. However, this prefixal aspect present in some Kiambu nouns such as in the singular forms “mote” for tree which reduplicates to “mete” for trees, and “mokwa” for strap which reduplicates to “mekwa” for the plural trees. In this Kiambu language verbal reduplication data, the prefix “mo” indicates the singular form which changes to the prefix “me” for the plural form upon reduplication. This prefix change is not present in Lukisa dialect nouns as they took suffixes in the process of morphological reduplication as in ‘olu -fwa’ for seed where the reduplicant “*fwa*” suffix is added to result to *olu- fwafwa*

which means bushy area, causing change in the semantic bearing of the noun but retaining its noun word class.

4.2.1.3 Adjectives

Gathenji (1981) defines an adjective as a part of speech which describes, identifies or qualifies a noun or pronoun. Basically therefore, the main function of an adjective is to modify a noun or pronoun. Adjectives are therefore classified according to their modification functions in Lukisa.

4.2.1.3.1 Adjectives of Quality or Descriptive Adjectives

Lyons (1968) observes that derivation is one morphological process that is responsible for the creation of reduplicated forms. Class maintaining derivation is the morphological process of forming new lexemes that are of the same word category as the root from which they are formed.

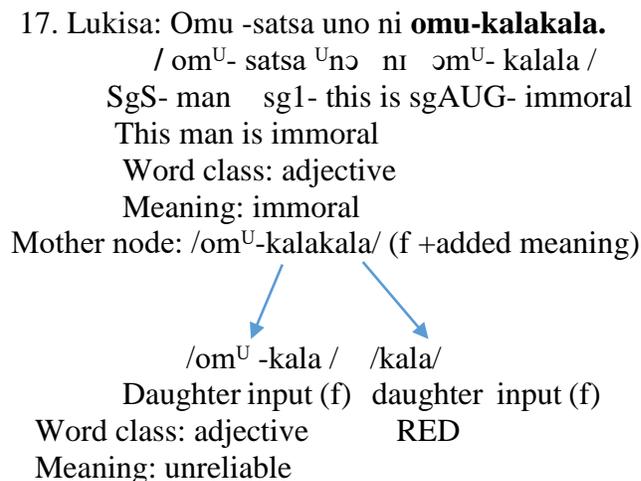
Omukala is a Lukisa adjective that describes a person who is tricky, cunning or unreliable. It is used describe or qualify human beings or persons. On undergoing total reduplication such that the root is doubled, it brings about a new word *omu -kalakala*, although a descriptive adjective too, but with a new meaning hence semantic change. The reduplicative construction *omukalakala* implies an immoral, adulterous or promiscuous person. The singular derivational prefix *omu* attached to the verbal daughter input *kala* is used in this case with adjectives that refer to human beings in the singular form. The samples from FGD five by the Lukisa discussants exemplified the reduplication in the adjective class:

Interviewer: *Khulikhwo namakhuwa kamanyia omwima kwa omundu nohomba omwima kwa eshindu mama akalimwo okhukalushirwa mulushisa? Ne ohukalushirwa khwene ikho khumanyia mbu kali nashisina shiina?*

(Are there any Lukisa words that describe the character of person, thing or given entity in a reduplication form? And what meanings come out of such a reduplication process?)

Discussant 5: *amakuwa shingana* “*omukalala*” *irimwo okhukalushirira ne limanyia mbu omundu omutamba*, “*amapalapala*” *limanyia tsirangi tsitsokanire*, “*eshitorotoro / omutorotoro/ okhubworabwora*”. *Amakhuwa kano karumikha noboola emima chia abandu nende kata tsisolo nebindu bindi*.

(Words like *omukalakala* which means an immoral, adulterous or promiscuous person is used to describe characters of human beings., *amapalapala* which describes a mixture of colors especially in describing animals and clothing, *eshitorotoro* used to describe something soft or tender.)

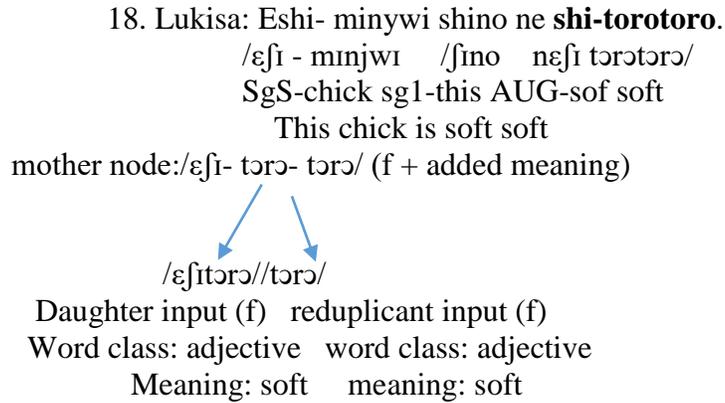


There is total reduplication whereby the daughter input root word *kala* is doubled which forms the adjective *omu-kalakala* which connotes an immoral or a promiscuous person and this shows that the reduplication brings in a different meaning. The reduplication takes the right alignment in terms of directionality as the reduplicant input is doubled on the right of the root. In MDT (2005) Inkelas and Zoll thesis of identity posits that reduplication calls for semantic identity of its daughters. The total reduplication calls for the same inputs be it an entire root which conforms with the morphological doubling where the reduplicant can be the whole word or part of the root word that is being doubled such as the prefix, infix or suffix. The reduplication can equally be a whole word. In the data in 17, the total doubling of the input root “*kala*” brings out the semantic change. The input daughter root word *omu-kala* has a singular derivational morpheme “*omu*” which indicates its use with a singular subject in a given syntactic expression. The reduplication

retained the word class category of the resultant reduplication but ideally changes the meaning of the lexical item *omu-kala* which means an unreliable or untrustworthy before the reduplication before to *omu-kalakala* which means an immoral or promiscuous person after reduplication.

This is contrary to what Kanana (2016) observed about adjectives in Kimeru language. The study concluded that apart from the adjectives of quality taking suffixial reduplication where the final part of the root input was doubled as in *muceke* for thin and its reduplicative *mucekaceke* for thinner, *muraja* for tall and its reduplicative *murajaraja* for taller which formed the comparatives of the adjectives of quality upon reduplication. In other Kimeru adjectives, the last vowel in the root changes to the vowel /a/ as in *njiru* which means dark and becomes *njira+ iru* for the reduplicative *njirairu* for darker and *njeru* for bright which becomes *njera+eru* forming the reduplicative *njeraeru* which means brighter. The points of divergence in the findings between the current study on Lukisa dialect morpho-semantics of reduplication and Kanana's (2016) reduplication , with particular reference to the adjectival class brings to the fore the typological characteristics of languages and how they uniquely and differently undergo reduplication because of the different sound patterns that cut across languages hence the manifestation of prefixation in Kimeru while Lukisa exhibits suffixation, a clear manifestation of the diversity of languages.

Schachter and Shopen (1985) say that in language, nouns are generally modified or described by adjectives. Through adjectives therefore, more information about nouns is realized especially in a syntactic expression. Similarly, a noun in Lukisa is described using the adjectival input *toro*. This can be reduplicated to form another adjective which still describes and intensifies the softness of the noun. This adjectival root word upon total reduplication changes to *torotoroto* qualify that a given noun is equally soft. This data was presented as:

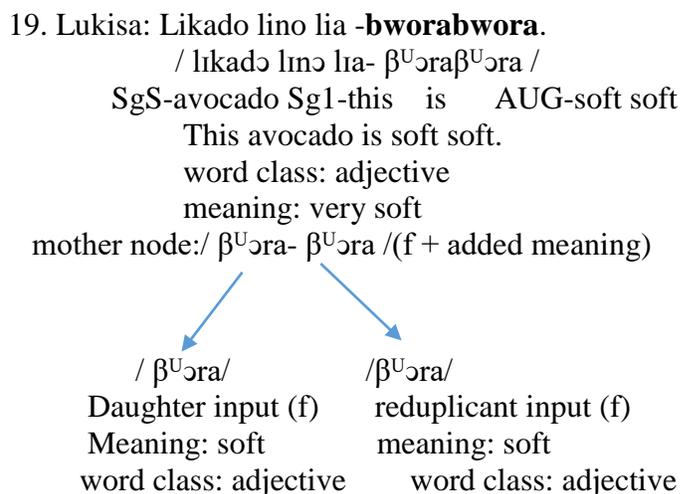


Both the mother node *torotoro* and the daughter input root *toro* which in this data has the singular derivational prefix *eshi* that denotes small size are adjectives that are separately used to qualify both animate and inanimate nouns. In MDT (2005), the thesis of morphological targets views a reduplication as one that calls for morphological constituents of affix, root, stem or a word hence it is assumed that the reduplicant and the base are both produced in morphology as part of the construction which embodies the semantic generalization of the output of the reduplication. In the case of *torotoro*, the semantics of forming a new adjective comes with the doubling of the first daughter root input *toro*. The total reduplication in *torotoro* takes the right direction alignment directionality in the domain of morphological doubling where the input reduplicant is doubled through suffixation as the reduplicant daughter input is added to the right of the first daughter root input. This morphologically driven total reduplication brings about semantic change which is a subsumed component in the morphology of reduplication.

As Inkelas and Zoll (2005) posit, morphological doubling results in the double insertion of a morphological constituent or sub constituent of an infix, suffix or prefix. The main idea of the doubling theory is that the doubling construction must be morpho semantically identical, thus, the base and the reduplicant must agree in meaning as in *toro* which means “soft” and *toro* which too means “soft.” Further to this, reduplication results when morphology calls twice for a constituent of mostly the root. In the data in 18, the separate adjectives: *toro* and *toro* when used with the

singular derivational morpheme marker *eshi* semantically imply “soft and soft” respectively. The morphology here produced two identical copies of the stem which when doubled they resulted in the new word, the mother node, *torotoro* which is an adjective used to describe something very soft which brings out the morphosemantic theme of augmentation or intensification of the lexeme in the reduplicative.

Just like the reduplicative *torotoro* the Lukisa adjective *bworabwora* describes or qualifies a noun as being very soft in a reduplicative construction, mother node resulting from total reduplication of the input daughter root *bwora* and the reduplicant daughter input *bwora*. Just like the inputs in the adjective *torotoro* in data in 18 and our subsequent discussion, the reduplicative construction *bworabwora* is formed through total reduplication excluding the derivational morpheme marker *okhu* which implies “to’ before the daughter input root. The whole daughter input root word *bwora* is doubled to form the resultant reduplicative which is a mother node, *bwora bwora* in this case an adjective, without changing the word class. This brings out the semantic aspect of a given noun by intensifying the softness of the noun which in this case brings out the semantic theme of intensification or augmentation in morpho semantic reduplication. When augmentation is brought out, there is the semantic aspect of increased quantity, activity and greatness in the reduplicative form.



Inkelas and zolls (2005) MDT postulates that reduplication involves morpho-semantic doubling or is self-compounding. The MDT thesis of semantic identity posits that reduplication calls for

semantic identity of the daughters. In this case, a reduplicative construction is a self- compound with each half considered an independent syntactic input in morphological construction required to have the same semantic features. The new meaning derived from the reduplication process is associated with the construction as a whole. In the data, *bworabwora* is an adjective resulting from the two independent daughter input root words *bwora* and *bwora* which when used with a derivational prefix *okhu* which means “to” qualify the soft nature of a given noun. This is a class retaining form of reduplication since the two inputs are both from the adjectival class. Both the resultant reduplicative adjective which is the mother node and the respective daughter inputs are used to qualify inanimate nouns. This is unlike what Jiji (2008) studied in Lutiriki derivation. The study explored adjective to noun derivation based on MDT. In the study, it was observed that noun from adjectives by adding prefixes to the root lexeme. The adjective to noun derivations in Lutiriki does not affect the final vowel. Majority derived from adjectives are abstract nouns hence the prefix /βu/ comes into play as in the data:

Adjective	abstract noun
mu-mwam-u /m ^U mwam ^U /	bu-mwam-u /β ^U mwam ^U /
NMC RT FV	NOM-P RT FV
“black”	“blackness”

4.2.1.3.2 Adjectives of Quantity

Ford (1974) observes that in language, adjectives of quantity are used to denote number in any given syntactic expression. Similarly, quantity adjectives in Lukisa show the number of nouns present in a given syntactic expression. Adjectives of quantity answer the question of “how much or how many?” Lukisa adjectives of quantity were reduplicated as captured in the samples of the designate data in 21 and 22 herein. Through the native speaker intuition, the interviewer subjected data from the native speaker competence of Lukisa to FGD for discussion. This was exemplified in the following sampled responses:

Interviewer: *Amakhuwa kolushisa shinga “khatiti”, “batiti”, “batutu” nako narumikha heena ne kamanyia shiina mukhukalushirwa kwako?*

(The Lukisa words that are reduplicated such as: /xatitɪ/, /βatitɪ/ and /βat^{UtU}/, when are they used and what semantic connotation do they have?)

Discussant 6: *Amakhuwa yakokarumushirwa munjura tsiahukhane: /xatitɪ/ khurumishira noboola khubandu nende khandi khubindu, /βatitɪ/ nende /βat^{UtU}/ karumishirwa nobola khubaandu bonyene. Koosi pee karumishirwa okhumanyia mbu ebibolwa nende ababolwa shibili nohomba shibali ebinji nohomba abanji taawe*

(The words mean “smaller”, “few and a few too”. Used to refer to things and people. /xatitɪ/ is used to refer to things and people, /βat^{UtU}/ and /βatitɪ/ strictly refer to people to imply small or little.)

20. Lukisa: Y-ambere akhachumbi **khatiti**.

/ja- mβere axatɪ^Umβi xatitɪ /

SgS –He gave gave AUG -salt AUG- small

He gave me a smaller amount of salt.

Word class: adjective

Meaning: smaller

mother node: /xa-ti -ti / (f + added meaning)

/ xa-ti/

/ ti/

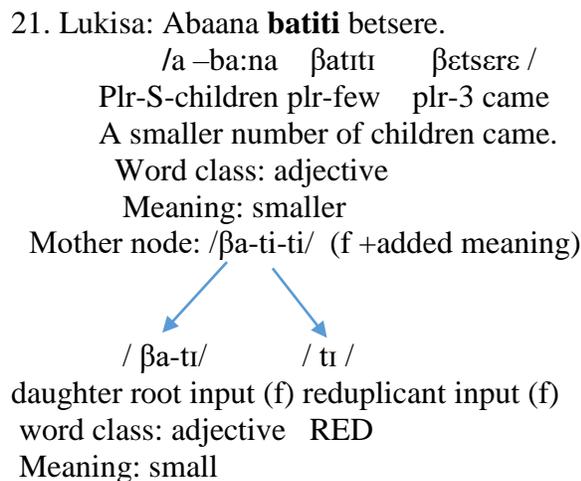
daughter input root (f) daughter input (f)

word class: adjective RED

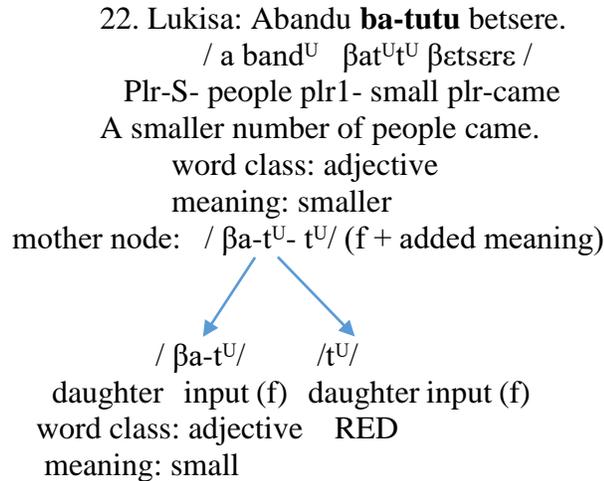
Meaning: small

The reduplicant input *ti* in the data in 20 which is added to the daughter input root word *khati* which implies “small” with the diminutive derivative prefix marker “*kha*” gives rise to the mother node, *khatiti* which is a comparative form “smaller.” This conforms to the theses of morphological targets as propounded by Inklelas and Zoll (2005) in MDT that a reduplicative construction calls for morphological constituents of affix, root, stem or a word. In *khatiti*, the suffix “*ti*” is doubled on the right of the first daughter root input *khati* which has the diminutive morpheme marker

“kha.” When such partial reduplications occur in adjectives of quantity, new comparatives of the given adjectives are formed. In this case, *khatiti* is the comparative form of the positive adjective *khati* in Lukisa which is applicable when referring to both animate and inanimate objects. The same argument on reduplication applies to the adjective *batiti* which is a reduplicative construction of the reduplicant input *ti* on which the plural derivative morpheme *ba* is attached *bati* and the reduplicant *ti* as in the Lukisa data;



The reduplicant *ti* that is totally doubled through suffixation to the right of the first daughter input adjective *bati* on which the plural derivative morpheme ‘ba’ is attached to the left denotes smallness qualifying it to *batiti* as the comparative form of the adjective. The use of the adjectives *bati* or *batiti* is purposely applicable to human subjects only when used in a syntactic expression. The mother node *batutu* which results from the first input daughter *batu* on which the plural derivational morpheme *ba* the reduplicant input *tu* is applicable for use in the same context as the adjective *batiti* in its resultant reduplicative construction. The two comparative forms in Lukisa *batiti* and *batutu* synonymously refer to small quantities in a comparative manner. Both comparative forms of the adjectives are used with animate nouns in syntactic expressions. The reduplicative construction of the adjective *batutu* arises from the data in;



As Inkelas and Zoll (2005) thesis on morphological targets views reduplication as a morphological construction that calls for the double or multiple insertion of morphological constituents of affix, root, stem or word meeting a particular morpho-semantic description. In the data in *batutu*, the morphological constituent doubled is the daughter reduplicant “tu”. The presence of the input reduplicant shows that reduplication targets morphological sub constituents of a without consideration of its phonological size. This confirms that what is doubled in *batiti*, *khatiti* and *batutu* is a morphological constituent hence leading to an added meaning in the reduplicative. The reduplication of the suffix” *ti*” in the total forms of reduplication in the Lukisa adjectives *khatiti*, *batiti* and *batutu* brings out the morphosemantic theme of diminution denoted by the respective adjectives in their comparative forms. *Batiti* and *batutu* are comparative forms used with animate nouns in given syntactic expressions.

Unlike the Lukisa adjectives of quantity which form their comparatives by totally doubling part of the root through suffixation to bring out the diminutive aspect. Kanana (2016) on the other hand posits that Kimeru comparative adjectives form their comparative forms in the adjectives of quality by losing the last vowel of the root and having it replaced with another vowel /a/ to have the comparative form as in “inyingi” which means many. Its reduplication through *inying-a* +

ingi resulting into the comparative reduplicative *inyingaingi* which means more. This depicted the loss of final vowel in formation of comparative adjectives.

In the same breadth, Kanana (2016) further noted that unlike in Lukisa, total reduplication in Kimeru language adjectives of quantity did not give rise to the comparative as it is in Lukisa comparative adjectives *batutu* and *batiti*. Instead, it also emphasizes on the involvement of all the nouns being quantified (all of them and nothing left) as in the input root *bionthe* which means all of them, when doubled, it resulted into *bionthebionthe* which means “completely” and Kanana observes that the reduplicative, when used in a syntactic expression emphasizes on the complete involvement of the nouns being quantified. The adjectives of quantity in Kimeru language were formed through compounding of the inputs unlike in Lukisa where suffixation which takes the right alignment directionality in morphological doubling is used to bring out the morpho semantic theme of the diminutive aspect in the reduplicated adjectives.

4.2.1.4 Adverbs

Ford (1974) observed that adverbs are words that modify verbs in sentences. Adverbs tells us more about the verbs, adverbs and other adjectives. Lukisa adverbs are used to modify verbs. They describe how often, when, where and how something is done. This study on the morphology of reduplication in Lukisa delves into the classification of adverbs upon reduplication. It was observed that adverbs fall in the category of open word classes which was equally the main focus of this study.

4.2.1.4.1 Adverbs of place

Lyons (1985) observed that adverbs of place in language are usually placed after the main verb. Consequently, from the data analyzed in this study, the same case applied to the use of adverbs of place in Lukisa syntactic expressions. This study realized that adverbs of place in Lukisa take total reduplication where the reduplicant was the same as the input root word. By use of native

speaker intuition, the principal researcher subjected data from his native speaker competence of Lukisa to FGDs which generated the following sampled responses:

Interviewer: *Mulushisa lwefwe, amakhuwa kano mbu “hakarikari”, “khundulondulo”, “bwangu bwangu” nende “obubibibi”, shinga olwa khukalola kalimwo okhwikakalushira. Karumushirwa kariena ne kamanyia shiina?*

(In our Lukisa dialect, these words: right in the middle, on the extreme sides, faster faster and badly. as we see them, they exhibit reduplication. In what circumstances are they used and what do they mean?)

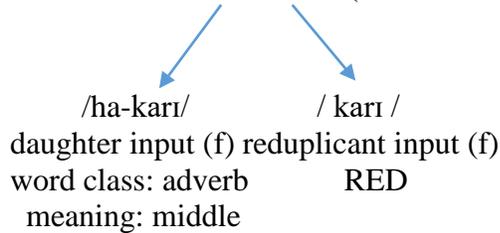
Discussant 7: *Amakhuwa yako karumikha karinana: “hakarikari” hamanyia mbu tundenyi, shingana munjira hakari, “khundulondulo” –shinga khwe injira. Kano kabiri karumukhaokhumanyia weshindu shiri. “Bwangu bwangu” – okhubamwo okhuyungubala okhukhola eshindu funani. Ne “obubibibi” bumanyia mbu eshikhole shishiri eshilayi tawe. Karumikha okhumanyia mbu omwima kwa omundu kuli kuriena.*

(These words tell us about given action verbs such as “right in the middle” of may be the road, “on the sides” – of the road. They show the place where something is. “faster” and emphatic “badly” indicate the manner in which certain actions are carried out)

Root word	reduplicated form
<i>Hakari</i> - middle	<i>hakarikari</i> – right in the middle
<i>Khundulo</i> - on the sides	<i>khundulondulo</i> - on the sides.

This total reduplication in Lukisa adverbs was demonstrated in the data;

23. Lukisa: A-sinjire **ha-karikari** wei- njira
 /a-sinjirɛ hakarikari wɛi -ɲjira/
 SgS-standing AUG- middle of sg1 road.
 He is standing in the middle of thr road
 Word class: adjective
 Meaning: right in the middle
 Mother node:/ha-kari kari/ (f+added meaning)



The resultant reduplicative construction adverb of manner *ha- karikari* which translate to “right in the middle” is a class retaining reduplicative construction. The input word was *ha- kari*, an adverb “middle” has the place derivative morpheme marker *ha* which means the preposition “in”. When total reduplication was carried out, it changes to *hakarikari* which means “right in the middle.” The mother node of the adverb brings out the morpho-semantic theme of emphasis of the exact point denoted in the adverb of place. That it is not anywhere else but “right in the middle.” Similarly, in the adverb of place, *khundulo* which translates to “on the sides”, with the derivational morpheme marker *khu* which means “on”. When totally reduplicated, it changes to *khundulondulo* which retains the adverbial of place class but has an added meaning semantically showing the extreme ends, not just the middle, on the sides as in the data presentation of:

24. Lukisa: O-chende **khu -ndulondulo** khwe injira
 /ɔchɛndɛ x^U- nd^Ulɔnd^Ulɔ xɛ-ɲjira /
 SgS walk on the extreme sides of the Sg- road
 Walk on the extreme sides of the road.
 word class: adverb
 meaning: on the extreme sides
 mother node: /x^U-nd^Ulɔ nd^Ulɔ/
 /x^U- nd^Ulɔ/ /nd^Ulɔ/
 Daughter input (f) reduplicant input (f)
 Word class: adverb RED
 Meaning: on the sides

The reduplicative construction *khu- ndulondulo* has an added meaning which implies “on the extreme sides” like of the road, if used in a syntactic expression. The meaning of the first input daughter *khundulo* attached to the derivational prefix morpheme “khu” is “on the sides.” The total reduplication that takes place morphologically which doubles the same inputs. MDT (2005) thesis on morphological doubling views reduplication as a morphological construction containing two prototypically daughters which are identical. The targets in the morphological reduplication calls for the morphological constituents of affix, root, stem or word. In the adverb of *khundulo*, there is the total reduplication of “*ndulo*”. This was a word class retaining form of reduplication. However, there is an added meaning that arises semantically out of the reduplication such that there is emphasis when reference is made to the “extreme sides” as undicated in the adverb in the reduplicative which is the mother node.

These two cases of total reduplication of the adverbs of place in Lukisa is anchored in MDT (2005) where Inkelas and Zoll posit that reduplication, like other morphological processes, is assumed to introduce meaning or grammatical form distinct from that of the root word. This is captured in MDT by proposing that the reduplicative construction has a meaning composed of the semantic features which change the meaning of a construction. This is achieved when reduplication doubles some morphological constituent within the stem. The partial reduplication in the adverb *ha- karikari* is semantically for the theme of emphasis, thus, the emphasis in the reduplicative adverbs in the data in 23 and 24 brings out the morpho semantic theme of emphasis where a special weight and forcefulness is assigned to the adverbs. In using the adverb in a given syntactic expression, the speaker aims at being emphatic of a particular point or place being referred to thus “right in the middle.”

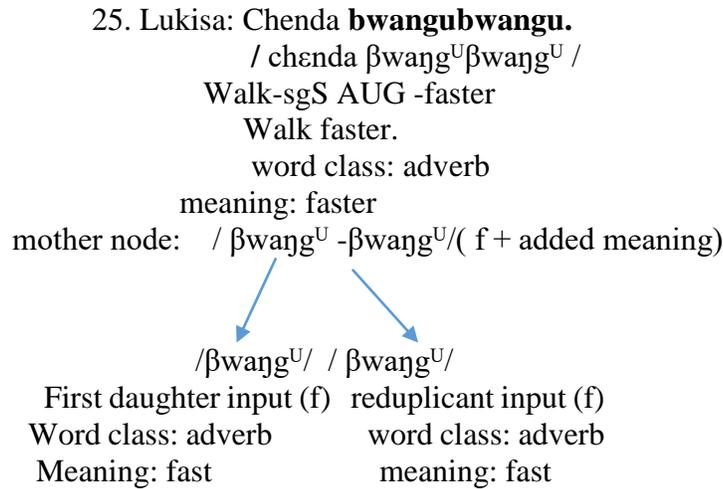
Kanana (2016) observes that reduplication in Kimeru adverbs of place was both partial and total. This implied that in the morphological reduplication of adverbs, both partial and total reduplication were at play. However, data from Kimeru adverb reduplication showed that the morpheme markers were not part of the inputs that were reduplicated. For example, the root *aja* means “here” which reduplicated to *ajaaja* which means “exactly here.” Same applies to *kunthe* which means “everywhere” or “no specific place” and *ndeene* which means “inside.” They respectively reduplicate to *kunthekunthe* which means everywhere or no specific place and *ndeeneendeene* which means “deep inside.” This contrasted with Lukisa adverbs of manner which exhibited the presence of morpheme markers bound to the root. Adverbs of manner provide information on how something is done or carried out, Bauer (1963). They are also referred to as adverbs of quality. In the same breadth, adverbs. In the data 23 and 24 on reduplication in adverbs of place, the morphology of doubling takes place to form the reduplicative. However, the reduplication semantically brought out the emphatic theme in the adverbs of place. Emphasis as a thematic function of reduplication is therefore brought out in the adverbial reduplication in Lukisa.

4.2.1.4.2 Adverbs of manner

Ford (1974) observes that adverbs of manner describe the way in which something is done. The adverbs modify or qualify given verbs in a linguistic expression to show how certain actions depicted by given verbs were performed. In the same breadth, this study sought to investigate the morphological reduplication in Lukisa and the semantic alterations that go with the reduplication.

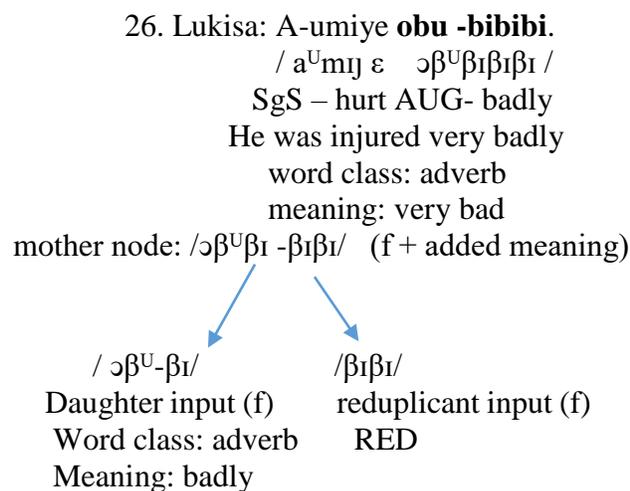
Bwangu is a Lukisa adverb of manner which means “fast” when used in a syntactic expression to modify a verb. When totally reduplicated, the adverb changes to *bwangubwangu* which semantically translates to the comparative form “faster.” In this case, total reduplication

semantically brought in a new meaning however much the lexical item retained the adverb of manner category. In the data;



The reduplicative construction in the data *bwangu-bwangu* which translates to “fast fast” is realized through total reduplication of the root word, thus, the two daughter input nodes *bwangu* gives rise to the mother node *bwangu bwangu*. MDT (2005) recognizes the role of total reduplication in the morphology of reduplication and semantic change which is subsumed in linguistic reduplication. The theses of morphological doubling in MDT views reduplication as a morphological construction containing the same number of daughters, prototypically two which are identical in their semantic and syntactic features. MDT lays claim that each of the input daughters, in this data, the root input word *bwangu* and the reduplicant input *bwangu* are at first morphologically independent inputs and secondly, they bear the same semantic description hence have the same meaning of “faster.” MDT predicts the existence of reduplicative constructions in which the two copies are semantically identical which consequently allowed for total reduplication, in this case bringing out the added meaning of the comparative form “faster.” However, the total reduplication in this case is a word class retaining form of total reduplication. The adverb of manner in the root word *obubi*, in Lukisa connotes the semantic equivalent of the adverb “badly” in language. The adverb is used to modify a given verb in a linguistic expression.

When partial reduplication was occurred out on the root word, it changes to *obubibibi* which brings in a new semantic connotation, an intensified state of the adverb through triplication of the reduplicant suffix *bi*, that the badness implied by the adverb is extreme, in this case “very bad.” The partial reduplication of the root word by the triplication of the suffix “bi” on the right of the root word through right alignment directionality of morphological doubling is semantically equal to introducing the intensifier “very” to bring out the intensity or degree of the adverb *obubi* which means “badly.” This reduplication brings out the semantic theme of intensification which signals the increased activity and greatness in the degree of badness which is said to be on a higher scale of “very bad” in the reduplicative form.



In MDT, Inkelas and Zoll (2005) observe that reduplicative constructions call for multiple copies of stems which have independent inputs and are subject to independent morpho-syntactic requirements. Further to this, the theses of morphological targets in a reduplicative construction calls for morphological constituents of affix, root, stem or word. In the data in *obububibi*, there is suffixation through triplication of part of the root “bi” to bring out the theme of intensification in the mother node *obubibibi* reduplicated from the root word input *obubi*. The morphology of the reduplicant daughter input *bibi* compounds with the root word *obubi* which translates as “badly” to form the reduplicative construction *obubibibi* which means “very badly” which is an intensified

form of the adverb of manner *obubi* meaning "badly." This semantically brings out the intensity of the verb modified by the adverb of manner which explores the morpho semantic theme of forcefulness as the intention of the reduplication is to bring out the semantic value of morphological doubling. Part of the root word daughter input syllable of the adverb "*bi*" is triplicated to give result to a new reduplicative, which is the mother node which still retains the adverbial category but with an added meaning portraying semantic intensity or the extreme case of the action verb modified by the respective adverb of manner which is a morpho-semantic theme in morphological reduplication.

The morphological reduplication of the Lukisa adverbs in the designate data in 29 and 30 as analyzed brings out the semantic concept of intensification in language. Just as Omondi (1982) concludes in the study on reduplication in Dholuo, adverbs fall in a class of words that exhibit unlimited productivity where word forms are repeatedly used in a language to produce their own instances of the same type. This is what equally happens in the morphological reduplication in Lukisa adverbs although a dialect of the Bantu language.

Reduplication in adverbs of manner in Swahili contrast with those in Lukisa. Novotna (2000) posits that they take the prefix *ki* and the total reduplication of the root unlike the Lukisa adverbs which take total doubling of the root as in *bwangubwangu* and partial reduplication through triplication of the suffixes in *obubibibi*. The Swahili reduplication in *juu* which means high. It reduplicates to *kijuujuu* which means upwards through both suffixation and prefixation. The same applies to the adverb *wima* for uprightness which reduplicates to *kiwimawima* meaning in an upright erect position. The Swahili adverbs exemplify the concepts of prefixation using the prefix *ki* and the doubling of the respective roots through suffixation. This therefore implies that morphological reduplication in Swahili adverbs takes both the left and the right alignment

directionality in morphological doubling. There is the prefix *ki* while under suffixation, there is the doubling of the root as in *juu* and *wima* respectively. This is unlike the suffixation and root doubling in Lukisa morphological doubling.

4.2.1.5 Pronouns

Quick *et al* (1983) define pronouns as words used in place of nouns to avoid repetition. In this case, they help avoid unnecessary repetition of given nouns in spoken or written texts. Pronouns fall under the closed word class category. This is because they do not allow derivation of new word classes. They are closed in the sense that they cannot be extended to the creation of new members. They retain the pronoun class even in reduplication. Lukisa exhibited various forms of pronouns that arose from the morphological reduplication process. By subjecting data generated from native speaker intuition and that from secondary sources to FGDs, the following sampled discussions emerged:

Interviewer: *Amakhuwa kano kalimwo okhwikalushira mbu: “abobo”, “shiosishiosi” nende “yesiyesi” karumikha kariena mulushisa?*

(These Lukisa words which exemplify reduplication: yours, anything and anyone, how are they used in Lukisa?)

Discussant 8: *Karumishirwa okhumanyia shinga mbu; bandu baomundu Fulani “nabebe” mbu niyemenebo, “shiosishiosi” – limanyia mbu eshirikhoho tsa ne lirumika noboola khu bindu nalio “yesiyesi” liboola norumikha khubaandu ne shilimanyia omundu fulani tawe, yaani oulikhoho tsa.*

(They are used to mean people belong to another person, they are his, he owns them for example.

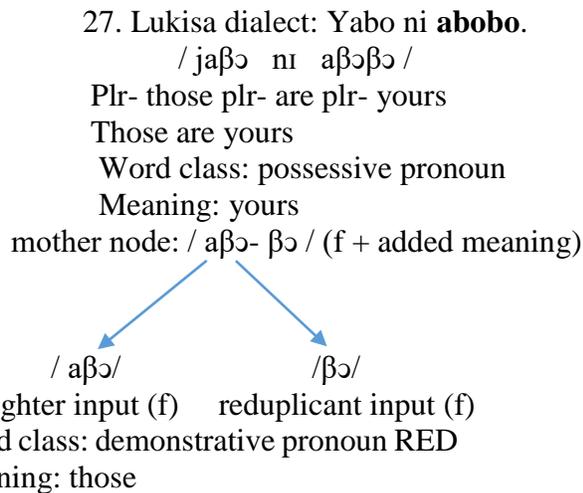
Anything means nothing in particular, you have no choice and is used when referring to things.

Anyone is used to indicate people and it means no specific person in particular.)

4.2.1.5.1 Possessive Pronouns

Ford (1974) defines possessive pronouns as that group of words that show or depict ownership. In this case, they show that a given thing belongs to a particular or specific person. Possessive pronouns therefore identify who owns what.

The pronoun *abo* in Lukisa is a demonstrative that identifies a plural noun in a syntactic expression. This signals a plural pronoun. When partially reduplicated, by adding the reduplicant morpheme *abo* which is part of the root word gives rise to the possessive pronoun *abobo* which translates to the English equivalent possessive pronoun “yours.” *Abobo* as a reduplicative construction is a possessive pronoun in Lukisa. This was represented in the data:



MDT’s (2005) thesis on morphological targets posits that a reduplicative construction calls for morphological constituents of affix, root, stem or word. The reduplicant input *bo* is a morphological constituent of an affix which is a sub constituent of the daughter input root word doubled and added to the root word “abo” which means “those” to give another word with the same semantic connotation and word class of a pronoun, “abobo”. When doubled, it brings about morpho semantic change. *Abobo* as a reduplicative construction is a possessive pronoun in Lukisa semantically equivalent to “yours” in English. It arises from the daughter input root word “*abo*” which is a demonstrative pronoun meaning “those” and the reduplicant input suffix *bo*. The

input root word *abo* which form the demonstrative pronoun “those” and the reduplicative construction *abobo* which is a possessive “yours” in Lukisa retains the pronoun class hence a class retaining morphological reduplication. The formation of the reduplicative *abobo* which is the possessive pronoun “yours” is through suffixation takes the right alignment directionality in morphological doubling. This depicts the MDT thesis on morphological targets in a reduplicative construction which calls for morphological constituents of affix, root or a word and not phonological constituents of morra or syllable. This is a confirmation that what is doubled in reduplication is a morphological constituent of a suffix that leads to derivation of a pronoun depicted in the mother node which is a lexeme in the same pronoun word class as the lexeme in the daughter input before the doubling of the reduplicant.

4.2.1.5.2 Indefinite pronouns

Indefinite pronouns refer to a class of words that do not identify a particular person or entity in a given syntactic expression. They are called indefinite because one often does not know the nouns to which they refer (Loban, 1983). Lukisa exhibits the formation of indefinite pronouns to refer to both animate and inanimate objects in a linguistic expression.

The Lukisa indefinite pronoun *shiosishiosi* which is an equivalent translation of the English indefinite pronoun “anything” is formed through total reduplication. Ngunga (2005) observes that total reduplication is a morphological process where the reduplicant and the base are identical at segmental level. Equally, in total reduplication, there is a semantic identity between the daughter input root and the reduplicant input. When total reduplication occurs, the reduplicative construction, which is the mother node in MDT has a different meaning or there is usually an added meaning different from that of the two different semantically independent inputs. It is also called full reduplication because what is repeated is the entire word as depicted in the designate data:

28. Lukisa: Nditsa okhu- lia **shiosishiosi**.

/nditsa ox^Ulia ʃiɔsi-ʃiɔsi/

SgS will get 1 eat AUG - anything

I will eat anything.

word class: indefinite pronoun.

meaning: anything

mother node: /ʃiɔsi-ʃiɔsi/ (f + added meaning)

/ʃiɔsi/

First daughter input (f)

word class: indefinite pronoun

meaning: any

/ʃiɔsi/

reduplicant input (f)

word class: indefinite pronoun

meaning: any

The same total reduplication in Lukisa indefinite pronouns was replicated in the pronoun reduplicative construction, the mother node in *yesiyesi* which translates to “anyone” in English. This reduplicative construction arises when two daughter inputs of equal semantic levels are doubled as in the data;

29. Lukisa: Omu- ndu **yesiyesi** yetse.

SgS – person AUG-anyone Sg1 come

Any one person can come

Word class: indefinite pronoun.

meaning: anyone

mother node: /jɛsi -jɛsi/ (f + added meaning)

/jɛsi /

Daughter input (f)

Word class: indefinite pron.

meaning: any

/jɛsi /

reduplicant input (f)

Word class: indefinite pronoun

meaning: any

In these data on Lukisa reduplication, the reduplicative constructions of Lukisa indefinite pronouns *shiosishiosi* and *yesiyesi* both undergo total reduplication where the entire daughter input root word is repeated exactly the way it is. In Lukisa dialect, the indefinite pronoun *shiosishiosi* which translates to the English equivalent of “anything” is grammatically used with inanimate nouns in syntactic expressions. On the other hand, the Lukisa indefinite pronoun

yesiyesi which translates to English equivalent of “anyone” is used with animate objects or nouns. The total reduplication manifested in the Lukisa indefinite pronouns *shiosishiosi* and *yesiyesi* confirms the postulations by Inkelas and Zoll (2005) MDT theses on morphological doubling which views reduplication as a morphological construction containing the same number of daughters, which are prototypically two, that are identical in their semantic and syntactic features. The theses of semantic identity also call for the semantic identity of the input daughter as in *yesi* for “any” and the equivalent *yesi* for “any” as the reduplicant input respectively which give rise to the mother node *yesiyesi* which means “anybody.” This exemplifies that doubling in morphological reduplication calls twice for morphological constituents of a given semantic description. In this data, the indefinite pronouns had entire input root words doubled and the two copies of the relevant morphological constituents must be semantically equivalent and independent in meaning. The daughter input root words in *yesi -yesi* and *shiosi- shiosi* are in each respective daughter input root word semantically equivalent. This results into the same reduplicative constructions just like the inputs which were indefinite pronouns. This therefore justifies that total reduplication in Lukisa indefinite pronouns results into class maintaining reduplication. Moreover, the morphology of reduplication in the indefinite pronouns *yesi-yesi* and *shiosi-shiosi* takes place on the right of the root through suffixation hence taking the right alignment directionality in the morphological doubling.

In studying morphological reduplication in Kimeru pronouns, Kanana (2016) concluded that Kimeru pronouns were used to express apart of the whole or part of the quantity. In this case, the indefinite pronouns studied were “some” (used for people and things). In the study, there was no reduplication addressed. It was just a mere identification of indefinite pronouns in Kimeru such as *amwe* which means some people, *imwe* which means “some things.” The two cases of Kimeru

adverbs are used to refer to people and things respectively. Unlike the study of Kimeru pronouns, this study on Lukisa analyzed the reduplication in indefinite pronouns through the MDT.

4.2.2 Class changing semantic reduplication

While discussing conversion as one of the word formation processes, Bauer (1983) observes that conversion seems to be able to produce words from almost any form of class particularly the open word classes which he listed as nouns, verbs, adverbs and adjectives. Open word classes are generally lexical categories in the stricter sense containing words with a greater semantic content, while closed classes are mainly the functional categories consisting of words that essentially perform grammatical functions.

Reduplication to transfer, alter or change meaning happens when the root word and the reduplicative construction do not share meaning after reduplication. At the same time, it happens when the root word and the reduplicated construction do not fall in the same word class or grammatical category. Reduplication in this sense therefore results into the formation of new words in new grammatical categories, totally different from that of the respective inputs.

Reduplication is a synchronically productive word formation process. According to Omondi (1986) reduplication may be said to be restricted (limited) or unrestricted (unlimited) productivity. Class changing derivation produces lexemes that belong to different word classes from their roots. It results into the change of word class. Therefore, reduplication also serves seemingly arbitrary derivational functions. This means that derivational functions of word formation that reduplication serves are not by necessity, neither are they planned nor chosen by the speakers. Moreover, derivation through reduplication does not follow a consistent rule. To Booij (2005), a morphological pattern is limited if it occurs to specific words and unlimited if it can be extended to other lexemes.

With regard to word class changing semantic reduplication, the interviewer, in this study the principal researcher presented data generated from native speaker intuition triangulated with data from secondary sources and subjected the data to FGDs. This was exemplified in the following sampled responses from the Lukisa discussions:

Interviewer: *Khulikhwo namakhuwa mulushisa akalimwo okhwikalushira ne mbu khandi okhwikalushira ikhwo kumala kakalukhasie eshifune shia amakhuwa keneyako munjira yosi yosi? shingana likhuwa mbu “omurere” tsiri tsifwa likalukhana mbu “omurerere” okhumanyia omwima kwa omundu ouli omukora ne oulasubirwa tawe.*

(Are there any Lukisa words that undergo reduplication and in the process have their word class change from one category to another?)

Discussant 9: *Amakhuwa shingana “lirerere” shinga lichina linyala okhukhukwisia lirulakhukhukalushirwa khweshikhole “lirere” liri neshifune mbu okhutusia. Likhuwa mbu “omurere” limanyia tsifwa ne lirulamwo likhuwa mbu “omurerere” limanyia mbu omundu omubatsa.*

(There are words like “lirerere” which is an adjective formed from “lirere” which is a verb which means bring it. The word “omurere” is a noun that means traditional vegetable from which the adjective “omurerere” which means someone unreliable or untrustworthy are the products of reduplication)

4.2.2.1 Verbs

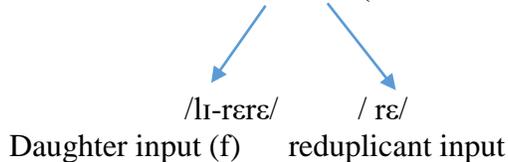
In language, verbs denote action words. In sentences, verbs are the words that signify an action performed by nouns (Lyons, 1968). In this study, various verbs in Lukisa reduplication under went change as an open class word category. Marlo (2009) observes that Bantu languages are agglutinative, meaning that they are characterized by adding prefixes and suffixes to the root of verb. In that respect, Lukisa of the Luhya language family is an example of an agglutinative language. Therefore, the verbal forms are highly inflected with morphemes serving prefixes and suffixes. These affixes are attached to the verb root morpheme as meaningful morphemes. Besides, the affixes have their specified position in the verb structure.

Some Lukisa verbs changed their word class category into adjectives. The Lukisa verb *lirere* which has the English meaning of “bring it”. The singular derivational morpheme “*li*” is used

before the root input *rere* to show that the verb is used with inanimate nouns in syntactic expressions. The verb then changes to the adjective *lirerere* to denote the concept of being slippery, thus, unreliable, connish and untrustworthy. This is after the application of partial reduplication where the suffix daughter input reduplicant “*re*” is added to the root word *lirere* to form the reduplicated construction, the mother node *lirerere* which is a descriptive adjective. Haspelmath (2002) observes that there is the reduplication of only a part of the word. The addition of the suffix “*re*” is a partial reduplication. Inkelas and Zoll (2005) which proposes that the reduplicative construction has meaning composed of the semantic features of the base plus some additional features. It is the presence of the reduplicative morpheme which must be responsible for the additional features that would change the meaning of the construction. In this case, there is either change in the word class of a given lexical item that undergoes morphological doubling and or change of the meaning of the lexical item reduplicated, implying that there is evidently an added meaning in the reduplicative as contrasted with the first input of the reduplication

30. Lukisa: Lichina lino **li -rerere**.

/lichina lino lirerere /
 SgS-stone SG1-this sg1-slippery
 This stone is slippery.
 word class: adjective
 meaning: slippery
 mother node: /li- rɛrɛrɛ/ (f + added meaning)



(f)

Word class: verb RED
 Meaning: bring it

MDT (2005) thesis on morphological targets propounds that the meaning of a morphological doubling results in the double insertion of a morphological constituent or sub constituent (for partial reduplication, infix, suffix or prefix) or total reduplication where an entire word is repeated.

In the case of the derivative adjective *lirerere* to connote slipperiness, the property of this reduplicative construction is not in the stem internal morpheme which was “re” of the stem in question *lirere* but a result of the whole resultant reduplicative construction, in this case the mother node *lirerere*, an adjective that arises from the partial reduplication process leading to the change of word class. The resultant reduplicative construction is consequently a descriptive adjective to a noun in a linguistic expression that semantically brings out a slippery stone or surface which can cause one to slide hence is used to qualify inanimate nouns in a given syntactic expression.

4.2.2.2 Nouns

Welmer (1973) observes that Bantu languages have nouns that morphologically consist of a noun affix and a stem. The affixes and noun stem constitute a criterion for dividing nouns into a number of classes that differ from each other in a variety of grammatical categories. The system of prefixation in Bantu language nouns is categorized into classes which are both semantic, in that they express the meaning of a noun and are grammatical in that they express the grammatical number in nouns.

Katamba (1993) posits that when partial reduplication which involved the repeat of only a part of or a section of the stem or root word is carried out on lexemes which belong to the noun class category, those words that function as naming words in a syntactic expression results into change of word class to an adjective. This showed that reduplication served seemingly arbitrary derivational functions making changes in the syntactic category or verbal argument structure.

Noun

omurere /om^Urɛrɛrɛ/

adjective

omurerere /om^Urɛrɛrɛrɛ/

The noun *omurere* in Lukisa denotes a kind of traditional vegetables. When the reduplicant input *re* which is a part of the root word is added, it results into the formation of a new lexeme *omurerere*

which is an adjective that means untrustworthy or unreliable, serving the function describing a noun in a syntactic expression.

31. Lukisa dialect: Opati nɔ- m^Uana o -murerere.

/ɔpati nɔm^Uana ɔm^Urɛrɛrɛ/

SgS –Opati sg1 –child sg- unreliable

Opati is an unreliable child.

word class: adjective

meaning: unreliable/untrustworthy

mother node: /ɔm^Urɛrɛrɛ/

/ɔm^U- rɛrɛ /

Daughter input (f)

Word class: noun

Meaning: slimmy traditional vegetables

/ rɛ /

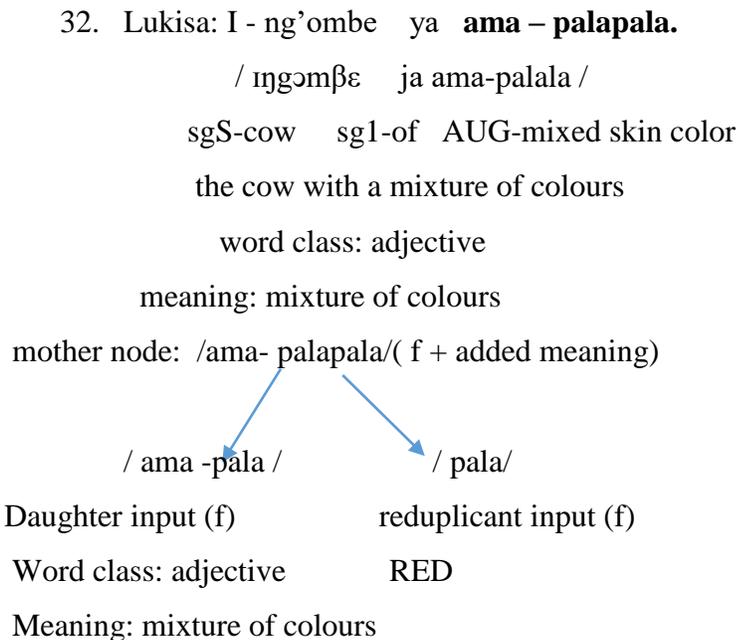
reduplicant input (f)

RED

According to Inkelas and Zoll (2005), the thesis of morphological doubling occurs for a morphological purpose of bringing change in meaning. Inkelas & Zoll (2005) posit that reduplication is driven by the presence of an affixal morpheme, RED, which has the grammatical requirement to phonologically copy material in a phonologically adjacent string. The morpheme reduplicant phonologically copies the base which brings in semantic independence in the reduplicative construction. The affix in morphological reduplication presents a case where reduplicant is not the entire stem which is input to the reduplication process, nor any phonologically defined subpart of that stem but instead a particular affix within that stem where a particular morphological constituent is doubled. In changing the noun “omurere” to an adjective *omurerere* as a morphological process of derivation through partial doubling of the reduplicant suffix “re” led to change of word class category. The noun *omurere* which semantically connotes some kind of slimmy traditional African vegetables changes to capture the adjective *omurerere* which is used syntactically to describe an animate noun, human beings in this case. In the data in

31, the descriptive adjective “slimmy” semantically implies the character of being unreliable or untrustworthy hence semantically applied in reference to given traits of humans.

Geneally speaking, adjectives are used to describe colour, thus, when we talk about colour of a given noun, adjectives are used to describe them (Ford,1974). In Lukisa, a mixture of colours to describe the physical features of animate and inanimate objects such as livestock and clothing is achieved through the adjective *ama- palapala*. The root word *ama-pala* on which the plural derivational affix *ama* is attached is an adjective referring to a mixture of colorus. Total reduplication exhibits and the reduplicant daughter input *pala* is doubled to the root input daughter *pala*, which has the plural derivational affix *ama* attached to it. The resultant reduplicative construction *ama palapala* is equally an adjective that denotes a mixture of colours. This data was presented as:



Through total reduplication, a new word is derived although it retained the adjectival word class. Inkelas and Zoll (2005) posits that in MDT thesis on morphological targets views reduplication

as a morphological construction containing the same number of daughters, prototypically two, which are identical in their semantic and syntactic features. The first input daughter “pala” is a verb that means “fly” on which a plural derivational morpheme “ama” prefix is added. There is the doubling of the input by doubling the daughter input “pala” which has the same syntactic and semantic connotation. This gives rise to the descriptive adjective *amapalapala* which implies a mixed colours. This is a class altering form of reduplication in which the prototypical verbal daughter inputs lead to the formation of a descriptive adjective.

4.3 Reduplication and Phonological Copying

This section focuses on objective two of this study which is to describe the phonological processes that accompany reduplication in Lukisa dialect. The lexical items reflecting the phonological processes that accompany reduplication in Lukisa were analyzed in order to demonstrate the interaction between reduplication and phonological processes that include: vowel lengthening, vowel change and change in syllable weight.

The data analysis was done basing on Inkelas and Zoll (2005) Morphological Doubling Theory. Although the defining property of reduplication in MDT is semantic rather than phonological identity, there are to be sure phenomena that have been called reduplicative in that a phonological element is doubled but which is not amenable to morphological doubling analysis, in part because the doubled element is something very small, like a single consonant or vowel and in part because the doubling has purely a phonological purpose rather than being associated with semantic change.

The study, therefore, although based on the Morphological Doubling Theory, which appears to have two ways of reduplicating materials: the morphological reduplication which is realized in terms of the doubling of the morpho-semantic material and phonological duplication in which one of the daughters in a given reduplication construction may be a product of a stem forming

construction which modifies them phonologically by the phonological rules or constraints associated with the construction. Ondondo (2020) posits that describing phonological rules requires specifying the domains in which it applies. Each phonological level refers to a specific level of hierarchy.

4.3.1 Phonological processes involving vowels

When reduplication occurs in Lukisa, certain phonological processes are attested in which there is the doubling of constituent sounds but ideally, this does result into semantic change of the respective lexical items. The phonological processes realized here involved data on vowels from native speaker intuition and secondary sources to the FGDs.

Ondondo (2015) observes that Lukisa has five phonemic vowels. These vowels occur in both short and long forms. In this description, long vowels are indicated by doubling the short vowel while the short vowels are shown as a single vowel.

Table 5 The Lukisa short and Long vowels

	Front unrounded		Central	Black rounded	
	Lax	tense		Lax	tense
High	ɪ	i		ʊ	u
Mid	ɛ	e		ɔ	ɔ
Low			a		

Further to this, Ondondo (2015) posits that the set of long vowels is identical to the set of short vowels. All these short vowels in the table above occur word initially, medially and finally, except the high back vowel /u/ which does not occur word initially. When any of these vowels is

concatenated with a different vowel at various boundaries, phonological adjustments take place, resulting in different surface vowels.

4.3.1.1 Vowel Lengthening

According to Omondi (1982), vowel lengthening is a product of stress. Every stressed syllable may be lengthened since length is a function of stress. Vowel lengthening is therefore a phonological process of enhancing vocalic length by reduplicating or copying a sound. Oduor (2002) posits that stress is realized by doubling vowels. Oduor further observes that stress is the tendency of lengthening vowels although syllables are also stressed depending on their phonological structure.

According to Kanyoro (1983), doubling the vowel as written seems to be the most practical way of representing the process of vowel lengthening hence depicting phonological duplication since a given sound segment is doubled for phonological necessity within that phonological environment.

Considering the Lukisa data:

33. okhuyiya yiiya /ox^Ujijja ji: ja/ → “to keep walking aimlessly”

34. okhuchenda cheenda /ox^Utʃɛna tʃɛ:nda/ → “to walk around all over”

The Lukisa verb /ox^Ujijja ji:ja/ denotes the action of aimlessly moving around. In this data, the front high vowel /i/ is lengthened through doubling in the phonological environment between the palatal glide /j/ in the reduplicant /ji:ja/ in its penultimate position. This conforms to the fundamental claim of MDT that reduplication involves semantic rather than phonological identity.

The theory postulates that reduplication results when morphology calls twice for a constituent of a given semantic description. In this data, the reduplicant “yiiya” /ji:ja/ occurs with a possible phonological modification of either or both constituents, in which case there is the phonological aspect of lengthening of the front high vowel /i/ in the penultimate position of the reduplicant.

This validates the fact that MDT as a native identity theory calls for surface phonological identity between the two copies as in “*yīya yīya*” /jija ji:ja/ which occurs as a side effect of semantic identity. Initially, the root verb /jija/ means to “walk around” but upon phonological reduplication, there is the copying and eventual lengthening of the vowel /i/. Semantic identity arises because of the selection of exactly the same morphological identity of the two daughters. MDT (2005) then views phonological reduplication as a situation where a morphological construction contains the same number of daughters, prototypically two which are identical in their semantic and syntactic features, which then has one of the daughters modified phonologically by phonological rules or constraints associated with the construction hence the manifestation of vowel lengthening in /ji:ja/.

On the other hand, the Lukisa verb *okhuchenda che:nda* /ox^Utʃɛna tʃɛ:nda/ means “to keep walking around.” The mid front unrounded vowel /ɛ/ is lengthened through doubling in a phonological environment between a palatal alveolar affricate /tʃ/ and an alveolar nasal stop /n/ in the reduplicant /tʃɛ:nda/ in its penultimate position. This confirms the fundamental principle in MDT (2005) that reduplication involves semantic rather than phonological identity and that surface phonological identity between the daughter input and the reduplicant input occurs as a side effect of semantic identity. The theory asserts that reduplication results when morphology calls twice for a constituent of a given semantic description, herein, we have the daughter input /tʃɛnda/ and the reduplicant input /tʃɛ:nda/. The reduplicant input has the mid front rounded vowel sound /ɛ/ lengthened in the penultimate position.

This manifestation is similar to what Okello (2007) observes about vowel lengthening in Dholuo, an isolating language. Okello’s study concludes that Dholuo has a general predictable rule by

which the penultimate syllable in a word where stress is most likely detectable is lengthened in the final utterance position as in the Dholuo data:

kɛm kɛm kɛ:m “sour/ bitter”
tin tin ti:n “rather small/ smallish”

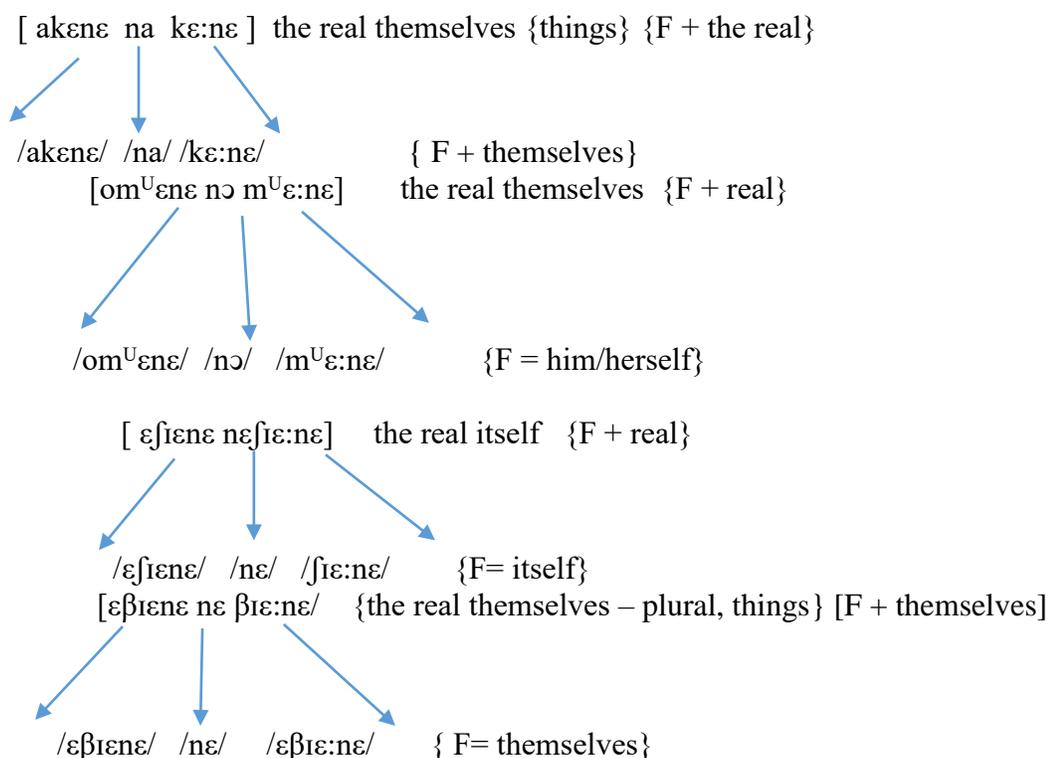
As depicted in the Dholuo data above, it is the sound that is copied to bring out vowel lengthening in Dholuo just like in Lukisa where a particular sound is also copied. From the Dholuo data, the phonological shape of the first syllable in the reduplicative is different from that of the last syllable due to stress placement on the various vowel sounds in the respective reduplicants.

In the Lukisa data involving the reflexive pronouns:

- 35 *akene na keene* /akɛnɛ na kɛ:nɛ/ “the real themselves” used to refer to things.
36 *omwene no mweene* /ɔm^uɛnɛ nɔ m^uɛnɛ/ “the real himself”
37 *eshiene ne eshieene* /ɛʃiɛnɛ nɛ ɛʃiɛnɛ/ “the real itself”
38 *ebiene ne ebieene* /ɛβiɛnɛ nɛ βiɛ:nɛ/ “the real themselves” used to refer to things.

The data above depicts phonological reduplication, various forms of linker morphs are placed in between the base and the reduplicant. The added value that is attached to this form of reduplication is the semantic theme of emphasis in reflexivization. This kind of reduplication is evident in reflexive pronouns.

The introduction of the linker morphs “na”, “no” and “nɛ” does not interfere with the phonological shape of both the base and the reduplicant as the variety of the applicable linker morphs in Lukisa are a third daughter of the respective reduplicative constructions as demonstrated in:



In MDT, the phonological entity is not a prerequisite, the central idea is semantic identity of which in the data above, the introduction of the respective linker morphs /na/, /nɔ/ and /nɛ/ brings in the semantic theme of emphasis in each of the reflexive pronouns in their reduplicated forms. Independently, the linker morphs are semantically empty when there is no evidence or proof that they, as opposed to the reduplicative construction they co occur with, distinctively contribute to any specific meaning of the reduplicative construction (Inkelas and Zoll, 2005:37)

In the above reduplicatives involving reflexives, there is the lengthening of the mid front vowel sound /ɛ/ in the reduplicant to bring out the phonological process of vowel lengthening in the reduplication process. According to MDT, the primary phonological issues arising in reduplication is that the copies in reduplication are phonologically modified relative to how they would appear in isolation. Here in, the reduplicants to show the semantic theme of emphasis in the reflexives /nakɛ:nɛ/, /nom^Uɛ:nɛ/ , /nɛʃiɛ:nɛ/ and /nɛβiɛ:nɛ/ undergo vowel lengthening as they are cases motivated by phonological necessity. This is supported by the thesis of MDT which

posits that reduplication is driven by the presence of an affixal morpheme, RED which has the grammatical requirement to phonologically copy material in a phonologically adjacent string. The morpheme RED phonologically copies the base as in the reduplicants in the reflexives /kɛ:nɛ/, /m^uɛ:nɛ/, /ʃiɛ:nɛ/ and /βiɛ:nɛ/. Inkelas and Zoll (2005) further state that MDT is an identity theory in the sense that the surface phonological identity between the two copies occur as a side effect of semantic identity, often as the simplest, or the only way to ensure semantic identity is to select exactly the same morphological entity for the two daughters. The reduplicants in the respective reduplicated reflexive pronouns presuppose the double occurrence of morphological constituents meeting particular morpo semantic descriptions to bring out the semantics of emphasis expounded by the presence of the respective linker morphs as third daughters in the reduplication process. This finding on Lukisa reduplication conforms to the findings of the study by Nyaga (2004) on vowel lengthening as a phonological process that accompanies reduplication in Kiambu. The study concludes that vowels in Kiambu are lengthened in the penultimate position especially in emphatic speech, (Gichungi:2007). This is depicted in Kiambu verbs and adverbs unlike the current study which focused on reflexive pronouns.

Vatunɛ “ripe” vatunatu:nɛ “a little ripe” (with emphasis)

kavɔra ‘slowly” kavɔrakavɔ:ra “slowly by slowly” (with emphasis)

In the above data, the vowel lengthening in Kiambu is meant to fulfil the MDT theme of semantic emphasis as the vowel lengthening occurs together with the morphological reduplication where part of the root or the whole root is doubled and the doubling is done in its penultimate vowel of the reduplicant where vowel lengthening as a phonological process is applied.

The same morphological reduplication takes place in Lukisa, accompanied by an internal alteration of the lengthened sound. When vowel lengthening occurs in Lukisa as a phonological process that accompanies reduplication in the penultimate position, it is accompanied by a morphological process where the root is totally reduplicated as respective plural or singular markers of /a/, /ɔ/ and /ɛ/ in the respective roots of the words /akɛnɛ/, /ɔm^Uɛnɛ/, /ɛʃiɛnɛ/ and /ɛβiɛnɛ/ are dropped when the respective reduplicatives are formed. The findings of this study indicate that as much as there is vowel lengthening in the penultimate position of the reduplicant, the lengthening comes with total reduplication where the whole root is doubled and it is on the reduplicant that vowel lengthening manifests. However, it was noted that unlike in Lukisa where the phonological process of vowel lengthening comes with a linker morph as a third daughter between the root and reduplicant inputs in reflexives, such is not manifest in Kiambu verb phonological reduplication as its vowel lengthening occurs in the penultimate position without the presence of the linker morph.

Jiji (2008) studies vowel lengthening as a process in Lutiriki adverbs without emphasis or reference to reduplication as a process as depicted in the Lutiriki data:

ihare “far” *ihaare* /iħa:rɛ/ “far away/ quite far”
ikulu “high” *ikuuku* /ik^U:l^U/ “higher up”

As much as the present study dwelt on the phonology of reduplication basing on MDT, it differs from Jijis (2008) study on noun derivation was based on the Natural Generative Phonology Theory by Hopper (1976) which posits that speakers postulate generalizations that are surface true and transparent, and that if that does not happen, the generalizations that will be constructed will be artificial. The Natural Generative Phonology theory further prescribes that the natural surface, true and transparent generalizations are derived using rules which form an interface between phonological and phonetic representations of the word. This therefore indicates that

vowel lengthening also occurs to show emphasis but without reduplication. This kind of vowel lengthening is achieved by doubling the vowel or by using more than two vowels consecutively. However, this presentation of the multi-vowels can only be manifested in orthography. The transcription of both forms follows the standard form of representing long vowels accounting for the variation brought out by the degree of emphasis.

Vowel lengthening in Lukisa interferes with meanings of respective words. Ondondo (2015) observes that there is usually an underlying vowel length in contrastive roots in Lukisa words.

This is best exemplified in minimal and sub minimal pairs as in:

Saa'b-a	“wash”
Sa'ba	“ ask for something”
Me'ra	“shoot up” (as for plants)
Mee'ra	“ become drunk”

This is a clear indicator that as much as the data above on minimal pairs does not reflect reduplicated forms of words in Lukisa, vowel lengthening affects the meanings of words. The lengthening of the various vowels in the cited minimal pairs is what ideally brings difference in meaning.

The study by Ondondo's (2015) differs from the current study with emphases on vowel lengthening basing on Inkelas and Zoll (2005) Morphological Doubling Theory, who's the thesis of phonological constituent doubling is motivated by phonological necessity, copies a single element and the copying of a particular sound segment is limited to narrow sets of contexts. The MDT theory fundamentally claims that reduplication involves meaning change rather than phonological similarity. This is why we have the identity between the inputs: /εβiεnε/ and /εiεnε/ and their reduplicatives /εβiεnε nε εβiεnε/ and /εiεnε nε εiεnε/. The theory claims that reduplication results when morphology calls twice for a constituent of a given semantic

description, with possible phonological modification of either or both constituents and this is why we explore vowel lengthening in respective reduplicants of the reflexive pronouns in Lukisa.

The current study is unlike Ondondo's (2013) study which explored the phonological view point governing word hood in Kisa basing on the researcher's intuitions. The current study went beyond a mere exploration governing wordhood in Kisa. Ondondo's (2013) study analyzed consonant initial closed monosyllabic roots in Kisa and how they take long vowels hence a manifestation of vowel lengthening as a phonological process in Kisa verbs as in the data:

“suula” /su:la/ “uproot”
“boola” /βɔ:la/ “speak/say”

In the monosyllabic root /su:la/, there is the lengthening of the high back vowel /u/ that occurs between the alveolar fricative /s/ and the alveolar lateral /l/ as the surrounding phonological environments. Unlike the study on vowel lengthening in Lukisa which occurs with accompanying morphological reduplication, the study by Ondondo (ibid) does not explore vowel lengthening that accompanies phonological reduplication. Ondondo's study equally explores how consonant initial polysyllabic words do take long vowels in any position except a word final position in Kisa as in the data:

“botookhana” /βoto:xana/ “go round”
“beetsekala” /βε:tsekala/ “belch”

The above Kisa data exemplifies that underlying long vowels in the copying of polysyllabic verbs that begin with consonants in /βoto:xana/ in which the mid back unrounded vowel /o/ is lengthened to /o:/ appears between the alveolar stop /t/ and the velar stop /k/. the polysyllabic word begins with the bilabial fricative /β/. In the consonant initial polysyllabic verb /βε:tsekala/ which means “belch”, the initial consonant is the bilabial fricative /β/, the lengthened vowel is the mid front unrounded vowel /ε/ which appears in the phonological environment between the bilabial fricative

/β/ and the alveolar stop /t/. Ondondo's study on vowel lengthening in Kisa consonant initial closed monosyllabic roots, polysyllabic words and the adjacent syllables with polysyllabic words.

4.3.1.2 Reduplication and Syllable Weight

Katamba (1992) posits that traditionally, the major distinction drawn between syllable types found in languages has been between open syllables and closed syllables. An open syllable ends in a vowel while a closed syllable ends in a consonant, but even in those languages that allow closed syllables, there is often a clear preference for open syllables. Further to this, Katamba (1993) the consensus today is that more important than the traditional classification of phonological systems in terms of open and closed syllables is their classification on syllable weight. Generally, languages in which a distinction between light and heavy syllables is drawn fall into two camps, the light syllable where the rhyme contains a short vowel and a heavy syllable where the rhyme contains either; a long vowel or a diphthong followed by one or more consonants or a short vowel followed by at least a consonant.

According to Ondondo (2013), Kisa has both open and closed syllables. Closed syllables occur at the phrasal level only as a result of apocope. The most common open syllable in Kisa, as in other Luhya languages (Marlo, 2006 and Mutonyi, 2000) is the CV syllable where a consonant is followed by a vowel in a word. Another open syllable type occurs in Kisa in CVV syllable where a consonant is followed by two vowels before another syllable.

Interviewer: *Khulikhwo nende amakhuwa mulushisa akalimwo okhukalushirwa khwe inyukuta ndala yonyene khutsia halala nende okhukalushirwa khwe likhuwa liene buchima nohomba kata nishiba eshitonye shialio?*

(Do we have any words in Lukisa that involve copying of only one sound within it and that copying of the sound occurs as a result of either partial or total reduplication?)

Discussant 10: *Khuli nende amakhuwa shingana "khatiiti, tsingoongo, omusoliili, aboobo nende obubibiibi." Amakhuwa yaka kali nende okhukalushirwamo okhwa okhurambiyibwa tsinyukuta tsindi muko okhulonda mukhukalushirwa khwa ebipande bia amakhuwa kene yako.*

(We have Lukisa words such as /xatɪ: tɪ/, /tʃɪŋɔ:ŋɔ/, /aβɔ:βɔ/ and /ɔβ^uβɪβɪβɪ:βɪ/ which all indicate that given vowel sounds have been lengthened in the respective reduplicatives accompanied with morphological doubling in given phonological environments).

Phonological reduplication that affects syllable weight occurs in Lukisa vowel sounds within morphologically reduplicated words that exhibit open syllables. In this case, a given vowel that occurs between two consonantal sounds as the phonological environment is stressed through lengthening to gain weight. In the sampled data for this study, there is stress on the penultimate or the second last syllable in the reduplicated word. This is manifested in the morphologically reduplicated and phonologically doubled Lukisa words:

39. *khati khatiiti* “small” /xatɪ:tɪ/
40. *tsingo tsingoongo* “villages” /tʃɪŋɔ:ŋɔ/
41. *omusoli omusoliili* “an attacker” /ɔm^usɔɪ:lɪ/
42. *abo aboobo* “yours” /aβɔ:βɔ/

In this data, the vowels in the penultimate syllable have been lengthened in the reduplicant. Stress is also placed on the penultimate syllable. We can conclude that the penultimate syllable is heavy unlike the first and the last syllables in the respective words. In the above Lukisa data, the reduplicatives which are both trisyllabic and polysyllabic have the penultimate syllable stressed hence heavy. This adequately accounts for the observation that reduplication through vowel lengthening affects the weight of syllables in the penultimate positions of given lexical items.

In the case of the data in /xatɪ:tɪ/ for “small” which is a reduplicative formed through partial reduplication of the reduplicant syllable /tɪ/ doubled and added to the root word /xatɪ/. The resultant reduplicative /xatɪtɪ/ is an open syllable which has the CVCVCV order. There is the lengthening of the second vowel in /tɪ:/ which is a syllable in the penultimate position. In this data, the front unrounded high vowel /i:/ is stressed through lengthening in a phonological environment between the alveolar stop /t/ which is of the root and the reduplicant. This makes the

lengthened syllable heavy unlike the first and the last syllable of the reduplicative. The first syllables are short vowels hence coming out as light syllables.

The bisyllabic reduplicative possessive pronoun /aβɔ:βɔ/ which means “yours” has the reduplicative syllable /βɔ/ added to the root daughter of the demonstrative pronoun /aβɔ/ which means “those”. The reduplicant syllable is preceded by the root syllable /βɔ/ on which a plural morpheme marker /a/ is attached. In this phonological copying, the mid back rounded vowel /ɔ/ is lengthened to bring out stress hence heavy syllable weight within an open syllable that is made up of CVCV. The mid back unrounded vowel is in the penultimate position or syllable and its lengthening within that phonological environment makes it a heavy syllable unlike the first and the last syllables in the reduplicated word. This phonological reduplication through vowel lengthening affects the syllable weight in Lukisa since the lengthening of the respective vowel sounds places emphasis on the vowel in the penultimate position.

In the reduplicative noun /ɔ- m^Usɔl:lɪ/ which means “an attacker”, formed from the root word /ɔm^Usɔlɪ/ by partial reduplication by doubling the reduplicant syllable /lɪ/. There is the stress placement through the lengthening of the high front unrounded vowel /i/ found in the phonological environment of the two alveolar laterals /l/. The lengthening of the vowel is within a morphologically reduplicated word of an open syllable with CVCVCVCV order. We therefore conclude that in this data, the penultimate syllable that bears the lengthened vowel sound /i/ is heavy unlike the first, second and the final syllables in the polysyllabic word in its reduplicative form. The first two syllables and the last one have short vowels and therefore said to be light syllables.

/tʃɪŋɔ:ŋɔ/ is a Lukisa reduplicative formed from /tʃɪŋɔ/ through partial reduplication that exhibits phonological copying through vowel lengthening. There is the lengthening of the back rounded

vowel /ɔ/ in the penultimate position of a syllable occurring between velar nasal /ŋ/. As a consequence, the lengthening brings out stress hence making the second syllable heavy unlike the first and the last syllables of the reduplicative which have short vowels sounds hence depicted as light syllables.

The Lukisa intensified reduplicative adjective /ɔ-β^uβ₁β₁:β₁/ which means “very bad” formed through partial reduplication of /ɔ-β^uβ₁/ through the manifestation of the triplication of the /β₁/ syllable in the root word. This reduplication is accompanied with the lengthening of the high front unrounded vowel /i:/ in the penultimate position. This is unlike the first, second and the final vowels in the reduplicative which are short vowels hence said to depict light syllables. The lengthening of the front unrounded vowel in /i/ in this reduplicative construction depicts a phonological adjustment of the vowel sound resulting into a heavy syllable. The lengthened vowel sound is a phonological manifestation of stress and consequently a heavy syllable occurs in the phonological environment of the bilabial fricative /β/

According to Inkelas and Zoll (2005) in the Morphological Doubling Theory, reduplication results when morphology calls twice for a constituent, mostly a stem and then either of these constituents may further be phonologically modified. These two forms of reduplication have several distinguishing characteristics: morphological reduplication serves a morphological purpose that involves derivation of new lexical items and the semantic change that accompanies it, while phonological reduplication serves a phonological purpose which entails a single reduplicated segment rather than the larger chunks of morphological reduplication. To Inkelas and Zoll (2005), morphological reduplication takes place before any phonological modification has a chance to take place.

Considering the data in /xatr:ti/, /tʃɪŋɔ:ŋɔ/, /ɔ-m^usɔlɪ:lɪ/, /o-1^uf^ua^ua/ and /ɔ-β^uβɪβɪβɪ:βɪ/, there is the morphological reduplication that takes place whereby, partially, part of the root is doubled with the /tʃɪ/, /ŋɔ/, /lɪ/ and the triplication of /βɪ/ in *obubibibi*. Aside from the partial reduplication which is morphological, there follows the phonological copying to bring out the syllable weight through phonological copying of the respective vowel sounds through lengthening hence making the respective vowels long thus bringing them out as heavy syllables in their penultimate positions unlike those in the same morphologically reduplicated words at their start and final positions of the syllables.

Inkelas and Zoll (2005) thesis on phonological doubling postulates that in phonological copying, the respective inputs do not bear the same semantic features but have phonological features. This implies that there is no formal similarity features that link each of the inputs in the reduplicative, herein the mother node. In the data on phonological copying and syllable weight, there is the lengthening of the respective vowel sounds in the Lukisa words that exhibit open syllables. The copied vowels within the given syllables do not depict any semantic or syntactic independence. The lengthened sounds that bring out syllable weight are not subject to any morphological reduplication in which the morpho semantics of reduplication are embedded. The syllable inputs doubled are phonological constituents which only serve a phonological purpose.

The study of syllable weight in Lukisa reduplication endeavours to bridge the gap in Ondondo's (2013) study basically analyzed the syllable in Kisa word structure without reference to reduplication; morphologically as a word forming process and phonologically as dictated by phonological necessity. In the study, Ondondo (ibid) looks at the two categories of syllable structure in Kisa, thus the CV and CVV structures, and equally explores how vowels occur within Kisa words in the given syllable structures. The study depicted the CV syllable structure in words

such as *balakhupana* /βalax^upana/ which means “they will fight each other” where a consonant is followed by a vowel and in the CVV syllable structure as in *Θ-liitiimooni*

/lɪ:tr:mɔ:nɪ/ which means “the devil” where a consonant is followed by two vowel sounds. The current study deviates from this by exploring Lukisa reduplication both at the morphological and phonological levels and how the lengthening of given vowel sounds in the reduplicatives bring out heavy syllables in either the base or the reduplicant.

Ondondo’s (2013) study equally explores how tone is marked in Kisa words. The study posits that there are two tonal phonemes in Kisa, the high and the low tone. The study revealed that words in Kisa can be marked for a high or low tone with a high tone being phonologically active in Kisa and the low tone assigned by default. The study for example shows the specified contrastive high tone in a corpus of native words with similar final vowels as:

i-n-da’ “a/the louse”

i-n-da’a “a/the stomach”

Okello’s (2007) study posits that Dholuo has both heavy and light syllables. That there are words with both heavy and light syllables. Reduplicatives belong to the category of words with both light and heavy syllables. The study revealed that words have vowels in the penultimate or second last syllable doubled to bring out stress hence depicting them as heavy syllables. This was manifested in the Dholuo data;

a’o:ra “river”

agu:lu “pot”

misu:mba “bachelor”

In the Dholuo data above, the vowels in the penultimate position have been lengthened. The stress is also placed on the penultimate syllable hence making it a heavy syllable unlike the first and the last syllables in the respective words.

The studies by both Ondondo (2013) and Okello (2007) explored tone placement on final vowels and those in the penultimate positions respectively to depict difference in meaning in Lukisa

dialect nominal. This is quite different from our current study where we explored vowel lengthening to bring out heavy syllables in Lukisa reduplication.

4.3.1.3 Vowel Substitution

According to Gachungi (2007), vowel substitution is a phonological pattern in which vowels change in a repeated word to form a new word with a specific meaning. In this situation, a high vowel may be substituted with a low vowel or vice versa. Vowel substitution in reduplication is a productive process that results into the formation of new words. There was the exemplification of the following data samples on the aspect of phonological copying that involves vowel substitution in Lukisa in which a vowel sound in the root input changes in the reduplicated form.

Interviewer: *Khulikhwo nende amakhuwa mulushisa akalimwo okhukalukhana inyukuta ndala muko olwa kaba nikakalushirwamwo obuchima nohomba eshipande khuko?*

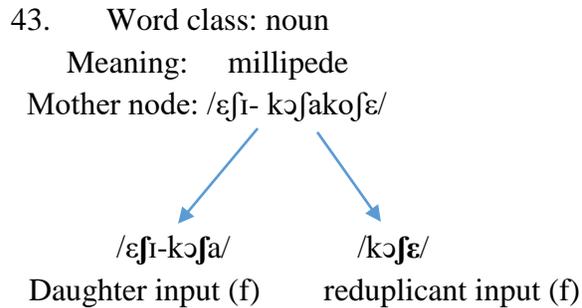
(Do we have any words in Lukisa that involve change of a sound within it when reduplicated and the change of sound occurs within a section of the reduplicative?)

Discussant 11: *Khuli nende amakhuwa shingana eshikishakoshe elirimwo okhukalikhana inyukuta yalio olwa liba nilikalushirwa lichima pepepe.*

(We have this word *eshikoshakoshe* /ɛʃi-kɔʃakɔʃɛ/ in which we find a change in the vowel sounds from /a/ in the root input to /ɛ/ in the reduplicant.)

Vowel substitution is evident in the reduplicated Lukisa noun form of “*eshikoshakoshe*.” In the pseudo reduplication, the resultant reduplicative construction, herein the mother node, has no meaningful connection between the reduplicative, with either of the underlying input elements when analyzed separately. The Lukisa noun /ɛʃi-kɔʃakɔʃɛ/ arises out of pseudo reduplication accompanied by vowel substitution. The root daughter input /ɛʃi-kɔʃa/ which has a singular prefix morpheme /ɛʃi/ attached to it is meaningless on its own. It has neither semantic nor syntactic reference in Lukisa. Together with the reduplicant syllable inputs in *koshe* /kɔʃɛ/ which is equally semantically and syntactically meaningless. The two inputs can only be meaningful in their

reduplicated forms which brings out *eshikoshakoshe* /ɛʃi-kɔʃakɔʃɛ/ which is a noun that refers to a millipede. This can be presented as:



In the doubling of the root daughter input syllable /kɔʃa/, it gives rise to the reduplicative, the mother node, /ɛʃi-kɔʃakɔʃɛ/ which depicts linguistic pseudo reduplication of the Lukisa noun which is a manifestation of the Morphological Doubling Theory tenet on phonological copying. As much as their existed respective daughter syllable inputs which were doubled to give rise to the mother node, it is notable that if the two daughter input syllables are separated and analyzed in isolation so that we have what seemed as the first daughter input and the reduplicant syllable input, then the respective input daughters cannot be qualify to be analyzed from MDTs morpho semantic perspective as per the thesis of semantic inputs in reduplication which calls for semantic identity between the daughters and not phonological identity.

However, the doubling of the syllabic inputs brought to the fore the fact that the syllables /kɔʃa/ and /kɔʃɛ/ are respectively doubled as phonological inputs without bringing in semantic change because the doubling of the input syllables is purely for phonological necessity. There the formation of a new lexical item from another one through derivation. The duplication inputs in this case of phonological copying do not bear any semantic or syntactic features as postulated in the MDT tenet on the identity of the semantic inputs but bear phonological features that link each of the inputs in the resultant mother node. The syllable inputs do not independently carry any related meaning to the Lukisa noun *eshikoshakoshe*. However, when doubled and used together,

the resultant mother node is semantically and syntactically meaningful, referring to a millipede which falls in the noun class category.

Further to the pseudo reduplication, there is the vowel substitution in which the low central vowel /a/ in the first daughter input syllable /kɔfa/ changes to the mid front unrounded vowel /ɛ/ when total reduplication is undertaken to form the noun /ɛʃɪ-kɔʃakɔʃɛ/. In this scenario, a mid low central vowel /a/ is substituted with a mid front unrounded vowel /ɛ/ in the process of reduplication. This happens because vowel substitution is one of the phonological processes that interact with reduplication in Lukisa. This conforms to the MDT (2005) tenet on phonological copying where copies in the reduplication are phonologically modified relative to how they appear in isolation. The theory propounds that phonological copying and its scope is limited to narrow sets of contexts as in the reduplication that leads to vowel substitution. The phonological copying is restricted to cases motivated by phonological necessity as the phonological element involved such as the substitution of the respective vowel sounds are not subject to morphological doubling analysis which leads to semantic and or word class change in part because the element involved is just a sound, in this case vowel sounds which are basically for phonological purposes.

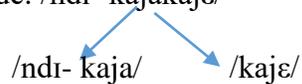
Vowel substitution was also manifest in the Lukisa verb *ndikayakaye* /ndɪkajakajɛ/ which means to soul search or be in spiritual supplication that goes with commitment to the supreme creator. In this pseudo reduplication, the resultant reduplicative, herein the mother node has no meaningful connection with either of the underlying input elements of the root daughter input and the reduplicant input. The Lukisa verb *ndikayakaye* is a product of both pseudo reduplication and vowel substitution. The root daughter input /ndɪ-kaja/ which has an attached singular morpheme marker /ndɪ/ to it is meaningless on its own. It has neither a semantic nor syntactic reference in Lukisa, together with the reduplicant syllable input *kaye* /kajɛ/ which is equally semantically and

syntactically meaningless. The two inputs are only meaningful in their reduplicated form which results into the mother node *ndikayakaye* /ndɪkajakajɛ/.

44. Word class: verb

Meaning: soul searching

Mother node: /ndɪ -kajakajɛ/



Root daughter input reduplicant input

In the doubling of the root daughter input syllable /kaja/, it gives rise to the mother node, the reduplicant /ndɪ-kajakajɛ/ which is a manifestation of linguistic pseudo reduplication in the Lukisa verb depicting the MDT (2005) tenet on phonological doubling which emphasizes on the copying of single element and the copying of a particular segment is limited to narrow sets of contexts motivated by phonological necessity. In as much as there existed respective daughter syllable inputs which are doubled to give rise to the mother node, it was worth noting that when the respective daughter and reduplicant inputs are separately and analyzed in isolation, then the respective input daughters do not qualify to be analyzed from the morpho semantic perspective as per the MDT (2005) thesis on semantic inputs in reduplication which calls for semantic identity and not phonological identity between the inputs in morphological doubling.

The doubling of the syllabic inputs brought out the fact that the syllables /kaja/ and /kajɛ/ are respectively doubled as phonological inputs without any semantic change involved because their doubling is purely for phonological necessity. In this data, there is no formation of a new lexical category from another through derivation as the respective inputs do not bear any semantic and syntactic features postulated in the MDT tenet on the semantic identity of the inputs. But being

syllables, they bear phonological features that link each of the inputs to the resultant mother node.

The input syllables do not independently carry any meaning related to the Lukisa verb

/ndɪ-kajakajɛ/. However, when doubled, the resultant mother node is semantically and syntactically meaningful.

In addition, the pseudo reduplication and phonological doubling of the respective syllable inputs, there is the phonological process of vowel substitution in which a low central vowel /a/ in the first daughter input /kaja/ changes to the front mid unrounded vowel /ɛ/ when the total copying of the root has taken place to form the reduplicative /ndɪkajakajɛ/. In this data, a mid front unrounded vowel /ɛ/ in the process of phonological copying because vowel substitution as a phonological process accompanies reduplication in Lukisa. This conforms to Inkelas and Zoll (2005) MDT tenet on phonological copying which postulates that copies in reduplication are phonologically modified relative to how they appear in isolation. According to MDT (2005), phonological copying and its scope is limited to narrow sets of contexts as in the depiction of vowel substitution. The phonological copying is restricted to cases motivated by phonological necessity as the phonological input involved such as the substitution of the respective vowel sounds does not lead to change in meaning of the lexical item or the class category in part because the input element involved is a sound which basically manifests phonological purposes.

The present study conforms to the study by Nyaga (2014) which observed that vowel substitution is evident in reduplicated forms in Kiambu. The study notes that a high vowel is substituted by a low vowel and vice versa as in the data:

- a) onɔru “fatness” onɔranɔru “very fat”
- b) jɪta “hold” ojɪtaɪti “the act of holding”

in the data in (a) above, the high back vowel /u/ is substituted with a low front vowel /a/ and in (b), a low vowel /a/ is substituted with a high vowel /i/ in the reduplication hence depicting vowel

substitution in Kiambu verbs which differs from the noun class category that our study on Lukisa has analyzed on vowel substitution. Moreso, Lukisa vowel substitution depicts a replacement of a low central /a/ with a mid front unrounded vowel /e/ in the noun /ɛʃikɔʃakɔʃɛ/ unlike Kiambu verbs which have high vowels substituted with low vowels and low vowels substituted with high vowels respectively. This marks a clear gap and point of divergence in the process of vowel substitution between the two Bantu languages. Worthy to equally observe is that in Nyaga's (2014) study, the vowel substitution took place in semantically and lexically meaningful and independent verbal group lexical items while our present study on Lukisa vowel substitution occurred in pseudo reduplicated noun category.

4.4 Pseudo-reduplication in Lukisa dialect

This section focuses on objective three which is to explore how pseudo reduplication is manifest in Lukisa dialect. The lexical items reflecting the concept of pseudo-reduplication from Lukisa were analyzed in this study in order to demonstrate how the resultant reduplicative construction had no meaningful connection between the reduplicative, herein the mother node with either of the underlying input elements when analyzed separately. From the data on reduplication collected in Lukisa, a sample of lexical items were drawn exhibiting features of pseudo-reduplication.

This study analyzed Lukisa pseudo-reduplication data through subjecting data elicited from native speaker intuition and secondary sources (corpus compilation) to FGDs. The data was subjected to FGDs for discussion from which the following samples were extracted which showed that there could be two daughter inputs which are not semantically and syntactically independent but can lead to the formation of a mother node reduplicative that is semantically and syntactically independent.

Interviewer: *Khunyala okhubakhwo nende amakhuwa mulushisa akalimwo okhukalushirwa muko, nekata nikakalushirwa kario, noba mulunyuma nokakabula nonyola mbu ebisina biako shibinyala okhwisinjirira tawe khandi shibiri neshifune tawe.*

(Do we have any words in Lukisa which are only meaningful in their reduplicated forms. When divided into their respective daughter inputs, they become meaningless in isolation?)

Discussant 12: *Amakhuwashinga “likhalikhali” elimanyia omwoyo omubi, “inginingini” elirumishirwa okhumanyia tsinginingini mubunji bwatsio mwikulu. Koosi kalimwo okhukalushirwa muko keene ne butswa nokakabukhasia nonyola mbu ebisina biako shibinyala okhwisinjirira ebiene tawe.*

(We have words such as /lixalixali/ which means jealousy, /ɪŋɪŋɪni/ which refers to the stars in the sky, in their plural form. They all have reduplication but when they are separated into the respective daughter inputs, the daughter inputs remain semantically and syntactically meaningless. They are only meaningful in their reduplicated forms)

Discussant 13: *Amakhuwa kandi shinga “ebinienie” limanyiambu tsimbemba tsirimwo obubeyi. Kata likhuwambu “tsindeindei” tsimanyia ebifimbira khutsindama. Kano kosi kalimwo okhukalushirwa nebutswa nikakabulwa, nonyola mbu ebisina biako shibinyala okhwisinjirira nibirera eshifune taawe.*

(Other Lukisa words such as *ebibienie* which means baseless rumors or gossip, *tsindeindei* which refers to tonsils. All exhibit pseudo reduplication because the daughter inputs are only meaningful in the mother node reduplicative. When analyzed separately as input daughter nodes, no meaning arises in either of them.)

4.4.1 Nouns

Schacter and Shopen (1985) traditionally define nouns as a group of words that occur as names of persons, places and things. According to Schacter & Shopen, a noun further functions as a subject of a verb or its object. Nouns are usually modified or described by adjectives. Nouns also name animals, objects places, times, events, ideas and qualities. The Lukisa nouns in this study were analyzed under the thematic strands that denote plants, people and names of things.

45. Lukisa: U –yoniomu--satsa we- **li-khalikhali**.
 3SgS that is sg-man of jealousy
 That man is full of jealousy

Presented as:

word class: Noun

meaning: jealousy

mother node: /lɪ -xalɪxalɪ /

/lɪ- xalɪ / / xalɪ/

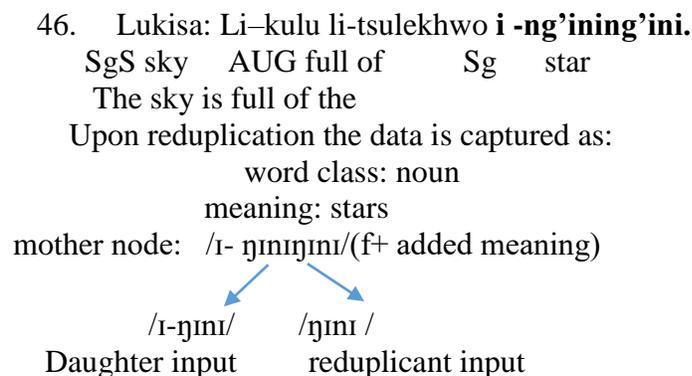
daughter input reduplicant input

Abstract nouns refer to things that cannot be seen nor touched. They are only conceived in the mind (Fowler, 1996). The noun *likhalikhali* in Lukisa denotes the noun “jealousy”. *Likhalikhali* is a reduplicative construction that arises from the daughter input *khali* where the singular derivational prefix *li* before the first daughter input which is a singular noun morpheme marker and the reduplication in *khali*. Both the daughter input and the reduplicant are meaningless as they do not have any semantic content when separately analyzed. Through total reduplication, the daughter input and the reduplicant give the reduplicative construction *likhalikhali*. In MDT, Inkelas and Zoll (2005) theses on phonological doubling posits that daughter inputs in phonological copying do not bear the same semantic feature, implying that there is no formal similarity in the features that link each of the inputs in the reduplicative construction, here in the mother node. This is evidently manifest in the Lukisa noun *likhalikhali* given that the two inputs, the first daughter input *khali* and the reduplicant input *khali* do not independently exhibit any semantic and syntactic content.

The meaning of the two inputs only comes out through the resultant reduplicative construction which is the mother node. The abstract noun, *likhalikhali* in Lukisa occurs in a reduplicative form, amenable to the tenets phonological doubling in which the inputs do not bear the same semantic features, but have phonological features hence no formal similarity in semantic and syntactic features that link each input daughter of the reduplicative construction. This is because its inputs

when separated to remain morpho-semantically independent the respective daughter input and the reduplicant input do not occur semantically independent in isolation because they were nonexistent forms. The abstract nouns only occur in a reduplicative form. However, as MDT theses on phonological copying postulates, the doubled element is something very small, in this case a syllable which exemplifies no semantic or syntactic similarity between the inputs and the reduplicative hence bringing out no grammatical function.

Kanana (2016) observes that pseudo-reduplication in Kimeru language brings out data in which the inputs did not have any singular or plural markers attached to the root. In the Kimeru data, *kunukunu* which means “restlessness” and *taratara* which means “move here and there” does not bear any morpheme marker on the root as in the Lukisa data *likhalikhali* for jealousy which has the singular form derivational morpheme *li* as a singular noun marker bound the first input that serves as the first input daughter which also brings out total reduplication of the inputs, unlike what Kanana (2016) concludes that there is no reduplication present in pseudo-reduplication as much as the inputs were not semantically and syntactically independent, Lukisa exhibits phonological doubling in the case of the pseudo-reduplication in the verb *li-khalikhali* as the daughter inputs *khali* and the reduplicant input *khali* which give rise to the mother node *li-khalikhali* which when the daughter input and the reduplicant input are separately analyzed, they do not bear any semantic independence.



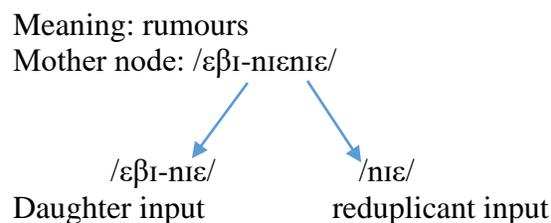
Ing'ining'ini is a Lukisa noun that refers the singular form of the stars that appear in the sky. This resultant reduplicative construction herein the mother node occurs after total reduplication as a morphological process had taken place. The first daughter input *ng'ini* is reduplicated through total doubling *ng'ini* which is the input reduplicant. The derivational prefix *i* before the first daughter input is a singular morpheme marker used with nouns. In this data however, the two input daughters do not exhibit independent semantic content in Lukisa. Their meanings are only deciphered out of the resultant reduplicative construction, the mother node, but not from their analysis as independent daughter inputs. MDT (2005) theses on phonological doubling postulates in phonological copying, inputs do not bear the same semantic features but have phonological features. This implies that there is no formal similarity of semantic and syntactic features that link each of the inputs in the reduplicative, the mother node.

The case of pseudo-reduplication in *ing'ining'ini* depicted phonological doubling as postulated by MDT which violates the self compounding tenet of the Morphological Doubling Theory which postulates that each half of the reduplicative construction is considered an independent input in the morphological construction in the reduplication analysis because the doubled element is a syllable input and it is purely for phonological purpose. Inkelas and Zoll (2005) posit that inputs in phonological copying do not bear the same semantically and syntactically independent input features but have phonological features, implying that there are no similarity features that link each of the reduplicative constructions. As much as there is total reduplication, there was no semantic sameness in both the daughter input *ng'ini* and the reduplicant input *ng'ini*. The meaning only arises in the reduplicative construction, herein the mother node which arises from the phonologically defined daughter input and the reduplicant input. This is because it seems that there are two words which are doubled to make up one word that is reduplicated. However, the

result is that if we divided the two daughter inputs so that they appeared as the first daughter input and the reduplicant input respectively, then we would not have any semantically and syntactically independent inputs because the syllables that double to form the mother node do not qualify as independent inputs in the noun *ing'ining'ini*. There is total reduplication of the syllable inputs in its pseudo- reduplication in which the doubling of the syllable inputs brings out the reduplicative which is the mother node in this phonological copying.

The Lukisa abstract plural noun *ebinienie* which connotes “gossip or baseless rumours.” This is a case of pseudo-reduplication which consists of a totally reduplicated syllable input “*nie*” which has no semantic connotation attached to the first syllable daughter input “*nie*” on the right. The same first daughter input *nie* has the morpheme marker “*ebi*” which is a plural derivational prefix on the left of the first daughter input syllable to form the reduplicative *ebinienie* as in the expressions;

47. Lukisa: Eshiasa shirimwo **ebi -nienie**
 AUG politics has PLR rumours.
 Politics is full of gossip/ rummours.
 Presented as: word class: noun



In the data above, there exists total reduplication. However, as much as there is the reduplicated form *ebinienie*, which is the mother node, the daughter input syllable *nie* with its corresponding plural noun morpheme marker *ebi* and the reduplicant input syllable *nie* do not independently exhibit any semantic connection with the resultant reduplicative construction, herein the mother

node, *ebinienie*. The MDT (2005) thesis on phonological inputs in phonological copying postulates that the inputs do not bear the same semantic features but have phonological features that link each of the daughter inputs in the mother node. The input daughters cannot be analyzed independently in a semantic perspective hence purely serving a phonological purpose. The meaning of the mother node, which in this data is the resultant reduplicative *ebinienie* is a product of the two daughter inputs *nie* and *nie*. However, the semantic connotation of the mother node *ebi-biebie* which means “baseless rumours or gossip” has no connection with the input daughter syllable *nie* and the reduplicant daughter syllable *nie* when separately analyzed. The first daughter input syllable *nie* has a plural derivational morpheme marker *ebi* attached to it. More so, the daughter inputs in the total reduplication depicted in the mother node *ebinienie* have no semantic and syntactic similarity when analyzed separately.

Novotna (2000) observes that there are a number of words which consist of reduplicated syllables, however, there is no reduplication present in those cases as the reduplicated lexical items in them present a single unit and neither the expressions containing half of the elements nor the underlying form exist as in *fudifudi* which means down wards, *bisibisi* which means screw driver. Unlike Novotna (ibid) whose study concluded that there was no reduplication in the Swahili data, the Lukisa data of *ing'ining'ini* for “the star in the sky” and *ebinienie* for “baseless rumors or gossip” are ideally reduplicative denoting the mother node lacking the same semantic features but have phonological features of total reduplication involving phonological copying as per the MDT theses on the inputs of phonological copying.

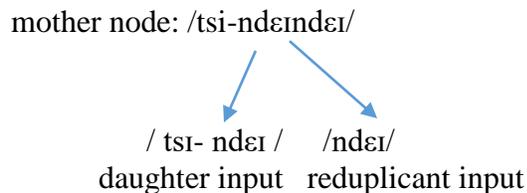
As much as the respective syllable inputs *nie* in the first daughter input and the reduplicant input *nie* in the Lukisa noun *ebinienie* are not semantically and syntactically independent, they are phonologically reduplicated through copying as postulated by MDT (2005) which posits that

inputs in phonological copying do not bear the same semantic features but have phonological features such as the syllable inputs *nie* and *nie* which do not have any formal similarity features that link each of the reduplicative constructions. This is unlike the views held by Novotna that there was no reduplication present in the pseudo reduplicated words as per the morphosemantics tenet postulated in MDT whose arguments were based on the morpho semantic of reduplication and not phonological copying as per the thesis of phonological doubling.

The Lukisa noun *tsindeindei* is a case in point of data that signals a name of a thing that undergoes pseudo reduplication. This is exemplified in the following data:

48. Lukisa: Ochango a- li – nende **tsindeindei**.
 Ochango SgS 3has tonsils.
 Ochango has tonsils.

The pseudo-reduplication is captured as:
 Word class: noun
 meaning: tonsils



The Lukisa noun *tsindeindei* which means tonsils in arises out of total reduplication of the respective syllables. The two inputs, the daughter first syllable input *ndei* on which the plural noun morpheme derivational marker *tsi* which is used to show plural for, of a given noun is attached and the suffixialreduplicant *ndei* leads to the formation of the noun *tsindeindei*. However, each of the syllable inputs cannot be considered as being semantically and syntactically independent inputs hence can only be analyzed phonologically. This is because, in the morphosemantics of reduplication, each of the inputs is required to have the same semantic features, a component which lacks in the daughter input syllables making the meaning derived in the pseudo-reduplication in *tsindeindei* fail to be associated with the respective daughter inputs

syllables. In this data, the meaning of tonsils depicted in the mother node, *tsindeindei* derived through total reduplication needed is associated with the syllable inputs. This conforms to the MDT (2005) thesis on morphological doubling in which inputs in phonological copying do not bear the same semantic features but constitute phonological features. In this data, the daughter input syllables which serve a phonological purpose necessitated by phonological necessity.

In the noun *tsindeindei*, the input syllable *ndei* is not a morpho-semantically independent input and does not also bear any syntactic connotation. The same lack of semantic and syntactic reference applies to the input reduplicant *ndei* which in total reduplication was applied to the input syllable. In the reduplication *tsindeindei* as a mother node, there is semantic independence as its meaning was deciphered in Lukisa to mean “tonsils.” However, had a meaning that does not bear any meaningful connection with any of the respective underlying input daughter syllables that form the reduplicative as they do not exist in isolation in Lukisa hence violating the MDT tenet on the thesis of morphological targets which views reduplication as a morphological construction containing the same number of daughters, identical in their semantic and syntactic features. However, the pseudo-reduplication in *ebinienie* is brought about by total reduplication of the underlying inputs, the inputs being syllables which fulfil the MDT (2005) requirements on phonological copying in reduplication in which copying is limited to cases of phonological necessity with no semantic change involved. The inputs in phonological copying do not bear the same semantic features as it is evident in the syllables *ndei* and *ndei*, implying that there is no formal semantic similarity that links each of the syllable inputs in the reduplicative. In the data in *tsindeindei*, phonological elements of syllables are doubled.

The current study on Lukisa is unlike the study on reduplication of nouns in Kinubi. Miller (2003) explores how pseudo- reduplicated nouns are used to express plurality or variety. This is depicted in the data in:

- a) *Sokol' de 'gi 'gakilafelfel*
Thing DEF PROG come every night night
The thing comes every night.
- b) *Bes tabutabu*
EMPH problem problem
Just problems

The study of Ki-Nubi pseudo reduplication concludes that there exists total reduplication. However, the study did not explore the formation process of the nouns in the pseudo reduplication. The study only centered on the functions of pseudo reduplicated forms. The current study on Lukisa explores how nouns are formed through pseudo reduplication, how the respective daughter inputs double to bring out a mother node with formal syntactic and semantic connotations.

4.4.2 Nouns used to refer to plants

This study also shows how Lukisa nouns that name plants are also formed through pseudoreduplication. Names of certain plants in Lukisa are formed by doubling two inputs that are not semantically and syntactically independent. The FGDs with Lukisa dialect discussants brought out the following sampled responses that exemplified names of plants that undergo pseudo reduplication in Lukisa:

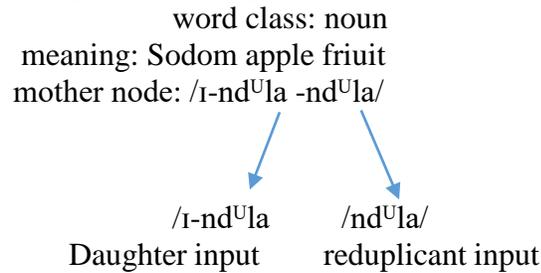
Interviewer: *Kalikhoho ameera keebindu biosibiosi birikhwo nende okhukalushira amakhuwa kandi muko, nebutswa olunyumalwene ebisina biako shibinyala okhwisinjirira neshifune taawe?* (Do we have any names of any other things that signal pseudo reduplication in which the meaning of the word is only semantically independent in the mother node, that when the daughter inputs are separated they become meaningless?)

Discussant 14: *Nometakhwo ameera shingana linyolonyolo, elimanyia emimers emibi chio mumikinda nende indulandula, liri litunda liomubulimo. Yako kalimwo okhwikalukhasia nebutswa ebisina niako nibikabukhasibwa shibinyala okhwisinjirira ebiene taawe.*

The noun *indulandula* in Lukisa refers to the “sodom apple fruit.” The first daughter input *ndula* on which a singular noun derivational morpheme marker /i/ is attached and having the same reduplicant input *ndula* totally reduplicated resulting to the noun *indulandula* as in the data:

49. Lukisa: **I-ndulandula** shilibungwa tawe.
 SgS Sodom apple AUG edible not
 Sodom apple is not edible

In which the reduplication is captured as:



The first daughter syllable input *ndula* and the reduplicant syllable input *ndula* do not exist in isolation in Lukisa. The two inputs are equally not morpho-semantically and syntactically independent. They only make meaning when in their reduplicated form of the mother node, *indulandula*. The lexical item *indulandula* presents a single lexical item in which there is no meaningful connection between the mother node with either of the underlying input elements, thus the daughter and reduplicant inputs respectively. The noun *indulandula* occurs as a reduplicated form amenable to the phonological copying tenet on the thesis of phonological inputs as it is a combination of doubled syllables. As much as the reduplicant arises following the reduplication process, there is no semantic correlation between the syllabic inputs of *ndula* and *ndula* which negate the morpho-semantics of morphological doubling as per MDT whereby the scheme of construction is that two daughter components, each with their individual syntax and semantics contribute to the mother node, in which case reduplication results when morphology calls twice for constituents of no semantic independence in either of the inputs in the pseudo

reduplication. However, there is phonological doubling in the reduplication as the total copying of the reduplicant “ndula” is necessitated by phonological necessity. However, there is phonological in the reduplication as the total copying of the reduplicant syllable “ndula” is necessitated by phonological necessity.

Inkelas & Zoll (2005) tenet on constituents in phonological copying as an approach to phonological doubling emphasizes on the role of phonological copying in reduplication in which phonological duplication is limited to cases of phonological necessity and no meaning change is involved. The doubling involves syllables as single phonological segments and the strings reduplicated are phonologically identical. As much as the pseudo-reduplication called for two daughter input constituents, the daughter inputs in the data in *indulandula*, which are the respective syllable inputs of *ndula* and *ndula* lack semantic independence on their own, they only become meaningful in the mother node after the pseudo-reduplication in *indulandula*. When separated, the inputs hold no semantic independence. Ideally, there is total reduplication in the data depicted in *indulandula* of pseudo reduplication in Lukisa where there is the phonological doubling of the syllables as the underlying inputs of the reduplicative as per the MDT (2005) tenet on the thesis of inputs in phonological copying which emphasizes the fact that in phonological copying, the daughter inputs do not bear the same semantic features but have phonological features. This implies that there are usually formal semantic similarity features. The first input daughter and the reduplicant input cannot stand in isolation semantically hence serving a purely phonological purpose necessitated by phonological necessity.

However, this is unlike what Kanana (2016) posits that there was totally no reduplication in the Kimeru reduplication. To Kanana, there is only the formation of the reduplicative *karakara* which refers to the “palate as part of the mouth in the oral cavity” because of the respective inputs “kara”

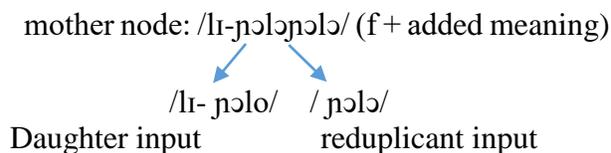
as the first daughter input and the reduplicant input “kara” although the two daughter inputs lack semantic and syntactic independence, they form the reduplicative “karakara” although Kanana concludes that there was no reduplication present, implying that to Kanana (2016) pseudo reduplication does not constitute any form of reduplication as much there are inputs at phonological level. His study views reduplication as one that only satisfies the MDT tenet of the thesis of morphological inputs which must be semantically and syntactically independent.

Concrete nouns are names of things that can be seen and touched (Booij, 2005). *Linyolonyolo* is a Lukisa noun that refers to a creeping plant that is considered a weed. Through total reduplication, the first input syllable “nyolo” on which the derivational prefix “li” which functions both as a singular and plural noun morpheme marker was attached has its syllabic equivalent *nyolo* doubled to produce the reduplicative noun, in this case the mother node, *linyolonyolo* as used in the expression;

Lukisa: **Li-nyolonyolo** liononinjia emi-kunda.
 Sg/Plr-S creeping plant AUG destroy plr- farm
 Creeping plants destroy farms.

In which we depicted the pseudo-reduplication as:

word class: noun
 meaning: creeping plant



As much as the reduplicative construction *linyolonyolo* has a semantic connotation, the first daughter syllable input: *nyolo* and the reduplicant syllable input *nyolo* do not have any morpho-semantic connection in Lukisa. On analysis, the noun *linyolonyolo* is a product of total reduplication. This is because there are two syllable inputs which double into the reduplicative construction, the mother node. However, the first daughter syllable input *nyolo* on which the singular and plural derivational morpheme marker “*li* “is attached and the reduplicant input syllable *nyolo* do not exist in isolation in Lukisa and consequently do not bear any semantic independence. The respective syllable daughter inputs equally lack the syntactic independence that defines morphological doubling as per MDT. However, the MDT (2005) thesis on phonological copying posits that respective inputs do not bear the same semantic features but have phonological features. This implies that there is usually no semantic and syntactic identity that links each of the daughter inputs forming the mother node. In the phonological copying depicted here, the syllables do not have a meaningful connection with the element that forms the reduplicative.

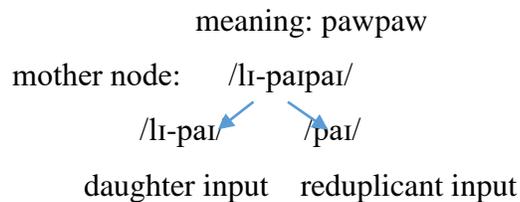
Furthermore, MDT (2005) sees the role of phonological copying and its scope to be limited to narrow contexts, thus, phonological constituent copying is restricted to cases motivated by phonological necessity as the copying targets, the closest eligible element and it copies only one segment as in the syllable reduplicant *nyolo*. The total reduplication in *nyolonyolo* therefore conforms to the inputs in phonological copying tenet of MDT as the both the inputs were phonologically equivalent syllables. If the two inputs are analyzed separately, what seems to be the first daughter input and the reduplicant input then would not have any semantic and syntactic independence.

However, Novotna (2000) concluded that in Swahili pseudo reduplication, there was no reduplication present even though the respective input morphemes led to the formation of a new

lexical item. Considering the Kimeru noun *munyugunyugu* which means “black jack”, there is the doubling of the reduplicant syllable *nyugu* but Kanana (2016) does not recognize there to be any reduplication present. The denial of the existence of reduplication is on the basis of the fact that the inputs did not meet the MDT on morphological doubling the threshold of being syntactically and semantically independent. However, the Lukisa reduplicative, herein the mother node, *linyolonyolo* is a case of total reduplication of the respective input syllables basing on the MDT tenet of phonological copying in which the inputs did not need to be semantically independent. In Lukisa, the noun *lipaipai* denotes the “pawpaw fruit”. Battler (2005) observes that *Lipaipai* is generally used as a loan word as it is aptly assimilated from one language, thus the donor language into another. Loan words may be adapted to phonology, phonotactics, orthography and morphology of the target language. To form the reduplicative *lipaipai*, there is total reduplication where the first daughter input syllable *pai* which has the *lisingular* noun derivative morpheme marker, the reduplicantinput *pai* doubled as in the data depicted in:

Lukisa: Nda -chamaokhu-lia **li -paipai**.
 sgS love to eat Sg-pawpaw
 I love eating paw paw

This was captured as: word class: noun



The respective syllable inputs, the first input *pai* on which the singular noun derivational morpheme marker *li* is attached and the reduplicant input syllable *pai* do not in isolation bear any morpho-semantic and syntactic independence. They are instead dependent units that only get to bear meaning when total reduplication is applied resulting in the reduplicative, the mother node

lipaipai. The respective syllable inputs in the pseudo reduplication in data in *lipaipai* conforms to the MDT (2005) tenet on phonological copying in which a phonological inputs involved in the reduplication do not qualify as words to be analyzed in isolation hence not morpho-semantically independent. The doubling resulting into the noun *lipaipai* consists syllable daughter inputs, inputs which do not exhibit any semantic or syntactic connection when separately analyzed. This conforms to the MDT tenet on phonological doubling that inputs in phonological copying do not bear the same semantic features but have phonological features, implying that there is usually no semantic similarity in the daughter syllable inputs that form the mother node.

Owen (1997) posits that Juba is a reflection of a large number of pseudo reduplicated words. The study shows that those which are of Arabic origin denote names of plants such as: *suk- suk* which means “pearl” in which the inputs *suk* and *suk* are doubled. The study was not based on pseudo reduplication, reduplication and repetition in pidgins and creoles. The study was not based on any theoretical framework, unlike the current study which is based on Inkelas & Zoll (2005) MDT. The study on Arabic pseudo reduplication was equally meant to present reduplication as an identifying feature which distinguishes Creoles and expanded pidgins from jargons and stable pidgins, which contrasts with the current study on Lukisa which seeks to validate MDT as a theoretical framework that can analyze Lukisa data.

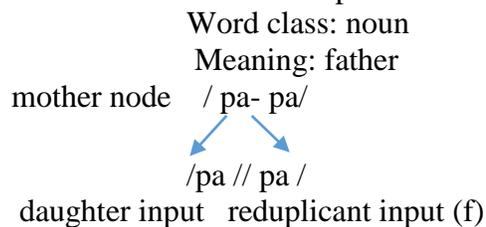
4.4.3 Names used in reference to Kinship terms.

In Lukisa, the Luluhya standard forms in the nouns “*papa*” and “*mama*” which respectively refer to male and female parents were formed through pseudo-reduplication. The male gender noun “*papa*” exhibited total reduplication. Bator (2005) posits that such nouns as *papa* and *mama* are cognates that are similar and cut across two or more languages as they share an etymological origin that involves translation of words. Further to this, Uspensky (1954) observes that although perceived to be generic words as a special case of false cognates, they are usually considered to

be resulting from the early process of early language acquisition. They are the first words that humans spoke. They were early unusual murmurs that babies produced as they breast fed hence thought to be a coincidence resulting from early language acquisition hence universal generic words

Lukisa: **Papa** wa- nje no–mulayi.
 Father sg1-My is good
 My father is good

This reduplication in data above was presented as:

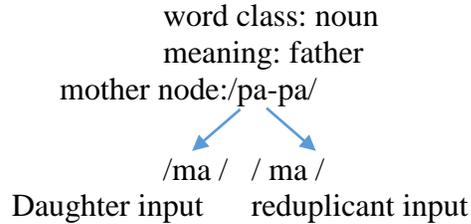


The daughter input *pa* is doubled with the reduplicant syllable *pa* to give rise to the noun *papa* which means “father” However, it was noted that in this case of reduplication, both inputs are not semantically independent. The meaning of the daughter syllable input *pa* and the reduplicant syllable input *pa* in this reduplication is only deciphered in the resultant reduplicative, the mother node, after the total reduplication and not out of the independent daughter input syllables. The first daughter input syllable *pa* and its reduplicant input syllable *pa* do not exhibit any semantic or formal connection with the resultant reduplicative construction *papa*.

In the same breadth, the Lukisa noun *mama* which means “mother” is also a result of total reduplication where the input syllable *ma* is doubled exactly as it is the reduplicant input to form the reduplicative *mama* as in the expression;

53. Lukisa: **Mama** wanje yanjama.
 sgS mother 1my me loves.
 My mother loves me.

In this case, the pseudo-reduplication was captured as:



In the reduplication of the noun *mama*, the first syllable input; *ma* as the daughter input and the reduplicant syllable input *ma* both lack semantic content and their semantic connotation is only present in the resultant reduplicative, the mother node “mama.” This pseudo-reduplication presents a situation whereby if the two forming a reduplicative are separated and analyzed in isolation, the respective daughter input syllables in the mother nodes of *papa* and *mama* as nouns in Lukisa lack semantic independence. As a result, the respective input syllables of *ma* and *pa* respectively negate the MDT tenet on morphological doubling in which the input daughters must have morpho-semantic independence. However, the syllable inputs and the reduplicant forms in both nouns *papa* and *mama* conform to the phonological copying tenet of MDT by Inkellas & Zoll (2005) in which the inputs do not bear the same semantic and syntactic characteristics, thus, there are no formal similarity features that link each of the reduplicative construction. Ideally, on their own, the syllable inputs *pa* and *ma* do not carry any meaning that could be related to the mother node nouns of *papa* and *mama*.

The evidence from the data exemplifies that pseudo-reduplication is an aspect of doubling that conforms to the tenets propounded by MDT (2005) in which the daughter inputs in phonological copying do not bear the same semantic features that link each of the inputs in the mother node.

The daughter inputs in the pseudo reduplication only present a single morpheme and therefore neither the expressions containing half of the elements, the reduplicative, nor the underlying form,

thus the root words, exist in isolation. The data in *papa* and *mama* depicted cases of total reduplication in Lukisa showing phonological copying of syllables.

This contrasts what Kanana (2016) posits about Kimeru language. That in the pseudo reduplication of the nouns associated with people, there is no reduplication present at all in the noun “baba” for father. However, what needed to be observed as it was in Lukisa was that there was phonological copying of the respective daughter input syllables conforming to the phonological tenet of MDT that emphasizes on doubling of phonological inputs such as the syllables without semantic change. This is because the respective daughter input syllables in the phonological copying of *mama* and *papa* depict that they do not share any semantic features. As much as the syllables are involved in the pseudo reduplication, there is phonological copying.

4.4.4 Verbs Denoting Processes

Loiban (1983) posits that a verb is a word that expresses action or that helps to make a statement. Verbs are the life of a language. Without verbs, sentences do not really have meaning. There are two main kinds of verbs: action verbs which tell us what someone or something does and linking verbs which tell us that someone or something is, not what someone or something does. This study analyzed pseudo-reduplication as a linguistic phenomenon manifested itself in the verbal group in Lukisa. This was exemplified using FGDs in the sampled responses from the Lukisa discussants coupled with data from native speaker intuition of the principal researcher and data from secondary sources.

Interviewer: *Khwakhabakhwo nende amakuwa mulushisa akamanyia injira yeshikhole shikholesheramwo nohomba nekata okhukalushira nikhulimwoikho khulolekhana okhuba neshisina mwikhuwa likalushirwa ilio ne butswa nikhukabula eshisisina shia amakuwa akakalushirwa yako, nikhunyoola kahuma eshifune taawe?*

(could there be words that indicate actions or processes that undergo pseudo reduplication. And even with that pseudo reduplication, their daughter inputs cannot be analyzed in isolation?)

Discussant 15: *Noba nosinzanga ingikho niyi “talatala”, okhotalatala khulikhomwo okhwikalushira nebutswa nokabukhasia likhuwa liene elio mubisina bialio, nonyola mbu shibinyala okhwisinjirira ebieene taawe. “Okhotalatala” nende “okhupalapala” karumikha munjira ndala. “Okhuhalahala” khwosi khumanyia okhusasara hekosi womundu.*

(when you slaughter chicken it reacts through *talatala*, which is also applicable to *palapala*.

Okhuhalahala which depicts the reaction in the throat which shows irritation. In all these cases, there is pseudo reduplication as the daughter inputs are not semantically independent but can only be independent in the reduplicative form, the mother node.

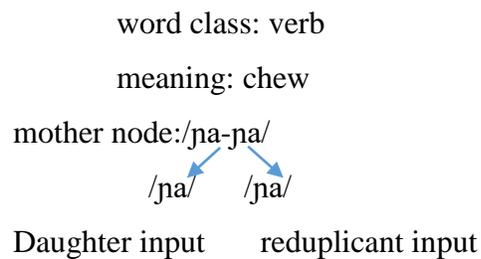
54. The verb “nyanya” in Lukisa refers to the action of chewing as in the data;

Lukisa: **Nyanya** eshi- okhulia khomire.

Chew Sg food then Swallow-Sg

Chew the food then swallow.

This data on pseudo-reduplication was captured in:



The lexical item *nyanya* is a Lukisa verb that is a result of total reduplication where the syllable daughter input *nya* fully reduplicated. This is because there were two daughter syllable inputs which are doubled to make up one word, the mother node. However, it is noted that when we separated into what seems to be the first daughter syllable input and the reduplicant input, then we would not have any reduplicated form because the first syllable input and the reduplicant input do not qualify as semantic and syntactic independent daughter inputs of the verb *nyanya*. In this case, it is impossible to establish a certain pattern which clarifies the same nature of the lexical items or units concerned. There is ideally no semantic connection with other words, words that

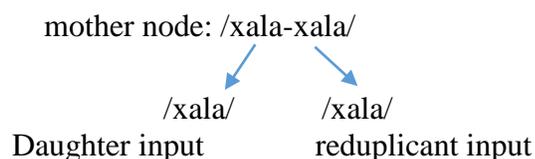
may be considered as original, if any, hence no semantic sameness and independence between the inputs.

Both syntactically and semantically, the first daughter syllable input *nya* and the reduplicant syllable *nya* are not semantically independent. As a result, the meaning of the reduplicative verb *nyanya* differs from the sum of the parts of the syllables that were its inputs which did not bear any semantic content hence depicting phonological copying as propounded in MDT (2005) which posits that in phonological copying, the respective inputs do not bear the same semantic features but they have phonological features, implying that there is no formal similarity features that link each of the reduplicative construction since the inputs in *nya* and *nya* do not stand in isolation semantically. This is contrary to what Novotna (2000) observed that in Swahili, there was no reduplication in the nouns *bubu* for a dump person and *kumbikumbi* for kind of ant. The fact is that as much as there was no semantic independence in the inputs as in the Lukisa verb *nyanya*, there was total reduplication of the input daughter syllables present to give rise to the mother node as per the phonological copying tenet of MDT which propounds that the copying is necessitated by phonological necessity of the closest sound.

In Lukisa, the verb *khalakhala* denotes the process of experiencing an irritating feeling in the throat. In the designate data;

55. Lukisa: He –kosiya-**khalakhala**.
 Throat 1my AUG- irritating
 The throat me irritating.

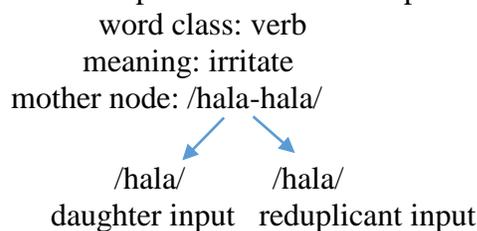
This verbal group pseudo-reduplication was represented in:
 word class: verb
 meaning: irritate



The verb *khalakhala* is formed through total compounding of the first daughter input syllable *khala* with the reduplicant syllable *khala*. In this data, neither the expression containing half of the elements nor its respective underlying syllables in the formation of the mother node *khalakhala* semantically exist in isolation. The same pseudo-reduplication is existent in the synonymous verb **halahala** in which total reduplication of the syllable daughter input *hala* occurred with the doubling of the reduplicant syllable input *hala* to form the reduplicative verb, the mother node *halahala* which in Lukisa is used to express a “throat irritation” just as its synonymous form *khalakhala* as in the expression;

56. Lukisa: Hekosi amu-**halahala**.
 AUG-throat sg3 him irritate.
 The throat is irritating him.

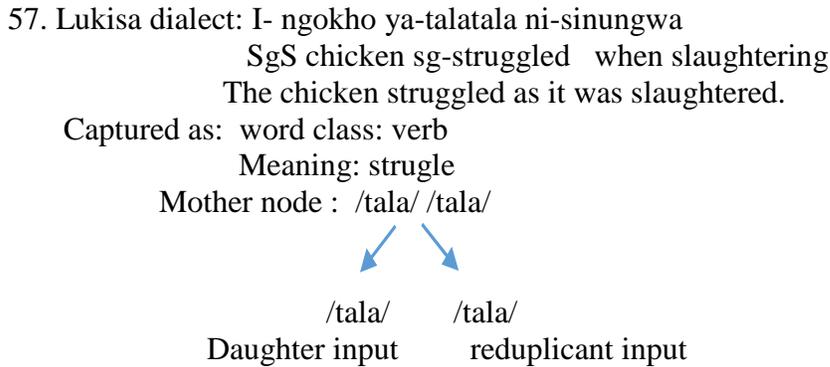
The verbal class pseudo-reduplication here was captured in the data;



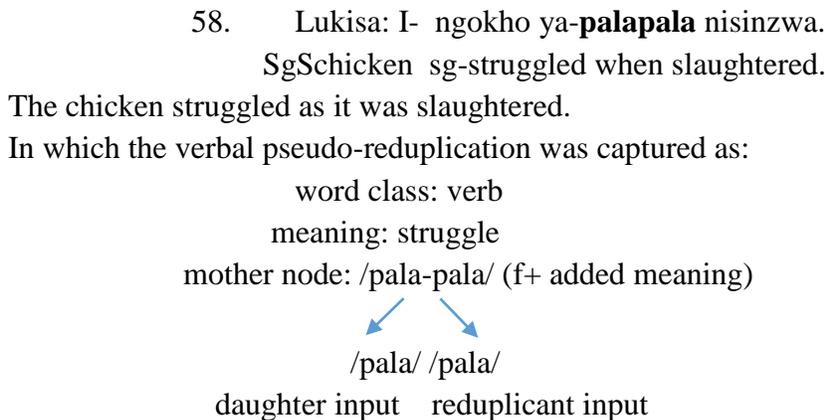
In the doubling of the first daughter input syllable *hala* that gives rise to the reduplicative, the mother node *halahala* depicts a case of pseudo-reduplication in the Lukisa verb which is a manifestation of the tenets of MDT (2005) on phonological copying. This is because, as much as there existed two daughter syllable inputs which were compounded to give the verb mother node, *halahala* that is the mother node. It is noted that if the two daughter syllable inputs were separated and analyzed in isolation, so that we had what seemed as the first daughter syllable input and the reduplicant syllable input, then the input daughters cannot semantically and syntactically qualify to be analyzed from a morpho semantic perspective of the MDT. However, the doubling of the syllabic inputs brought to the fore the fact that the syllables *hala* and *khala* are respectively

doubled as phonological inputs without bringing in semantic change because the syllable that is doubled is purely for phonological purposes.

Talatala and *palapala* are synonymous verbs in Lukisa that depict the defensive behaviour of chicken in fighting to survive when being slaughtered. These were used in the data;



Or in the data:



The synonymous reduplicative verbs *palapala* and *talatala* in Lukisa depict instances of total reduplication whereby the daughter input syllables in the two cases are doubled to bring forth the respective reduplicative constructions, the mother nodes. In the two data forms in *palapala* and *talatala*, it is however noted that if the synonymous reduplicative verbs had their respective daughter inputs separated and analyzed independently, there does not exist any syntactic and

semantic independence in the daughter inputs *pala* and *tala* with their respective reduplicant input syllables *pala* and *tala*. The daughter inputs in the Lukisa synonymous verbs *palapala* and *talatala* conform to the MDT by Inkelas and Zoll (2005) tenet on the inputs in phonological copying which postulates that phonological copying is limited to cases of phonological necessity where there is no meaning change involved. The duplication inputs in phonological copying do not bear the same semantic features but have phonological features that link each of the inputs in the mother node.

The duplication is phonological, involving the mora, syllable, foot or the strings that are reduplicated are identical phonologically as the daughter syllable inputs in *pala* and *tala*. As much as there was lack of semantic independence in the syllable inputs *pala* and *tala* and their respective reduplicants *pala* and *tala*, they equally lacked syntactic reference of word category in Lukisa dialect. Independently, the syllable inputs do not carry any meaning that could be related to the synonymous Lukisa verbs *palapala* and *talatala*. However, when used together, they became semantically independent as depicted in the synonymous verbs formed in the mother nodes arising from the doubling of the daughter inputs.

The pseudo-reduplication in the formation of the mother nodes in these verbs conforms to the MDT tenet on the thesis of phonological copying which postulates that the inputs do not bear semantic similarity features that can lead to semantic change but have phonological features that serve a phonological necessity. The daughter inputs can't be semantically and syntactically analyzed in isolation. In the analysis of the pseudo reduplicated verbs depicts that total duplication in phonological copying of the respective syllable inputs as per MDT was evident. The respective equivalent syllables were doubled as per the MDT tenet on phonological copying.

This study on the pseudo reduplication of process words in Lukisa is unlike the study by Miller (2003) which observed that the interpretation of reduplicated verbs in Juba- Arabic involves semantic change which affects the lexical meaning as in the data in:

gidu – pierce gidugidu - perforate
kasaru – break kasarukasaru- smash
kore-cry korekore – quarrel

In Lukisa dialect, the pseudo reduplication is a result of doubling dependent daughter input syllables which only have their meaning captured in the reduplicative mother node. In Juba Arabic, as depicted by Miller (2003) the reduplication leads to change in the meaning of a lexical item from the initial meaning of the daughter input, *gidu* means “to pierce”, the pseudo reduplicated form *gidugidu* means to “perforate”, *kasaru* is to “break”, *kasarukasaru* is to “smash”, *kore* is to “cry”, and *korekore* is to “quarrel”, a gap worth addressing in this study.

The Lukisa verb *kalakala* which denotes the directionless move while the body is on the ground in instances that include emotional weeping is formed through total reduplication of the first input syllable *kala*. However, neither of the inputs in the verb *kalakala* exist independently semantically. The two daughter input syllables are equally not morpho-semantically and syntactically independent. They only make meaning in the pseudo-reduplicated form of *kalakala* which is the mother node, arising from the two daughter input syllables. The lexeme *kalakala* presents a single lexical item and therefore neither the expression containing half of the elements of the syllables *kala* and *kala* exist independently in Lukisa. In the data presented in:

59. Lukisa: A –lirirena - **kalakala** khu - bulimo.

SgS cried sg2 AUG- directionless PREP – grass.

He wept as he directionless rolled on the grass.

word class: verb

meaning: directionless movement on the grass

mother node: /kala-kala/



Daughter input reduplicant input

The verb *kalakala* occurs as a pseudo reduplicated form amenable to phonological copying of the phonological tenet of the morphological doubling theory. As much as there is there is the reduplication of the respective inputs resulting in the mother node, *kalakala*, the respective syllabic daughter inputs do not each have an individual syntax and semantics to contribute to the mother node. The reduplication here does not call twice for the constituents of the same morphological, semantic and syntactic description. Instead, the daughter syllable inputs in *kalakala* depict phonological copying which does not bear the same semantic features but have phonological features that link each of the inputs in the mother node. The reduplicant input *kala* is an exact copy of the first input syllable *kala* hence exemplifying the MDT (2005) tenet on the inputs in phonological copying that what is copied in phonological doubling is a proximal element. In this data, the phonological doubling targets syllables that do not carry any meaning that could be related to the verb *kalakala* when reduplicated. Actually, on their own, they do not carry any meaning that could be related to the reduplicative construction.

This is unlike what Novotna (2000) observed in the Swahili data such as *chacha* for “ferment”, *fudifudi* which means “face down wards” and *bisibisi* which means “screw driver”, that there was

no reduplication present in these lexical items representing single morphemes yet the reduplicative forms comprised equivalent syllable inputs. Novotna's (2000) study failed to capture and recognize the place of phonological copying as a tenet in phonological duplication as brought out in MDT in which what is copied in these cases are syllables purely for phonological necessity.

4.4.5 Adjectives

As Githenji (1981) observes, an adjective is a part of speech that describes, identifies or qualifies a noun or a pronoun. Therefore, the main function of an adjective is basically to modify a noun or a pronoun. Adjectives are therefore classified according to their modification function. In this study we examined the pseudo-reduplication in Lukisa adjectives. Through FGDs, there was the exemplification of pseudo reduplication in the sampled responses from Lukisa discussants coupled with triangulated data from the native speaker intuition of the principal researcher and other data extracted from secondary sources.

Interviewer: *Khunyala okhubakhwo nende amakhuwa mulushisa akalimwo okhukalushirwa muko keene nekatambu nikakalushirwa kario, mulunyuma wako nikaba nikakabukhasibwa, ebisina biako shibinyala okhwisinjirira ebieene tawe?*

(Could there be words in Lukisa which have reduplication within themselves but when the daughter inputs are separated and independently analyzed, they remain semantically and syntactically meaningless. The meaning of the lexical item can only be interpreted in the mother node, the reduplicative?)

Discussant 16: *Onyala okhuboolambu omundu uyu ang'inang'ina , yaani nomusafi. Likhuwa ili lirimwo okhukalushirwa lakini nofunaka ebisina bialio, shibinyala okhwisinjirira taawe. Eshifune shielikhuwa ilio linyolekhana mubukalushire mwalio bwonyene.*

(You say: This person is shining to show a clean, well-groomed person using the Lukisa adjective /ŋinaŋina/. however, when the input daughter syllables are separated, they remain meaningless semantically thus, they do not carry any semantic change.

Discussant 17: *Noboola mbu, omundu uyu ni “wai wai” omanyia mbu shanyala okhsubirwa taawe. Nohomba obole mbu “eshimilamila” shinga okhumanyia mbu ichumbi mushiokhulia noho isukari muchai. Kata likhuwa mbu “ebing’alung’alu” ohumanyia mbu eshiokhulia shirera olusaha. Amakhuwa yako kosi kalimwo okhukalushirwa nebutswa nokafunaka mubikha biako, nonyoola mbu shibinyala okhwisinjirira ebieene taawe.*

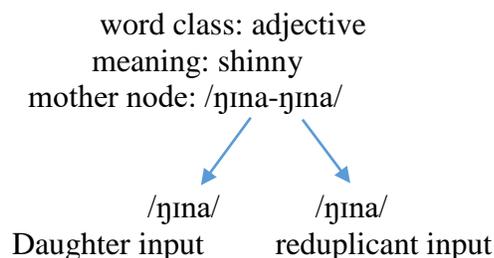
(If you say this person is *waiwai* you mean that the person is unreliable or untrustworthy. The Lukisa word *milamila* means that some taste (of something like sugar or salt if food can be noted) and *ng’alung’alu* is used to describe food meaning that the food is delicious or tasty. The words only remain meaningful in the mother node forms which is the reduplicative. However, when the input daughters are separated, they lack semantic and syntactic content which renders them meaningless.

The reduplicative adjective *ng’ingang’ina* in Lukisa which means “shiny” is formed through total reduplication of the input daughter syllable *ng’ina* which has its reduplicant syllable *ng’ina* doubled to form the mother node. This is a case of pseudo-reduplication in Lukisa adjective because the reduplicative *ng’ingang’ina* do not exhibit any semantic or formal connection with the underlying syllable input *ng’ina* and the equivalent reduplicant syllable *ng’ina*. As depicted in the

data in: 60. Lukisa: Ni-wisinga no-**ng’ingang’ina**.

If SgS 2 bathe 2you shiny.
If you bathe, you will be shiny.

The pseudo-reduplication in this Lukisa adjective was captured as:



The adjective *ng'inang'ina* means shiny. However, the first daughter input syllable *ng'ina* does not in any way represent any sort of “shining” connotation depicted in the mother node. Moreover, it any lacks semantic independence. In this case of pseudo-reduplication, the two identical daughter syllable inputs do not have any meaningful connection with the underlying daughter inputs that forms the mother node, *ng'inang'ina*. However, the doubling of the respective daughter input syllables in the data in *ng'inang'ina* conforms to Inkelas and Zoll (2005) MDT tenet on the inputs in phonological copying which propounds that each half of the reduplicative construction, tht is, each daughter can be phonologically realized by the same morpheme or by different ones, and that of the construction as a whole. Each daughter construction can be subject to the same phonological grammar. The two daughters of the reduplicative construction will only be formally identical in the output if they are spelled by identical morphemes.

The Lukisa adjective *ng'inang'ina* establishes that although there is total reduplication with the doubling of the first input daughter syllable *ng'ina* the morpho-semantic and syntactic independence of either of the respective daughter inputs is lacking. This is because, as much as there seems that there are two inputs in the total duplication in which the input syllables were doubled resulting to the mother node, *ng'inang'ina*, there lacked semantic and syntactic independence in each daughter input as they are syllables. When the respective inputs are separated so that they independently result into the daughter input and the reduplicant input, we consequently do not have any meaningful separate daughter inputs because the syllables do not qualify as independent morpho semantic inputs of the given mother node.

The Lukisa pseudo-reduplicationadjective *ng'inang'ina* conforms to the thesis of phonological doubling of MDT (2005) in which inputs in phonological copying do not bear the same semantic features but targets the closest eligible element, copies only one segment, in this case the syllable

reduplicant *ng'ina* which does not bear any semantic connotation. The respective input syllables cannot stand in isolation hence only serving a phonological purpose in phonological copying.

In Lukisa, the reduplicative adjective *waiwai* is used to describe an untrustworthy or unreliable person. Through total reduplication, the first daughter input syllable *wai* is doubled with the reduplicant syllable *wai* which then forms the reduplicative adjective *waiwai* as used in the expressions

61. Lukisa: Jumanio –mundu **waiwai**

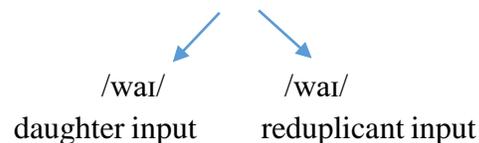
Juma is 2sg someone unreliable/ untrustworthy

Juma is someone unreliable or untrustworthy

Reduplicatively presented as: word class: adjective

Meaning: unreliable/ untrustworthy

mother node: /wai- wai/



In Lukisa, this data is an aspect of pseudo-reduplication as the doubling in *waiwai* does not have any meaningful connection with any of the underlying elements of the daughter input syllable *wai* and the reduplicant syllable *wai* that form the reduplicative adjective, the mother node, *waiwai*.

In this data, the separation of the respective daughter inputs leads to the formation of the separate first input syllable *wai* and the reduplicant syllable *wai* which are not semantically and syntactically independent inputs. However, the doubling of the daughter inputs conforms to the MDT (2005) tenet on phonological targets in which the phonology of the reduplicative syllable is not independent of the base, that since the base and the reduplicant morpheme have a shared input, not independent inputs, the reduplication involves phonological doubling of the base, in this case, the syllable *wai*. The pseudo-reduplication in the Lukisa adjective *waiwai* therefore conforms to the phonological duplication tenet of MDT in which a phonological segment is doubled to bring out phonological copying. Although there is the total reduplication in the

adjective *waiwai*, it is noted that if divided or separated so that we end up with the separate syllabic inputs to be analyzed independently, then the syllabic inputs have no formal semantic and syntactic similarities. The input syllables involved in the pseudo reduplication of the adjectives are not semantically and syntactically independent but their total doubling results into the respective mother nodes.

This is unlike what both Novotna (2000) and Kanana (2016) concluded about pseudo reduplication in Swahili and Kimeru languages respectively. To Novotna, the Swahili adjectives *bubu* for a dull person, *njorinjori* for a very tall man and the Kimeru adjective *kunukunu* which means restless and *gukengakenga* for shiny, the two studies conclude that these set of data on adjectives does not exhibit any form of morphological reduplication in their formation as much as their respective inputs were not semantically independent hence bringing out phonological. This is despite the fact that the study by Kanana (2016) applied the MDT theory in data analysis which has a tenet on the place of phonology in morphological doubling. In Lukisa, in as much as the inputs are not morpho-semantically independent, they exhibit total duplication of the syllable inputs as in the adjectives *waiwai* and *ng'inang'ina* in Lukisa bringing out the place of phonological copying in Lukisa pseudo-reduplication.

Moreover, Baker (2003) observes that Nubi, spoken in Uganda and Kenya has several pseudoreuplicated forms in its Arabic vocabulary. Its adjectival class is derived from the vocabulary as in: *du'gagdu'gag* “small”. The study observes that whether the adjective *du'gagdu'gag* can be related to a simple form of *du'gag* is subject to controversy. The same applies to the adjectives *bang bang* which means “fool” and *dogodogo* which means “thin” amongst the Acholi of Uganda. Baker's (2003) study sought to adduce evidence that reduplication represents a diagnostic feature which distinguishes creoles and expanded jargons and stable

pidgins which was a comparative study. This is unlike the present study which seeks to validate the place of phonological copying of input daughters in pseudo reduplication.

The adjective *eshimilamila* which is synonymous with *mila-mila* in Lukisa describes “some taste of salt or sugar or cooking oil” especially in cooked consumable food. In the adjective *eshimilamila*, we have the singular derivational morpheme *eshi* bound on the first daughter input syllable *mila* upon which the reduplicant syllable *mila* is doubled in the total reduplication as in the expression:

62. Lukisa: Ichumbi ikholere *eshi-milamila* mushiokhulia.

SgS – salt sg-is AUG tasty in food

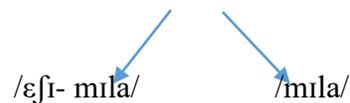
The salt is a little tasty in the food

This can reduplicatively be captured as:

Word class: adjective

Meaning: tasty

Mother node: /ɛʃi- milamila/



Daughter input

reduplicant input

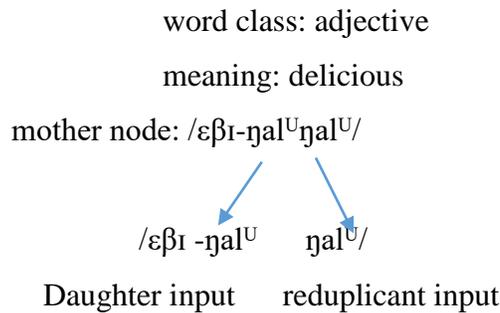
The doubling of the first daughter input syllable *mila* on which the singular derivational morpheme *eshi* is attached and the reduplicant syllable input *mila* to give rise to the reduplicative mother node *eshimilamila* depicts total reduplication of the two daughter syllable inputs. However, the respective daughter input syllables do not morpho semantically and syntactically qualify as independent inputs of the reduplicative adjective *milamila* as they cannot be meaningful

in isolation. They are simply syllables that constitute phonological constituents without any semantic connotation or meaning attached to them.

In the Lukisa adjective *ebing'alung'alu* which means delicious, there is the plural derivational class morpheme prefix “*ebi*” attached to the first daughter syllable input *ng'alu* on which we have the doubled reduplicant syllable input *ng'alu*. This is an exemplification of total reduplication in the syllables. This can be depicted as:

63. Lukisa: A - teshereebi- okhuliaebi - **ngalungalu**.
 SgS cooked Sg food AUG delicious.
 He cooked delicious food.

This reduplication can be represented as;



In the designate data in the adjectives in *eshimilamila* and *ebing'alung'alu*, the respective mother nodes do not have any meaningful connection with the respective underlying syllable inputs that form the mother nodes. However, the doubling of the respective syllables conforms to Inkelas and Zoll (2005) MDT tenet on phonological copying which propounds that inputs in phonological copying do not bear the same semantic features but exhibit phonological features. This implies that the inputs in phonological copying do not bear the similar semantic features that link each of the mother nodes. This is a replica of the daughter input syllables in *ng'alu* and *mila* as the daughter syllable inputs cannot remain in isolation semantically and syntactically hence only serving a purely phonological purpose. Moreover, phonological copying in MDT (2005) sees its scope to be limited to narrow sets of contexts depicting phonological necessity. What is copied here is proximal, targeting the closest eligible element as in the total doubling of the syllables *ng'ina* and *mila* which in these respective data that is copied.

This is unlike the study by Amwayi (2020) in which he explores reduplication as a strategy used by medics and patients to incorporate new words in *Olukisa* in the health sector in Khwisero sub county Health facilities. The study concludes that reduplication is used to show repeated actions such as *okhwiyakayaka* which means to “continuously scratch oneself” and *okhurumaruma* which means to “jump allover but connotes promiscuity”. The study by Amwayi (2020) makes an attempt to delve into the use of pseudo-reduplication in medical jargon of *Olukisa* dialect in the health sector under study in Khwisero sub county from a sociolinguistic point of view. However, Amwayi’s (2020) study does not seek to validate how the respective medical jargons that depict pseudo reduplication in the *Olukisa* medical arena are formed, either through total or partial reduplication. He only uses them to show how medics describe given ailments.

Moreover, Nahil (1975) explores the reduplication of adjectives in Arabic in expressing an intensifying meaning. This is as depicted in:

Bet degerib – gerib.

House DEM near near.

The house is very close.

The intensifying means is already expressed by the reduplicated adjective when the Arabic lexical item *geribgerib* is repeated which means “near near.” The doubling of *geribgerib* signals that the first *gerib* serves an intensifying role in the context of use when followed by another *gerib* as an input in the reduplication process. This is unlike the present study which seeks to explore the place of pseudo reduplication in *Lukisa* laying emphasis on the lack of semantic and syntactic sameness in the syllabic inputs that constitute phonological copying in *Lukisa* pseudo reduplication.

Summary

This chapter analyzed data collected through FGDs, corpus compilation and native speaker intuition and subjected to analysis. In the first section, the morpho-semantics of reduplication is explored either as class maintaining or class changing. In the second section, the phonological processes that accompany reduplication in Lukisa dialect are described. The final section on Linguistic pseudo reduplication in Lukisa explored how phonological copying occurs in elements which do not share the same semantic features, implying that there is no semantic and syntactic features that link each of the inputs in the reduplicative construction.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The aim of this study was to carry out a morpho-phonological analysis of reduplication in Lukisa. Specifically, the study sought to establish the morpho-semantics of reduplication in Lukisa, describe the manifestation of phonological processes that accompany reduplication in Lukisa and explore how pseudo-reduplication manifest in Lukisa basing on the thesis of semantic identity in reduplication and the thesis of phonological copying as propounded in MDT.

This chapter is a development of the previous chapter that focused on data analysis. The chapter summarizes the study as far as the objectives are concerned. The chapter therefore presents an overview of the study as well as the conclusion based on the findings, it goes further to include a suggestion on a gap for possible future linguistic exploration.

5.2 Summary of the Findings:

The current study was designed to establish the morpho-semantic features of reduplication in Lukisa. From the standpoint of the Morphological Doubling Theory (2005), the research showed that in Lukisa, semantics is a linguistic phenomenon associated with the morphology of reduplication. That is, whenever reduplication is carried out on a lexical item, it either results in semantic change of the lexical item or maintains the class of the lexical category without semantic change after derivation. Verbs in Lukisa in the class retaining form of reduplication were used to new words through total reduplication resulting from the semantically and syntactically equal inputs that formed the reduplicative. In other cases of their total reduplication, it was observed that there was a derivational morpheme before the first input root word to show that the action was being carried out on behalf of someone. Equally, total reduplication occurred in the plural forms of Lukisa verbs to denote continuity in the actions relayed in the respective verbs in their

plural forms. Through total reduplication, the root word was doubled on the right. The reduplication in the plural verbs depicted the grammatical aspect of the progressive aspect denoting continuity of actions in the various verbs.

Lukisa nouns also depicted class maintaining derivation through morphological reduplication where a suffix was added on the right of the root input. New lexical items of the noun class category were formed through partial reduplication in Lukisa nouns. In this case, there was derivational morphology in the reduplication.

In this study, the Lukisa adjective under the class maintaining morphological reduplication underwent total reduplication to derive other adjectives. However, this reduplication had meaning change that accompanied it although retaining the adjective word class. Worth mentioning is that as much as the suffix was doubled on the right of the input root word for the derivation to take place, there was also the presence of respective derivational morpheme markers attached on the left of the respective input root words. The respective derivational morpheme markers were used to serve augmentation roles such as showing the diminutive nature of the adjective and also the plural forms of the adjective in reduplication. They in entirety show the degree at which the Lukisa adjectives existed hence bringing out the thesis of semantic identity in reduplication as postulated by MDT.

The Lukisa adverb in the class maintaining reduplication exhibited total reduplication to bring out the morpho semantic theme of emphasis which required weight or forcefulness manner of an action or adverb of place being modified. The sampled and analyzed data on Lukisa adverbs exhibited suffixation in which the total reduplicant was doubled on the right of the input root word basing on the right alignment directionality. More so, there was the presence of derivational morpheme markers in the prefix position of the root input. The respective morpheme markers

were meant to grammatically show augmentative as plural markers and the degree of forcefulness. There was also Lukisa adverbs data that exhibited triplication of the root in the suffix reduplicant to intensify the degree or intensity of the adverb, a unique sample of data in this case.

Lukisa pronouns also retained their word class even after reduplication. They underwent both partial and total reduplication to derive new lexical items in the pronoun category. The reduplication was through right alignment directionality, thus, the reduplicant input was doubled in the suffix position, on the right of the root word. In some instances, the reduplicant and the daughter root words were identical at segmental level while in others there was semantic identity between the root word input and the reduplicant.

Aside from class maintaining morphological reduplication in Lukisa, there was also class altering or changing reduplication. In this case, there was change in meaning when the input root word and its reduplicant on one side and the resultant reduplicant construction on the other did not fall in the same word class or grammatical category. Reduplication therefore resulted in the formation of new lexical items in the formation of new lexical items in new grammatical categories, totally different from their respective inputs.

Verbs in Lukisa changed to adjectives through partial reduplication through suffixation. Upon undergoing this alteration, they moved from action words to words that qualified nouns when used in syntactic expressions. Lukisa nouns also underwent partial reduplication through suffixation to change from naming words to words that describe nouns. In both the nouns and verbs that underwent suffixation to bring out semantic change in the lexical category, the reduplication was on the right of the root word through suffixation. In the same breadth, there was the presence of the derivational morphemes in the prefix position to show the singular or plural form of the word class and also their use with objects and human beings.

The second objective set out to describe the phonological processes that accompany reduplication in Lukisa. The phonological processes of vowel substitution, vowel lengthening and the relationship between reduplication and syllable weight were explored here. The analysis of the Lukisa data basing on the MDT theses on the inputs phonological copying indicated that inputs in phonological copying in MDT do not bear the same semantic features but have phonological features that have no formal similarity features that link each of the inputs of the reduplicative construction. Various lexical categories such as adverbs, nouns and verbs manifested phonological copying processes of reduplication. There was the doubling of either a sound (consonant or vowel) or the syllable without altering the word class category of the input root word nor changing the semantic connotation of the word.

The third objective of the study was to explore how pseudo-reduplication is manifest in Lukisa. The data analysis on Lukisa pseudo reduplication brought to the fore the themes of: names of things which explored the inanimate objects and those abstract nouns referring to things that could neither be touched nor seen. Concrete nouns were also depicted under names of things. Other themes that emerged were names of plants, bringing out the idea of agriculture and names of family members. There were also the process words to express actions in Lukisa pseudo reduplication. Attributes were relayed in the pseudo reduplication of Lukisa adjectives. Adjectives as words that basically modify nouns and pronouns in syntactic expressions were portrayed as those that pseudo reduplicate. In all the sampled data on pseudo reduplication, there was a clear demonstration on how the resultant reduplicative constructions had no meaningful connection with either of the input elements of the respective reduplicative constructions when analyzed separately. This implies that there was neither a semantic nor syntactic independence in the

respective daughter inputs of the reduplicative construction, which is the mother node hence they could not stand to be analyzed in isolation.

5.3 Conclusion

In line with the above findings, the following conclusions can be drawn:

Firstly, that morphosemantic reduplication in Lukisa is both a class maintaining and class altering form of derivation. As class maintaining, there is the retention of the original word class of the lexical item in the input root word form before the input reduplicant is added to form a reduplicative. The reduplicative formed is in the same word class category as the root word although the meaning can change. There was also the class altering morphological reduplication in which we found out that when reduplication takes place, the word class of a given lexical item changes in the resultant reduplicative. It was established in the sampled and analyzed data that the semantic connotation of the reduplicant changed together with the word class category when compared to the respective daughter inputs. For example, a word would change from a noun to an adjective or a verb to an adjective through morphological reduplication.

In line with the class altering and class retaining derivation, it clearly came out that in Lukisa morphological reduplication, semantics is subsumed in the linguistic aspect of reduplication. This implies that beneath any form of morphological reduplication basing on MDT (2005) as relayed in the sampled and analyzed data, there was always semantic connotations that underlie the morphology of reduplication.

Secondly, the phonological processes that interact with reduplication in Lukisa as per MDT do not result in semantic change. what happens is that what is copied is something very small like a single consonant, vowel or syllable and this doubling has a purely phonological purpose rather than being associated with semantic change. The analyzed data brought out the fact that there are usually some phonological modifications of the respective inputs that accompanied phonological

doubling. The phonological doubling in Lukisa was partial and only limited to narrow sets of contexts.

Thirdly, pseudo reduplication in the sampled, analyzed and discussed Lukisa data demonstrated that the resultant reduplicative construction had no meaningful connection with either of the underlying input elements of the said reduplicative when the inputs are analyzed in isolation. As much as the analyzed data in this study under pseudo reduplication mainly exhibited total copying of the respective daughter inputs, the doubling was purely phonological and not semantic. The respective inputs in Lukisa pseudo-reduplication were purely syllables that were not morpho semantically independent. The inputs did not exist and could not be analyzed semantically and syntactically when separated. They were amenable to phonological copying tenet of MDT (2005). The two daughter inputs did not each have individual syntax and semantics to contribute to the mother node, the reduplicative. The respective reduplicant daughter input syllables were exact copies of the first input syllable, for this reason, the phonological constituent copying was restricted to cases of phonological necessity, what was copied was proximal to the first input, usually targeting the closest eligible element hence the phonological doubling.

From these three conclusions, it is clear that MDT as a theory was adequate in the analysis of reduplication as a naturally integrated facility in Lukisa dialect. The application of the MDT theory aptly analyzed data on reduplication as one driven by the presence of an affixal morpheme, RED or total input in reduplication of a whole daughter node. The theory equally adequately brought out phonological copying of a sound in a phonologically adjacent string. This validated MDT as a native identity theory is essence that surface phonological identity between the copies occurred as a side effect of semantic identity.

5.4 Recommendations

This study set out to establish the morpho- semantics of reduplication in Lukisa dialect, describe the manifestation of the phonological processes that accompany reduplication in Lukisa and explore how pseudo reduplication manifest in Lukisa in the sampled and analyzed lexical items.

This study revealed that in morphological reduplication, semantics or meaning is subsumed in the reduplication. The semantics can be class maintaining or class altering. This study therefore recommends that morphologists ought to analyze lexical items that undergo morphological reduplication with the view of signaling semantic change that can either be word class maintaining or altering as they are important in meaning interpretation.

The phonological doubling theses tenet of MDT (2005) which postulates that there is usually no formal similarity features that link each of the daughter inputs in the reduplicative. The two daughter inputs cannot semantically stand in isolation hence serving purely phonological purposes with no association to semantic change. This study recommends that phonology scholars ought to analyze lexical items in linguistics from a phonological perspective cognizant of the fact that there is usually no semantic change, that the doubling is only limited to narrow sets of contexts motivated by phonological necessity and usually accompanied by alteration of some sounds.

Finally, pseudo-reduplication is an integrated aspect of reduplication in Lukisa. This study revealed that in exploring the manifestation of pseudo reduplication, it should be considered as a core component of reduplication which takes a phonological perspective as what is doubled are not semantically independent inputs but phonological inputs of syllables which are not amenable to morphological doubling. This is because there is usually no meaningful connection of either of the underlying input elements of the said reduplicative when independently analyzed, aspects of

analysis in linguistic pseudo reduplication that morpho-phonologists should consider in linguistic studies.

5.5 Suggestions for further research

The present study is based on a morpho-phonological analysis of reduplication in Lukisa. It is suggested from the findings that future research work should be done on:

1. Reduplication from either a morphological, phonological or morpho-phonological perspectives of Bantu languages among the coastal communities. A lot has been done on Luhya as a Bantu language, the current study being on Lukisa and other Bantu languages from central Kenya such as Kiambu and Kimeru.
2. A comparative study on reduplication of the Luhya dialects would be a viable study. This will help explore the areas of convergence and divergence in their morphological and phonological structures.
3. A study on the change in the suprasegmental or prosodic features that accompany phonological copying in other Luhya dialects is a rich area of linguistic analysis. This will include an exploration of the phonological aspects of stress placement, intonation in words and word juncture that accompanies or is added over consonants. Such features are not limited to single sounds but often extend to syllables, words and phrases.

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APPENDICES

APPENDIX A: DATA FROM PUBLISHED SOURCES

EXTRACT 1

Owukusiye eshindu shishie abetsaanga nakusiye. Naye owukulile abetsaanga nakulile. Abulaho owuli nende likofi elia owashie.

Khu akemikaanda echiahukhane

Khulwa kano, Omujumbe owakula ikura shiali nende elimunichilisia okhukholela abandu bebe omulimo tawe. Likhongo khuye ni okhukhaba okhuchelesia amang'ondo aka yakulilia ikura. Nikali mbu okhuula yebe ni yeba. Nikali mbu eshialo shimililwa obubi, ikasi yiye ni okhuhenga ebuleka. Olunyuma olwa emiyika chirano, naba nanyolile etsishilingi etsihera, ne acherela ninatsio okhukula khandi. Naba nalayeba etsihera tawe, ne khuhesia owundi owitsa ninatsio tsinyinji.

Kano niko akachilanga olwa omundu aba narumbukha mbu akanakaninja okhusinjira ikura, ne abandu befwe bachaka okhuboola mbu, "**Oshilinji okhwitsa okhukhuchendela khwo tawe.**" Nohomba kata mbu, "Khuli nende omukanda okwa abamama abahera inamba naalebe, benyanga mbu witse obalole khwo." Eshisina mbu "benyanga obarere khwo amapesa bakabane"!

Emikanda chino bulano chiamala okhukora injila. Obwatoto buli buri mbu obunji obwa abandu befwe bamala okhukora injila! Khulwa shina bulano khutule yabo abakula etsikura tsiefwe mbu shibakhuhendelanga tawe?

EXTRACT 2

old women were expert at telling who the father of an illegitimate child was soon after birth; and so, very often, a case of pregnancy waited till the baby was born.

Offences against people's daughters or wives were punishable in the form of a fine in cattle.

Hurting anyone in a fight or otherwise was also punishable by a similar fine.

There were no prisons. But in serious cases where a person had to be ostracized, it was a worse penalty than a prison sentence: sometimes it affected not only the person, but his children as well. Among the Baluyia, loss of reputation was a serious matter.

6. TYPES OF CASES

The commonest cases were those concerning land. But witchcraft or suspected witchcraft was not uncommon. This was punished by ostracism or by beating to death. A medicine-man was not considered a witch; but one who was supposed to cause stomach-ache in children or adults, or to cause sickness or death by magic, was considered a witch and a criminal.

Marriage irregularities were another common case. For instance, abduction of a girl for marriage without paying any or sufficient dowry; forgetting to complete the instalments which were deferred; a woman running away from her husband. Adultery, rape and similar offences were very, very rare.

Theft was also a common type of case. Theft of cattle was especially common, but it usually concerned people of different *tsingongo* or clans or tribes, and it was usually settled by the elders of both parties getting together and deciding on the compensation.

Refusal to co-operate in a communal effort, e.g. building a walled village, going to a hunt or to a war, would also be brought before an open council and often resulted in ostracism.

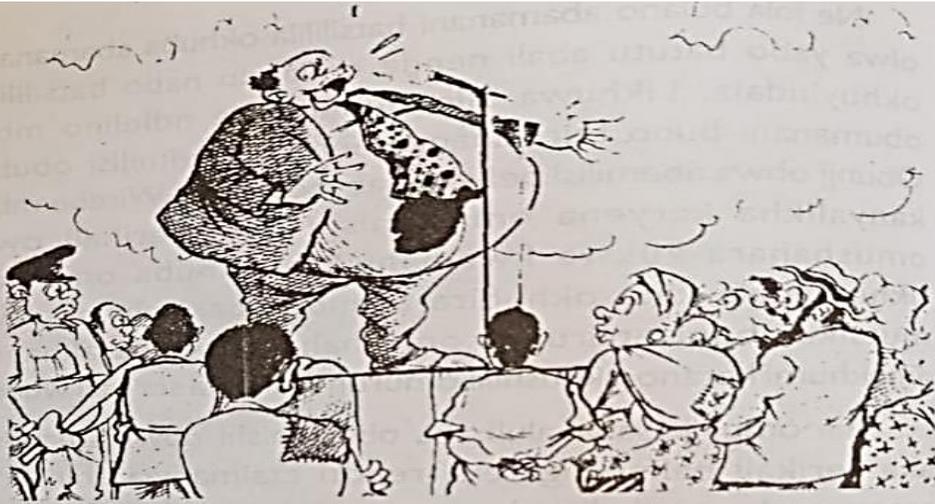
The rest of the cases concerned irregularities about local customs. If one was found to violate a custom or to have desecrated a holy place (*eshiyembekho*), then a sacrifice of a chicken or goat was performed to remove the curse.

7. TAXES

There were no formal taxes. But whenever payment was required for anything, the inner council authorized collection of the grain, chickens or cattle required.

Such payment would be needed to pay for a case of murder or a man killed in war; the fees of a rainmaker; contribution to an annual festival in the form of food; contribution for feeding a large group of visitors; presents for the chief or local leader on certain occasions, and so on.

EXTRACT 3



okhumbakha amasilishiro nende amasomero, okhurunga abakholi bayo shingana abapolisi nende yabo aba emikaanda echiahukhane mubukhalabani obwa serikali.

Khulwa shina khurunje obushuru?

Kakhenyishe mbu buli mulala asinjilile obolamu bubwe omwene, shiolwa khurumbule hekulu yaho. Halali lino shilinyalikha tawe. Shionyala okhuba nende isikuli yiyo khu abaana bobo bonyene tawe. Shionyala okhuba nende emihanda chichio omwene tawe, noho kata lisilishilo lilio omwene tawe. Nishio eshichila mbu buli mulala achanjile khwibishilo elala likhongo elia lihanga. Ne buli mulala achanjilanga libishilo lino okhulondana nende okhurunga obushuru, shingana kebalilwe hekulu yaho.

EXTRACT 4

AMAHANGA AMAYIAKHA

Yaho olwa Abasungu bali nibashili okhwitsa mu Afrika, Abaafrika bali nibamenya mushibala eshilali nende emipaka chiosi chiosi tawe. Buli oluyia lwamenyanga mushikwenyi nalebe. Ebikwenyi bino biahukhananga shilala okhurula khushindi okhulondana nende oluyia – niluli mbu olwibulo nende olulimi olwa abandu baboolanga. Wanyalanga okhunyo oba oluyia nalebe nibamenya mulukongo nalebe. Olukongo lulala Iwapakananga nende olundi okhurulana nende ebindu shinga ebikulu, emialo nende amabanda.

Kho khulola mbu Abachukuyu bamenyanga mubikulu ebia Mt. Kenya olwa Abaluo bamenyanga hambi khunyanza ya Lolwe, eyilangungwa bulano mbu Lake Victoria. Nabo Abaluhya bamenyanga mumaloba akachachilanga mushikulu eshia emasaba, kata mbu Mt. Elgon, okhuula Busia nende hambi nende Inyanza ya Lolwe. Abaluhya bandi bamenyanga mushibala eshia bulano khulanganga mbu Ebuganda. Yaho olwa Abasungu bekhala mweitokho lia Berlin Ebujeerumani, bakhafaka emipaka mu-Afrika, mana nibakabula eshialo shiefwe mubialo ebinji, ebia bulano khwamanya shingana Tanzania, Ebuganda, Ethiopia, Misri, Nigeria, nende ebialo bindi ebinji ebiahukhane.

Khunyala okhulola mbu olwa Abasungu balekha obunyali khu Abamali, Abamali bali nende obunyali



EXTRACT 5

Luyia Proverbs

323. **Obukona bulangwa obuchieni (AMI36)**
Today's dish is tomorrow's leftovers.
324. **Obukoosi bushira obululu (AMI194)**
Politeness is better than harshness.
325. **Obulala niko amani (AMI 33)**
Unity is strength.
326. **Obulalo bwalungwa aha omuchela kuli (DWA142)**
A bridge is laid where there is a river.
327. **Obulayi bukhaana bukosa ing'ombe (JWA65)**
*A girl's beauty may steal a cow.
One should not gamble one's cow on youthful beauty.*
328. **Obuliba bwomukofu bukweetsanga lulala (TWA122)**
The old man's trap is triggered only once
329. **Obulwale buli khuwashio shibukhukaya tsindolo (AMI191)**
Someone's illness cannot prevent you from sleeping
330. **Obupaari nende obwitsuliri ni tooto (TWA123)**
331. **Oburengu bukwima eshia wakhalile (AMI196)**
Stubbornness earns you nothing to eat.
332. **Oburerere shibumanyire omwami (DWA76)**
Slippery ground does not recognise a king.
333. **Obusera obunabusambe omwana burakhwo olububi (TWA114)**
The porridge that burns the child deceives him by forming a coat.
334. **Obushia shinga obundi (AMI32)**
Tomorrow will be like the other day.
335. **Obutofu shibwayilungwa omusaala ta (TWA158)**
Laziness has no medicine.

EXTRACT 6

Buli emiyika chirano, abandu aba Kenya bahebungwa obwiyango obwa okhwahula abemilisi babwe. Buno nibwo obwiyango bubwo, obwa okhurusia mushina shino abemilisi ababi, abalosinjia emilimo echia barumwa okhukhola tawe.

Likhuwa elia eshibera ndielino mbu bulano abandu aba Kenya bamala okhwibilila eshichilanga etsikura nitsikhupwa buli olunyuma olwa emiyika chirano. Lola bulano abemilisi betsanga nende amapesa ni bakarumishila okhukula etsikura khubandu! Nabo abandu bene barumbulanga amakhuwa shingana kano mbu **“Eywe khuheresie butswa eshindu khulie mana nefu khukhuheresie ikura.”**

Lirebo elia khukwanile okhwireba ndielino mbu niwakhaba nende ichulushi yiyo, niwakhanya okhuchira khulijoki mbu yikhulimile, onyala toto okhubila ichulushi yino mbu **“Eywe ichulushi yanje, mbelesia khwo eshindu noba niwenya mbu ekhure khulijoki lianje lino olime?”**

Nohomba kata, tsichulushi nitsiba nitsitsia okhulwana, onyala toto waareba ichulushi yiyo mbu ‘Eywe ichulushi yanje, chama umbekhwo eshindu mana kho ekhulekhule otsie okhunwanila? Kata khandi, niwakhaba nende ing’ombe yiyo eya amabele, wakhachibolela mbu, ‘Eywe ing’ombe yanje, nonyola ndakhushera khatimba obe niumbele khwo eshindu? Buno nibwo obuchachilo obwa

EXTRACT 7

Kisa Marama Tsotso and Wanga

1. **Abachesi babili basianishila isi (JWA54)**
Two geniuses will successfully roast a fby
 2. **Abafwa babula olutseshe luleera (BKE6)**
The dead have no clear drinking straw
 3. **Abalamu bcbilila abafu (AMI1)**
The living forget the dead
 4. **Abalaraka nibo abakalia (AMI2)**
Those who did not sow are the ones that ate
 5. **Abamani batsia mwihe (TWA10)**
*The strong go to war**
 6. **Abanji nabalulu (AMI3)**
There is false courage in numbers
[A crowd is courageous *]
 7. **Abasebe banyekana tsimbati (WOY123)**
One with unshapely legs ridicules the unshapely legs of his friend.
 8. **Abasila mbeere baliyo (AMI4)**
Those without breasts surely exist.
 9. **Abasusumi bafunana okhukhuura omwikho (TWA64)**
[Idlers struggle to clear food remains from a cooking stick.]*
 10. **Abebulane namalasire akolulimi,
ofutsa akandi nakandi omila (WOY89)**
[Amatsayi aka olulimi ofutsa ne akandi omira (SOW22)]
[Amatsayi kolulimi shikafutsungwa koosi ta (PMU25)]
[Omwikho ni mabanga ka lulimi (JWA26)]
[Kinship is like blood from a cut on the tongue; it is never done away with].*
- Abefi beba nende owabalia (AMI6)**
Thieves will steal even from where they eat.

EXTRACT 8

Kisa Marama Tsotso and Wanga

134. **Eshiseeri shiluma khandi eshiseerwa shiluma (DWA131)**
The invader bites as well as the invaded.
135. **Eshishieno shili khumwikho (191)**
[Eshishieno shisira omwiikho (DWA29)]
[Evil spirits haunt their relatives]*
136. **Eshishio neshishio (AMI54)**
What is yours is yours.
137. **Eshishio shikumala amahofu (WOY14)**
[You long for yours]*
138. **Ehituyu shialira omufumbulusia (HWA21)**
The hare blamed whoever revealed its hide-out.
139. **Eshituya khumukuru shienyanga mwenenzu (TWA183)**
[Eshituya khumukuru shienyanga owamenyamwo (DWA87)]
[Eshituya khumukuru shiba shienya mwenenzu (AMI65)]
That which knocks on the back wall seeks the owner of the house.
140. **Eshituyu shikofule shinunanga mumwana (WOY105)**
*An old rabbit feeds from its offspring**
141. **Eshiumaho shishiira olwikho (AMI81)**
What is unavailable cannot destroy a relationship.
142. **Etsia abebulane shiotsilonda (DWA185)**
Do not believe all that is claimed in family squabbles.
143. **'Etsiebulebe tsiakhomera', eyiyo ebetsanga nelimwo (DWA195)**
When you are proud of a herd of cattle it is because yours is included.
[Etsiefwe tsiaya ebulebe nende eyiyomwo (PMU10)]
There they are grazing, is best said if yours is among the herd.
144. **Ewenyu shiwitsuba (AMI83)**
You cannot swear to disown your place of birth.

EXTRACT 9

AKOKHURANGA

Nyasaye yalonga omundu mana namura mushialo mbu omundu amenye mwo obulamu obulayi. Khusomanga mushitabo shia Genesis mbu Nyasaye olwayali yakhamala okhulonga likulu nende eshialo nende ebilimwo biosi, yakoosia Adamu nende omukhaaye wuwe. Yabasunjila ari, "Mwibulane nimwinjiha." (Genesis 1:22)

Nyasaye yenya mbu abandu babe abayinda. Ne lola obwatieri buli mbu abayinda ni batutu muno mushibala. Abatakha nabo nabanji po. Abayinda bemeetaanga okhuyindaala olwa abamanani nabo bameta okhumananiha.

Ebindu biene bino biliho okhula akhandi khabili. Eshiokhuranga, nohenga mubuli lihanga, babelemwo abandu batutu abali nende emiandu. Bano nibo bene tsikambuni tsikhongo-tsikhongo, abahandika abali abanji emilimo mutsikambuni tsiabwe. Nibo bene amashamba amakali nende ebindu bindi biosi ebikali-ebikali.

Khulubeka lundi, kaabeleho amahanga amayinda muno okhushila akandi kosi. Amahanga akeimbya yino kayinyile okhunylekha Ebulaya. Amahanga kano, nako kafinya muno amatutu akali amamanani. Amahanga amayinda nende amahanga amatakha kosi kaabele nende abayinda mwo, nende abatakha khandi endio. Ne obwahukhani hakari wa abaayinda nende abatakha bumetekhanga buli inyanga. Omushiere omutakha olwa akula omukaate okuteeshilwe mukambuni eya omundu omuyinda, ameta butswa omuyinda uyo obuyinda. Omuyinda naye shiamanya kata

EXTRACT 10

mushibala shino, nohomba ebindu biene bikabungwa obubibi? Ni wina oukwanile okhulola mbu abandu bamenyile obulayi? Olwa abandu bamenyanga obulamu obutinyu, kakhanyalika mbu bachanjilanga khu obulamu obubi bwene buno noho? Serikali yikhubolelanga khasotselo mbu **“Siasa ni maisha. Siasa mbaya maisha mabaya”** Siasa yefwe neyinyala okhurera abulamu obulayi nohomba yirera obulamu obubi?

Kano ni malala khu akandi amanji aka omuhandichi owa akhatabo khano atema okhurebelesia. Hakari wa kano kosi ni lirebo mbu khukhole shina kho khumenye obulamu obunyala okhuba obulayi okhushila obwa khumenyanga? Ni amakosa shina aka khunyala okhuba ni khukholanga aka khukwanile mbu khushukhasie?

APPENDIX B: REDUPLICATION DATA EXTRACTION TOOL

The Morpho-phonology of Reduplication in Lukisa Dialect

1. Which words are reduplicated in Lukisa dialect?
2. a) Which words from the (1) above undergo semantic change in Lukisa dialect when reduplicated?

b) Which of the words in (1) above depict those that reduplicate without semantic change?
3. Which of the words in (1) above involve copying or duplication of phonological constituents or morphemes or sounds and which phonological processes are involved in each?
4. Which of the words generated in (1) above seem to be reduplicated but there is no independent connection with the underlying forms?

APPENDIX C: REDUPLICATION DATA EXTRACTION TOOL

The Morpho-Phonology of Lukisa Reduplication in Lukisa Dialect

Guides for extraction of Items for analysis

Descriptions

1. **Morpho-semantic aspects of reduplication:** Those that ensure that a lexical item changes the meaning of a word or lexical item.
2. **Phonological processes in duplication:** Those that are limited to phonological necessity and not necessarily for semantic change.
3. **Pseudo reduplication in Lukisa dialect:** Those lexical items which when reduplicated do not bring forth any grammatical function (the reduplicated morphemes do not have meaningful connection with any underlying element that forms the reduplicant)

APPENDIX D: FOCUS GROUP DISCUSSION GUIDE ON REDUPLICATION

The Morpho-phonology of reduplication in Lukisa Dialect

My name is Oyoko Amos Maina. A student at Maseno University doing research on word reduplication in our Lukisa dialect, a language that we use in our day to day communication. I kindly request you to provide me with information or data on the following questions on reduplication in Lukisa dialect for the information to be purposefully used for this research.

1. In your opinion, how do you find the suitability and efficiency of Lukisa dialect in any context? Is it self-sufficient?
2. Give examples of words that undergo reduplication in Lukisa dialect whether totally or partially?
3. Provide examples of words that copy or reduplicate only sounds in Lukisa dialect.
4. Cite examples of words in which pseudo reduplication manifest in Lukisa dialect.

APPENDIX E: FGDs RESEARCH PARTICIPANT CONSENT FORM

Name of Resacher: Oyoko Amos Maina

Reg. No: PhD/FA/00074/2017

Maseno University

Topic: A Morpho-Phonological Analysis of Reduplication in Lukisa Dialect

Please, read and complete this form carefully. If you are willing to participate in this study. Ring the appropriate responses and sign at the end. If you do not understand anything and would like more information, please ask.

1. I have heard the research satisfactorily explained to me in verbal by the researcher YES /NO
2. I understand that my participation is voluntary and I may withdraw from this study at any time without giving reason YES/ NO
3. I understand that all information about me will be treated in confidence and that I will not be named in any written work arising from this study YES/ NO
4. I understand that any information from me will be used solely for the research purposes YES/ NO
5. I understand that you will be discussing the progress of your research with others in Maseno University YES/ NO

I freely give my consent to participate in the research study

Participants signature Date

APPENDIX G: RESEARCH PERMIT

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 762892	Date of Issue: 21/June/2021
RESEARCH LICENSE	
	
This is to Certify that Mr.. AMOS MAINA OYOKO of Maseno University, has been licensed to conduct research in Kakamega on the topic: A MORPHO-PHONOLOGICAL ANALYSIS OF REDUPLICATION IN LUKISA DIALECT for the period ending : 21/June/2022.	
License No: NACOSTI/P/21/11218	
762892 Applicant Identification Number	 Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code 
NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.	

APPENDIX H: APPROVAL LETTER



MASENO UNIVERSITY **SCHOOL OF GRADUATE STUDIES**

Office of the Dean

Our Ref: PHD/FA/00074/2017

Private Bag, MASENO, KENYA
Tel:(057)351 22/351008/351011
FAX: 254-057-351153/351221
Email: sgs@maseno.ac.ke

Date: 12th February, 2021

TO WHOM IT MAY CONCERN

**RE: PROPOSAL APPROVAL FOR OYOKO AMOS MAINA —
PHD/FA/00074/2017**

The above named is registered in the Doctor of Philosophy programme in the School of Arts and Social Sciences , Maseno University. This is to confirm that his research proposal tilted **“A Morpho-Phonological Analysis of Reduplication in Lukisa Dialect.”** has been approved for conduct of research subject to obtaining all other permissions/clearances that may be required beforehand.



DEAN, SCHOOL OF GRADUATE STUDIES



APPENDIX I: ETHICS REVIEW COMMITTEE



MASENO UNIVERSITY ETHICS REVIEW COMMITTEE

Tel: +254 057 351 622 Ext: 3050
Fax: +254 057 351 221

Private Bag – 40105, Maseno, Kenya
Email: muerc-secretariate@maseno.ac.ke

REF: MSU/DRPI/MUERC/00949/21

Date: 20th May, 2021

TO: Oyoko Amos Maina
PhD/FA/ 00074/2017
Department of Linguistics
School of Arts and Social Sciences
Maseno University
P. O. Box, Private Bag, Maseno, Kenya

Dear Sir,

RE: A Morpho-Phonological Analysis of Reduplication in Lukisa Dialect

This is to inform you that **Maseno University Ethics Review Committee (MUERC)** has reviewed and approved your above research proposal. Your application approval number is MUERC/00949/21. The approval period is 20th May, 2021 – 19th May, 2022.

This approval is subject to compliance with the following requirements;

- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by Maseno University Ethics Review Committee (MUERC).
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to Maseno University Ethics Review Committee (MUERC) within 24 hours of notification.
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to Maseno University Ethics Review Committee (MUERC) within 24 hours.
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to Maseno University Ethics Review Committee (MUERC).

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://oris.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely

Prof. Philip O. Owuor, PhD, FAAS, FKNAS
Chairman, MUERC



MASENO UNIVERSITY IS ISO 9001:2008 CERTIFIED



APPENDIX J: REGISTRATION CERTIFICATE

SOC/70684 Form C

REPUBLIC OF KENYA



THE SOCIETIES RULES, 1968
(Rule 4)

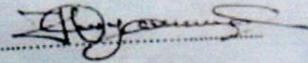
CERTIFICATE OF REGISTRATION NO. 46347

JOSEPH ONYANGO, DEPUTY Registrar of Societies, hereby certify

I, that I have this day registered the **BUCHERO EDUCATIONAL AND CULTURAL SOCIETY**

.....
.....
under section 10 of the Societies Act.

Dated at **NAIROBI** this **28th** day of **DECEMBER** 20**14**


DY. Registrar of Societies