Research Article

The Morpho- Semantics of Reduplication in Lukisa Dialect

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Abstract: Reduplication is a grammatical aspect found in a wide range of African languages and is sometimes interchangeably used with repetition. Reduplication is both a morphSological and phonological process of forming compound words by repeating all or part of a word. Morphological reduplication involves semantic change through another word formation process while phonological reduplication is whereby the copying picks the closest phonological input restricted to cases of phonological necessity. Lukisa, a Luhya dialect is expected to exhibit a range of patterns in reduplication which varies from a single element being copied to the entire phrase. Although linguistic forms of reduplication have been explored at lexical and functional levels, there is need to validate morphological doubling involving the creation of new stem type reduplication as a limitless linguistic resource, a central meaning making strategy and an integrated facility in language. Therefore, the objective of this study was to analyze the morpho semantic features of reduplication in Lukisa et al. (2005) Morphological Doubling Theory was adopted for this study where the aspect of reduplication results when morphology calls twice for the constituents of a given semantic description with possible phonological modification of either or both constituents.
Keywords: Morphology, Semantics, Reduplication, Morphological Doubling. Daughter input, Reduplicant input, Mother Node.

LITERATURE REVIEW

Durrant (2013) posits that Bantu languages have characteristically agglutinating morphology which makes its structure rich and complex. Agglutination is a linguistic process pertaining derivational morphology in which complex words are formed by stringing together morphemes without changing in spelling and 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. Agglutinating languages tend to have a high rate of affixes or morphemes per word and are very regular in particular with regard to verbs. Agglutinative suffixes are often inserted irrespective of syllabic boundaries.

Nyaga (2014) observes that total reduplication was established to be the most common type of reduplication in Kiembu which also had some semantic effects. The study revealed that stems and roots of a word are the ones which are morphologically doubled in Kiembu. The study by Nyaga (2014) addresses the effect of derivational and inflectional morphology while the present study on Lukisa sought to apply only the derivational as of morphology to bring out the morpho semantics of reduplication in Lukisa.

Amwayi (2020) 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, especially the verbal group which is dwelt on in the study. Amwayi's (2020) study makes an attempt to validate the use of reduplication in the medical jargon from a sociolinguistic perspective. However, the study does not bring out the morphological process of word formation through reduplication, an aspect this paper seeks to address.

This research paper sought to examine how Lukisa dialect of the Luhya language family manifests itself in morphological reduplication through various affixes or morphemes and how this leads to semantic change or class changing semantic reduplication and at the same time ensure that as much as the affixation takes place, there will be no semantic change, thus there shall be retained the various word classes of the lexical item eve after reduplication has taken place.

The Luhya Language Group and Lukisa Dialect

According to Wambunya (2007), Luhya is a Bantu language of Western Kenya. Their migration to the current Luhya land (a term of endearment referring to Luhya primary place of settlement in Kenya after the Bantu expansion dating back to the early 1450's. Further to this, Luhya refers to both the people and their language. There are 19 sub tribes that make up the Luhya: *Ababukusu, Abidakho, Abisukha, Abakabras, Abanyole, Abasamia, Abatachoni, Abatririki, Abatsotso,*

Abawanga, Abakhayo, Abamarachi from East, Abamarachi from West, Abalogoli, Abamarama, Abashisa, Abanyala, Abamasaba and *Abatura*. 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 Transnzoia and Uasin Gishu counties.

Lukisa is spoken by the *Abashisa* of Khwisero sub county in Kakamega County, Western Kenya. Khwisero sub county is divided into two administrative units: Khwisero West and Khwisero East divisions. Butere sub county where the dialect of interaction is *Olumarama* spoken by the *Abamarama*, which has the highest mutual intelligibility with Lukisa which is under this study, (Wambunya, 2007)

Lukisa is a Luhya dialect among the Bantu speakers. This study chose to investigate the morpho semantics of Lukisa reduplication as a local dialect of the Luhya language. Reduplication being a characteristic of Bantu languages serves a wide range of functions cross linguistically and within languages. These functions range over and above the standard morphological functions of derivation and inflection. 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, the mechanism of repetition and how to represent the reduplicative morphemes to a full range of patterns which range from a single segment being copied to an entire phrase.

METHODOLOGY

This study adopted a descriptive research design. 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. Milroy (1987) posits that a descriptive research design requires the researcher to be a native speaker of the language under study. The study population included Lukisa words sampled from Lukisa dialect speakers. Written and published texts on Lukisa oral literature, history, linguistics and oral literature were sampled to provide data on Lukisa reduplication through library research. Native speaker intuition of the principal researcher was applied to generate data. The data collected consisted of words which were selected, transcribed phonemically and thematically organized.

DISCUSSION

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 Morpho-semantics of reduplication where morphology calls twice for the constituents of a given semantic description and semantics subsumed in the morphology of reduplication had data analyzed in the following word classes in Lukisa.

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 many Lukisa verbs which are part of the open categories of speech. 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 morphological doubling theory, reduplicative constructions which is the mother node calls for two daughter nodes that are identical in morpho-syntactic and semantic features.

1. Lukisa : **shina- shina** obulayi.
Pres-dance dance well
/ ʃɪna-ʃɪna oβulajɪ /
Dance dance well.
Word class: verb
meaning: dance dance
mother node /ʃɪna-ʃɪna /(f + added meaning)

/ʃɪna /	/ ʃɪna /
daughter input (f)	daughter input (f)
word class: verb	word class: verb
meaning: dance	meaning: dance
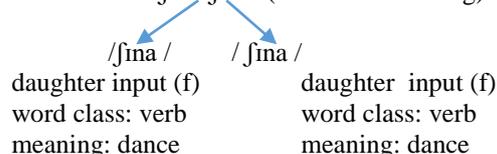
2. Lukisa: **sema- sema** shie im- bwa.
/ sɛma sɛma   ʃɪɛ   ɪmβwa /
Pres- bark bark like sg-dog
Bark bark like a dog.
word class: verb
meaning: bark bark
mother node: / sɛmasɛma / (f + added meaning)

| /sɛma /	/ sɛma/
daughter input (f)	daughter input (f)
word class: verb	word class: verb
meaning: bark	meaning: bark
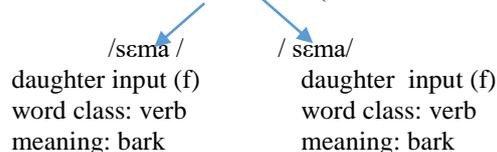
In these designate data on total reduplication 1 in Lukisa, MDT (2005) through the thesis of morphological targets in the morpho-semantics of reduplication presupposes that in each instance, the two sisters (daughter inputs) are required to be identical semantically. The inputs in the above data are daughter nodes refer to morphological constituents and the output which is the mother node, the reduplicated form. What is coupled are the morphological constituent *shina* which mean dance and bark. These constituents are semantically equal. Semantically, the reduplicants: *shina-shina* (dance-dance) has 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 hence introducing a new meaning or grammatical function, that is, both the daughter input root and the reduplicant input have the same semantic connotation.

In the data 1, *shina-shina* means to dance repeatedly, applicable in the case of nouns that depict humans when they dance repeatedly. There is an implication in these sets of data that no semantic change arises when words are reduplicated. The lexical item remains a verb depicting the actions of "dancing" only that they are repeatedly done hence retaining their respective initial word classes. This is postulated 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 and their respective meanings even after reduplication has taken place, that is, there is no change in the word class of the respective verb; "dance." It was worth noting that reduplication in Lukisa verbs in the data in 1 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.

Inkelas & 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:

Singular Form	Plural Form	Plural Reduplicative Form
rema/rɛma/ cut-SG	reme /rɛmɛ/cut-PL-reme	reme/rɛmɛrɛmɛ/ cut cut –PL-PROG

This data can be presented as:

2. Lukisa: **remereme** omu-sala iku.
/ rɛmɛrɛmɛ omᵁsala ɪkᵁ/
Plr –cut cut sg-tree sg1-this
Cut-cut tree this
word class: verb
meaning: cut-tut
mother node /rɛmɛ- rɛmɛ/ (f + added meaning

rɛmɛ   rɛmɛ
daughter root input (f) reduplicant input (f)
word class: verb (plural) word class: verb (plural)
meaning: cut meaning: cut
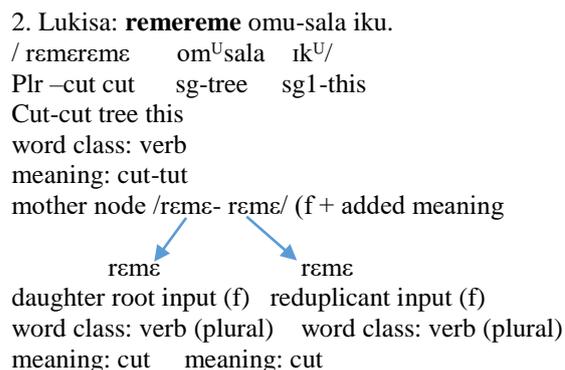
The Lukisa data in the daughter input word: *reme* is a plural progressive form that means: "cut". This resulted since the verb underwent morphological doubling and as it exhibited total reduplication, where the same daughter input root is added to another reduplicant root at the input level resulting 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 in 2, 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 verb, *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 verb "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.

One tenet of MDT is that it emphasizes on the existence of affixation through reduplication showing that reduplication can target morphological constituents of a word regardless of their phonological size, confirming that what is doubled in reduplication is a morphosemantically defined constituent. This was deduced from the Lukisa verb *khule* which translated to "plural-grow"
3.Lukisa: **Khule-khule** khutsie.
/ xulɛxulɛ xutsiɛ /
Plural leave Plural-us go
Ɵ Set us free to go
word class: verb
meaning: set us free
Mother node: xulɛ -xulɛ (f + added meaning)

/xulɛ/   /xulɛ/
daughter input (f) reduplicant input (f)
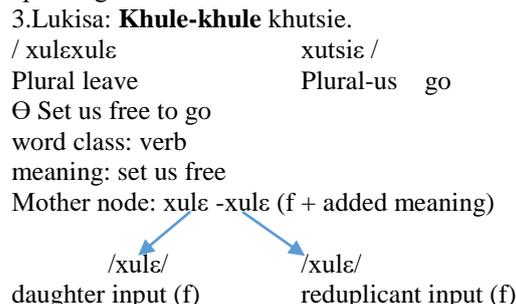
word class: verb   word class: verb
meaning: grow   meaning: grow

In the data in 3, 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 & 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. The reduplicated construction *khulekhule* consists of two daughters 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."

Nouns
According to Schachter & Shopen (1985), the traditional definition of nouns involves assigning the label "noun" to the class of words which occur as the names of most 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.

Bauer (1963) posits that productivity is a property of human language which allows the native speaker to produce an infinitely large number of sentences, many or most of which have never been produced before. Reduplication is still 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. Which is manifested through:
4. Lukisa: Aba- kofu   bo   ombashe **tsi–ngongo.**

/ aβa- kofᵁ   βɔmβaʃɛ   tsɪ-ŋgɔŋgɔ /
PlrS-elders   have built   Plr- villages
Elders have built villages.
word class: noun
meaning: homes/villages
mother node:/ tsɪ- ŋgɔŋgɔ/ (f + added meaning)

      /tsɪ -ŋgɔ/   /ŋgɔ/
daughter input (f)   daughter input (f)
word class: noun   RED
meaning: homes

In the data in 4, the root word was *tsingo*, 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 construction *tsingongo* which means "villages." MDT (2005) thesis on morphological targets postulates that morphological doubling is a linguistic process in reduplication morphology and can be used to extract various meanings from given inputs. In this reduplicative construction, the reduplicant *ngo* which is 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 retaining of both the noun 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 Marantz (1982), a wide range 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 done, the noun changed to *omusolili*, referring to a youth of male gender. The resultant noun in the reduplicative construction as in;
5. Lukisa: **Omu -solili** uno a -birire amareebo.
/ omᵁ -solɪlɪ unɔ aβɪrɪrɛ amarɛ:βɔ /
sgS-male youth SG1this   sgPRES   pass   sg/plr-exams
This male youth has passed his examination.
word class: noun
meaning: male youth
mother node: /ɔmᵁ -solɪlɪ/ (f + added meaning

      /ɔmᵁ -solɪ/   /lɪ/
daughter input (f)   daughter input (f)
Syntax: noun   RED
semantics: an attacker

A new word *omusolili* means "a male youth", which 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* /oxuso:la/ means to attack someone, especially in a retaliatory war. From the verb /oxuso:la/, the noun *omusolili* is derived. This proves an etymological relationship between the verb /oxuso:la/ and the noun *omusolili*. Through partial reduplication whereby the 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.

In addressing the linguistic aspect of productivity, Bauer (1963) contents 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.

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 without necessarily changing the word class which is a noun. This reduplication is represented as:

6. Lukisa: **O-lufwafwa** luno nolutinyu.
/ ɔlu- fᵁafᵁa lunɔ nɔlᵁtɪŋᵁ
sg/plrS bushy area 1this is strong
This bushy area is strong.
word class: noun
meaning: bushy area
mother node: /olᵁ- fᵁafᵁa/ (f + added meaning)
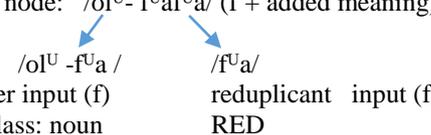
    /olᵁ -fᵁa /   /fᵁa/
daughter input (f)   reduplicant input (f)
word class: noun   RED
meaning: seed

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 calls for morphological constituents of affix, root, stem or a whole word and that the input daughters, which are prototypically two, are usually identical. In the data in *olufwafwa*, there are two input daughter *fwa* and *fwa*. This confirms that what is doubled in reduplication is a morphological constituent 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.

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.

Descriptive Adjectives

Lyons (1968) observes that derivation is one morphological process that is responsible for the creation of reduplicated forms. *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 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* implying an immoral 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. The samples in Lukisa exemplified the reduplication in the adjective class as:

7. Lukisa: Omu -satsa uno ni **omu-kalakala.**
/ omᵁ- satsa unɔ nɪ ɔmᵁ- kalala /
sgS-man   sg1-this is   sgAUG- immoral
This man is immoral.
word class: adjective
meaning: immoral
mother node: / omᵁ- kalakala/(f + added meaning)
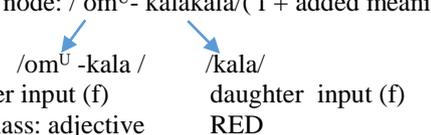
    /omᵁ -kala /   /kala/
daughter input (f)   daughter input (f)
word class: adjective   RED
meaning: unreliable

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 semantic 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. It 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 *omukala* which means an unreliable or untrustworthy before the reduplication before the reduplication to *omukalakala* which means an immoral or promiscuous person when reduplicated.

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 8 herein. This was exemplified in the following sampled responses:

8. Lukisa: Y-ambere akhachumbi **khatiti**.
/ ja- mβɛrɛ axatʃumβɪ xatɪtɪ /
SgS –He gave   gave AUG -salt   AUG- small
He gave me a small amount of salt.
word class: adjective
meaning: smaller
 mother node: /xa-ti -ti / (f + added meaning)

    / xati/   / ti/
daughter input root (f)   daughter input (f)
word class: adjective   RED
meaning: small

The reduplicant input *"ti"* in the data in 10 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 & 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;

9. Lukisa: Abaana   **batiti** betsere.
/a –ba:na βatɪtɪ   βɛtsɛrɛ /
Plr-S-children Plr-few   plr-3   came
A smaller number of children came.
word class: adjective
meaning: smaller
mother node: / βatɪ- tɪ / (f + added meaning)

    / βatɪ/   / tɪ /
daughter root input (f) reduplicant input (f)
word class: adjective   RED
meaning: small

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 applied in a syntactic expression.

Adverbs

Ford (1974) observed that adverbs are words that modify verbs in sentences. Adverbs tells us more about the nouns. 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.

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. This was exemplified in the following ways.

Root word	Reduplicated form
hakari – middle	*hakarikari*- right in the middle
khundulo – on the sides	*khundulondulo*- on the sides

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

10. Lukisa: Asinjire **ha-karikari** wei- njira
/ asɪnjrɛ hakarɪkarɪ wɛɪnjɪra /
sgS-standing AUG-middle of   sg1 road
He is standing right in the middle of the road.
word class: adverb
meaning: right in the middle

mother node: / ha-karɪkarɪ/ (f+ added meaning)

/ha-karɪ/   / karɪ /

daughter input (f)   reduplicant input (f)
word class: adverb   RED
meaning: middle
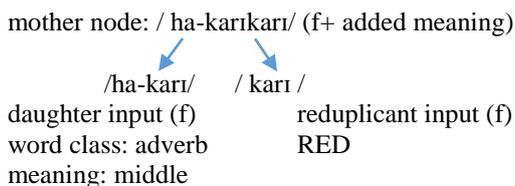
The resultant reduplicative construction adverb of manner *ha- karikari* which translate to "right in the middle" is a class retaining reduplicative construction. The input word was *ha- kari,* an adverb "middle" has the place derivative morpheme marker *ha* which means "in". When total reduplication 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. In this data presentation;

11. Lukisa: O-chende **khu -ndulondulo** khwe injira
/ ɔchɛndɛ   x^U- nd^{U}lɔnd^{U}lɔ xɛɪnjɪra /
sgS walk   AUG- extreme sides   of   sg-road.
Walk on the extreme sides of the road.
word class: adverb
meaning: on the extreme sides
mother node: / x^U-nd^{U}lɔnd^{U}lɔ/(f +added meaning)

/ x^U- nd^{U}lɔ/   / nd^{U}lɔ /

daughter input   reduplicant input
word class: adverb   RED
meaning: on the sides
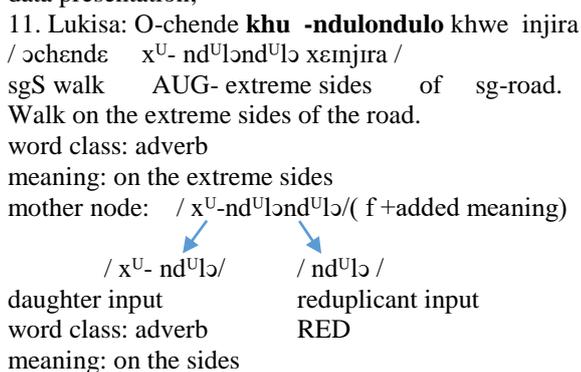
The reduplicative construction *khu-ndulondulo* has an added meaning which implies "on the extreme sides" probably of the road, if used in a syntactic expression. The meaning of the first input daughter *khundulo* on which there is an attached derivational prefix morpheme "khu" is "on the sides." The 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 identical daughters. The targets in the morphological reduplication calls for the morphological constituents of affix, root, stem or word. In the adverb *khundulo*, there is the total reduplication of "ndulo". This is 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 suggested in the adverb in the reduplicative which is the mother node.

This case of total reduplication of the adverbs of place in Lukisa is anchored in MDT where Inkelas &

Zoll (2005) proposes that in morphological reduplication, the reduplicant and the root are generated by the morphology as part of the construction which also embodies semantic generalizations about the input of the reduplication. This is achieved when reduplication doubles some morphological constituent within the stem. The partial reduplication in the adverb *ha- karikari* is semantically for emphasis, thus, the emphasis in the reduplicative adverbs in the data in 10 and 11 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."

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.

The adverb of manner in the root word *obubi*, in Lukisa connotes the semantic equivalent "badly" in English language. The adverb is used to modify a given verb in a linguistic expression. When partial reduplication was carried 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 that 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.

12. Lukisa: A-umiye **obu -bibibi**.
/ a^{U}mɪjɛ   ɔβ^{U}βɪβɪβɪ /
Sg S-hurt   AUG-badly
He was injured very badly.
word class: adverb
meaning: very bad
mother node: /ɔβ^{U}βɪ- βɪβɪ /(f+ added meaning)

/ ɔβ^U- βɪ/   /βɪβɪ /

Daughter input (f)   reduplicant input
word class: adverb   word class: adverb
meaning: badly   RED
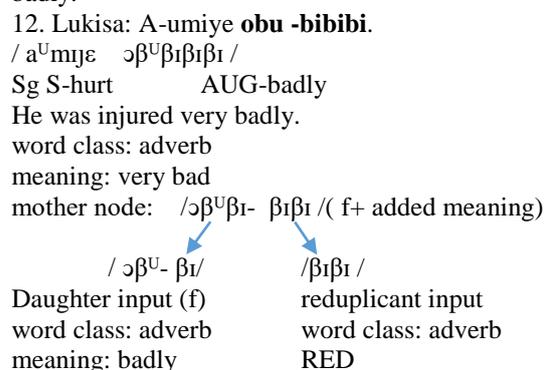
In MDT, Inkelas & Zoll (2005) observe that reduplicative constructions call for multiple copies of stems which have independent inputs and are subject to independent morpho-tactic requirements. Further to this, the theses of morphological targets in a

reduplicative construction calls for morphological constituents of affix, root, stem or word. In the data in *obubibibi*, 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 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 11 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.

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 forms. 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 to analysis, the following sampled discussions emerged:

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:

13. Lukisa dialect: Yabo ni **abobo**.
/ jaβɔ   nɪ   aβɔβɔ /
PlrS-those   plr-are   Plr-yours
Those are yours
word class: possessive pronoun
meaning: yours
mother node: / aβɔ- βɔ / (f + added meaning)

/ aβɔ/   / βɔ /
daughter input (f)   reduplicant input (f)
word class: demon pron   RED
meaning: those

MDT's (2005) theses 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 was a demonstrative pronoun equivalent to the "those" as a demonstrative pronoun in English and the reduplicant input suffix *bo*. The input root word *abo* which is a demonstrative pronoun 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 tenet that the existence of root reduplication shows that reduplication can target morphological sub constituents of a word regardless of their phonological size. 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.

Indefinite Pronouns

Indefinite pronouns refer to words that do not refer to 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 through reduplication to refer to both animate and inanimate objects in a linguistic expression.

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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. At the same time, in total reduplication, there is the 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:

14. Lukisa: Nditsa okhu- lia **shiosi-shiosi.**
/ ndɪtsa oxᵁlɪa ʃɪosɪ ʃɪosɪ /
Sg S- will sg1 eat AUG-anything.
I will eat anything.
word class: indefinite pronoun.
meaning: anything
mother node: / ʃɪosɪ- ʃɪosɪ/ (f+ added meaning)
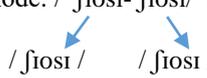
/ ʃɪosɪ / / ʃɪosɪ /
first daughter input (f) reduplicant input (f)
word class: indefinite pronoun word class: indefinite pronoun
meaning: any meaning: any

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 arose when two daughter inputs of equal semantic levels are doubled as in the data;

15. Lukisa: Omu- ndu **yesiyesi** yetse.
/ omᵁndᵁ ʝɛsɪʝɛsɪ ʝɛtsɛ /
sgS- person AUG-anyone sg1 come
Any one person can come.
word class: indefinite pron.
meaning: anyone
mother node: / ʝɛsɪ -ʝɛsɪ/ (f + added meaning)
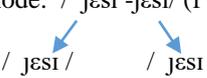
/ ʝɛsɪ / / ʝɛsɪ /
daughter input (f) reduplicant input (f)
word class: indefinite pron. Word class: indefinite pron.
meaning: any meaning: any

In these data of 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 & 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.

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) and that 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. 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.

Verbs

In language, verbs denote action words. In sentences, verbs are the words that signify an action performed by nouns (Lyons, 1968). Various verbs in Lukisa reduplication in this study underwent 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 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 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. 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 & Zoll (2005) posit that morphological doubling occurs when reduplication doubles some morphological constituent within the stem, irrespective of the phonological size or linear position. 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.

16. Lukisa: Lichina lino **li -rerere.**
/ lıchına   lıno lırɛrɛrɛ /
SgS-stone SG sg1-this   sg1-slippery
This stone is slippery.
word class: adjective
meaning: slippery
mother node:/lı- rɛrɛrɛ/ (f + added meaning)

/lı-rɛrɛ/   / rɛ/
daughter input (f)   reduplicant input (f)
word class: verb   RED
meaning: bring it

MDT (2005) theses on morphological targets propounds that the meaning of a morphological

construction is a property not of the stem-internal morpheme which happens to reduplicate in any given instance but rather of the construction as a whole, that is the mother node. 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* which is 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.

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 shows that reduplication serves seemingly arbitrary derivational functions making changes in the syntactic category or verbal argument structure.

Noun	Adjective
omurere /omᵁrɛrɛ/	omurerere /omᵁrɛrɛrɛ /

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.

17. Lukisa dialect: Opati nɔ- mᵁan -a **o -murerere**.
/ Opati nɔmᵁana omᵁ- rɛrɛrɛ /
sgS-Opati sg1-child- Fv   sg-unreliable.
Opati is an unreliable child.
word class: adjective
meaning: unreliable / untrustworthy
mother node: /omᵁ- rɛrɛ -rɛ/(f + additional meaning)

/omᵁ- rɛrɛ /   / rɛ /
daughter input (f)   reduplicant input

word class: noun   RED
meaning: slippery traditional vegetables

According to Inkelas & Zoll (2005), the thesis of morphological doubling occurs for a morphological purpose of bringing change in meaning. Inkelas & Zoll (2005) posit that reduplication is due to the presence of a meaningful RED and the double use of the RED would be expected to correlate with semantic change. 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 traditional African vegetables changes to capture the adjective *omurerere* which is used to describe an animate noun, human beings in this case. In the data in 17, the descriptive adjective "slippery" 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 color, thus, when we talk about color of a given noun, adjectives are used to describe them (Ford, 1974). In Lukisa, mixed color 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 colors. 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 colors. This data was presented as:
18. Lukisa: I - ng'ombe   ya   **ama – palapala.**
/ ŋgɔmβɛ   ja ama- palapala /
sgS-cow   sg1-of   AUG-mixed skin color
The cow with a mixture of colors.
word class: adjective
meaning: mixture of colors
mother node: / ama- palapala /(f + added meaning)

/ama -pala /   / pala/
daughter input (f)   daughter input (f)
word class: adjective   RED
meaning: mixture of colors

Through total reduplication, a new word is derived although it retained the adjectival word class. Inkelas & 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 daughter input "pala" which has the same syntactic and semantic connotation. This gives rise to the descriptive adjective *amapalapala* which implies a mixture of colors. This is a class altering form of reduplication in which the prototypical verbal daughter inputs lead to the formation of a descriptive adjective.

CONCLUSION

The study demonstrates that morpho semantic reduplication in Lukisa is both a class maintaining and a 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 before the reduplicant input is added to form the reduplicative or the mother node. The reduplicative formed is in the same lexical category as the input root word although the meaning can change. There is also the class altering morphological reduplication in which we found that when reduplication takes place, the word class of the given lexical item changes in the resultant reduplicative or mother node. It was established that the semantic connotation of the reduplicant changed together with the word class category when compared to the respective daughter and reduplicant inputs. For example, a word would change from a noun to an adjective or a verb to an adjective through morphological reduplication hence conforming to the tenets of MDT (2005) on morphological doubling analysis and the morpho semantics of reduplication.

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