Analysis of Morphological Reduplication in Luganda Lexical Categories

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Abstract

Reduplication is a morphological process in which the root/stem of a word or part of it is repeated. Reduplication is divided into different types such as full, partial, rhyming, ablaut, reduplication in baby talk and reduplication in onomatopoeia. This study deals only with full reduplication in Luganda lexical categories. The main objective of the study is to analyse the morphological reduplication in Luganda lexical categories. Specifically, the study identifies Luganda lexical categories that undergo reduplication, analyses reduplicated patterns using Morphological Doubling Theory (MDT), and explains the semantic functions of reduplication in Luganda lexical categories. Data collection included both primary and secondary data, where primary data included interviews where three pure native speakers and four teachers who teach Luganda in Rakai district were involved. Some words used in this study collected from different documents and sources include the Luganda-English dictionary, the Holy Bible (Old and New Testament) and Luganda proverbs and songs. Lexical questionnaires developed by the researcher were used. The analyses show that Luganda lexical categories undergo full reduplication in the morphological process. The recommendation and suggestions of this study are that similar studies of full reduplication in other Bantu languages should be conducted to give an overall description pertaining to this phenomenon.

Keywords: *lexical categories of speech, morphological process, full reduplication, morphological doubling*

Introduction

According to Inkelas and Zoll (2005), reduplication is a morphological word formation process in which some portion of a word (the base/root) is doubled. It is used in words to convey grammatical functions such as plurality, intensification and lexical derivation to create new words. Although, the authors above claim that reduplication is used to convey grammatical functions in language, in practice reduplication also is used to convey semantic functions (Uzawa 2012). Reduplication is the word formation process in the English language as well as other languages. The study focused on the lexical categories such as verbs, nouns, adjectives and adverbs and how they undergo total reduplication where a stem is repeated to construct different functions. To have a successful analysis of data in this study Morphological Doubling Theory (MDT) developed by Inkelas and Zoll (2005) was used. This approach helped the researcher to distinguish her work from Kanana (2016), Nyaga (2014) and Lusekelo (2009) who did their work on reduplication. Spencer and Zwicky (1991) state that reduplication processes are of specific interest to morphophonology because it has a morphological and phonological aspect. In addition, according to Inkelas and Zoll (2005), the mechanism of reduplication and manner in which copies could

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differ from each other has been a foundational concern to theoretical and descriptive linguistics. Reduplication has been the focus of both phonological and morphological aspects.

Different scholars have studied reduplication. For example, Elliot (2010) made an analysis of adjective reduplication in Luganda using template melody, and Hyman and Katamba (2001) viewed verbal reduplication as the phonological properties which signal an action done frequently. Novotna (2000) studied reduplication in the Swahili language, Lusekelo (2009) did a description of Kinyakyusa verbal reduplication, Nyaga (2014) did a study of morphological reduplication in Kiembu, Kanana (2016) did reduplication in Kimeru, Boakye (2015) studied reduplication in Akan, Downing (1997) studied morphological correspondence in Kinande. Katamba (1993) uses the term reduplication as a process whereby an affix is realized by phonological material borrowed from the base. In addition, the process indicates different semantic functions like distribution, plurality, repetition and continuance. Novotna (2000) notes that reduplication is fully grammaticalised, that is it serves either morpho-syntactic purposes (such as expressing concepts which would be formed using other morphological and syntactic devices) or reduplication plays a role in the word formation, that is, at the level of lexicology. From the above arguments, the researcher realized that reduplication is a morpho-phonological phenomenon. Therefore, this controversy has created a starting point to attest to morphological reduplication in Luganda lexical categories using Morphological Doubling Theory (MDT) and explain the various semantic functions of reduplicated words.

Theoretical Review

Inkelas and Zoll (2005) in Morphological Doubling Theory (MDT) reduplication is seen as morphological construction whose individual parts are morpho-semantically identical. Both partial and total reduplication follow the same principle, with the first one being subject to further truncation. "An approach to reduplication in which morphological constructions can call for two instances of the same morphological constituent, where ''same'' is defined at the level of meaning. Morphological doubling can target a whole word, a stem, or a root". It is not phonological in nature, in the sense of increasing the phonological harmony of the output; rather, morphological doubling is an input mandate on the part of the morphology. Consequently, identity in morphological doubling is computed in terms of morpho-semantic content but not phonological identity.

Inkelas and Zoll (cited in Hurch, 2005) noted that in MDT, reduplication is viewed as the double or multiple occurrences of a morphological constituent meeting a particular morphosemantic description. MDT departs from previous theories in which the reduplicant is treated as an abstract morpheme RED whose substance is provided by phonological copying by Marantz (1982), Steriade (1988). This study applied MDT to study morphological full reduplication in Luganda lexical categories and the functions of reduplication in Luganda. Inkelas and Zoll (2005, cited in Khanjian & Alinezhad, 2010) argued that, while there is no necessary uniformity in the types of semantic function associated with the outcome of morphological doubling there is uniformity in inputs: the two inputs to a morphological doubling construction must be morpho-semantically identical.

Empirical Literature Review

Hyman and Katamba (2001) note that reduplication is a common phenomenon in Luganda especially in verbal reduplication as it is used in signalling an action done frequently or 'here and there' or without real commitment. Verbal reduplication is carried out as the phonological properties in Luganda. This study done by Hyman and Katamba created a study gap since they analyzed Luganda verb reduplication using phonological perspectives by looking at monosyllabic length. The current study looked at reduplication morphologically using MDT where the disyllabic and trisyllabic stems were entirely repeated which a researcher intended to fill in studying

reduplication in Luganda verbs on how undergoes full reduplication, using MDT and its semantic meaning.

Kanana (2016) in her study investigates full and partial reduplication in Kimeru.She looked at reduplication in all open word categories in Kimeru using the Morphological Doubling Theory (MDT), hence she argued that Kimeru marks a change of meaning in the output whereby the original word changes its meaning slightly after reduplication. This study was a starting point for the current study especially the use of the tenets of MDT in the analysis of morphological reduplication in Luganda lexical categories. According to Lusekelo (2010), the classification of Kinyakyusa adverbs morphologically falls into true/core and derived adverbs and this classification relies on the functions they designate. This study done by Lusekelo created a study gap, which the researcher intended to fill by studying reduplication in Luganda adverbs on how undergoes full reduplication, how it is analysed using MDT and its semantic meaning.

Methodology
General Research Approach
The study is qualitative whereby the data were analyzed in the form of words and descriptions, and major concepts were identified by examining the collected data and identifying information that was relevant to the research questions and objectives. It then develops a coding system based on samples of collected data and describes the intensity of descriptions in the discussion. This study was carried out in the Rakai district, particularly in Kooki and Rakai town where the researcher interviewed native speakers in Rakai and teachers who are experts in teaching Luganda as a subject in public primary and secondary schools located in Rakai. It was Rakai because of its familiarity to the researcher and it is a place where native speakers of Luganda are found hence helped the researcher in getting the real data of this study.

Sampling Technique and Sample Size
Purposive sampling was used in this study to get informants. The study used informants who are three sampled native speakers of Luganda who were not contaminated with any language and four teachers who are experts and have been teaching Luganda subjects in Rakai primary and secondary schools for more than five years. Table 1 below shows the list of sample sizes the researcher used to get data used in the study.

Table 1
Sample size of the study

S/N	Informants	Number	Place
1	Native speakers	03	Rakai
2	Teachers	02	Rakai primary school
		02	Rakai secondary school
Total		**07**	

Data Collection Technique
Lexical Questionnaires
From the developed lexical questionnaires, outlined lexical categories in Luganda were tested orally by three sampled native speakers and four teachers who teach Luganda from which well-formed reduplicated words were identified. In the identified lexical categories list in Luganda, the researcher further tested the total reduplication within the language and clearly explained the semantic functions of reduplicated words. The list of 274 lexical words consisting of 74 nouns, 76 verbs, 64 adjectives and 60 adverbs was analyzed in this study. Table 2 below shows the list of lexical questionnaires used in this study.

Table 2
List of Lexical Questionnaires in Luganda Tested in Reduplication (*Murphy, 1972)*

Noun	Gloss	Verb	Gloss	Adjectives	Gloss	Adverbs	Gloss
Muwala	Girl	Tema	Cut	Nene	Fat	Wano	Here
Mazzi	Water	Kuba	Beat	Wamvu	Tall	Kibi	Badly
Nkuba	Rain	Zanya	Play	Lungi	Beauty	Elii	There
Musenyi	Sand	Lima	Dig	Kyelu	White	Egulo	Yesterday
Mukazi	Woman	Seka	Laugh	Dugavu	Black	Enkya	Tomorrow
Musajja	Man	Waata	Peel	obubi	Bad	Kumakya	Morning
Muyizi	Learner	Kwata	Catch	Sanyufu	Happy	Kawungezi	Evening
Tooke	Banana	Kaaba	Cry	Camufu	Cheerful	Bulungi	Good
Sepiki	Saucepan	Imba	Sing	Kadde	Old	Bulijjo	Always
Kiyungu	Kitchen	Linya	Climb	Sungu	Angry	Leero	Today

Interview

In this study, a researcher interviewed only three native speakers of Luganda who have at least the knowledge of listening and speaking the language used in this study. They assisted in attesting most of the data collected in the documentary review by pronouncing the reduplicated word and giving the clear semantic meaning of the reduplicated word. In addition, four teachers who have experience in teaching Luganda as a subject in public schools in Rakai attested to the orthographic system of lexical words by showing the arrangement of letters in the collected words. A researcher decided to choose only three Native speakers and four teachers because they were able to give real and valid data and avoid bias in the study. Therefore, the selected informants were an accurate representation of the larger population.

Documentary Review

The documents reviewed in developing the lexical questionnaires were, dictionaries, namely Luganda- English dictionary by Murphy (1972), and Luganda Bible (Old and New Testament) Bukedde online magazines.

Findings and Discussion

This study analyses full reduplication in Luganda's four lexical categories which are verbs, adjectives, adverbs and nouns. The other objective was to show how the reduplicated words can be analyzed using MDT as well as to explain the semantic functions of reduplicated words in Luganda.

Lexical Categories that Undergo Reduplication

Lexical categories are known as open classes. The lexical categories include nouns, lexical verbs, adjectives and adverbs.

Noun Reduplication

Nouns in Luganda are grouped into various noun class system, which is divided into singular and plural patterns example nouns of people that start with the prefix mu- is in singular and ba- is in plural. Therefore, these noun classes helped the researcher to recognize noun stems from their singularity and plurality.

Table 3
Luganda Nouns undergo full Reduplication

Prefix	Disyllabic Stem	Gloss	Reduplicated	Gloss
Mu-ba	Wala	Girl	Mu-walawala/ba-walawala	Looks like a girl
Li-ma	Liso	Eye	Lisoliso/masomaso	Looks like an eye
Ma-	bega	Shoulder	begabega	Looks like a shoulder
Mu/mi-	gatti	Loaf	Mu-gattigatti	Looks like loaf
Ku/ma-	gulu	Leg	Ku-gulugulu	A real leg

From the data in Table 3, Luganda nouns undergo full reduplication and show the semantic meaning 'looks like' a real thing. For instance, the noun 'tale' (bush) when reduplicated becomes taletale which means it looks like real bush. Also, the noun mu-wala (a girl) mu-walawala means he/she looks like a real girl (it can be due to her behaviour or appearance).

Verb Full Reduplication in Luganda

In Luganda, as in many Bantu languages, the verbal reduplicant is two syllables long and ends in a fixed vowel /a/. Also, ku- is the infinitive prefix which is attached in the stem for instance in verbs like kuba (beat) attached the infinitive prefix ku- and becomes kukuba (to beat), zanya (play), 'okuzanya (to play). The least of monosyllabic verbs can be reduplicated but semantically lacks meaning for instance the verb –lya (eat) when is reduplicated to become lyalya it lacks semantic meaning. Therefore, Luganda verbs undergo full reduplication and comprise the semantic meaning. Table 4 shows verb reduplication in Luganda.

Table 4
Luganda Verb Reduplication

Prefix	Disyllabic Stem	Gloss	Reduplicated	Gloss
ku-	kaba	Cry	Kabakaba	Frequent crying
ku-	tema	Cut	Tematema	Frequent/insisting cutting
ku-	Linya	Climb	Linyalinya	Keep on climbing
ku-	Zanya	Play	Zanyazanya	Keep on playing
ku-	Soma	Read	Somasoma	Insisting on reading
ku-	Gaya	Chew	Gayagaya	Chew further
ku-	Kima	Fetch	Kimakima	Fetch repeatedly

In Table 4 above, Luganda disyllabic stem shows full reduplication whereby the stem is reduplicated (repeated) to create a new meaning of showing something done frequently like lumya (hurt) lumyalumya which means frequent hurt, or to insist. For example, the verb soma (read) somasoma means insisting on reading especially in the classroom or to show repetition such as gaya (chew) gayagaya chew repeatedly. The prefix /ku-/ when attached to the verb, shows to-infinitive as in kukuba (to beat) kukaba (to cry), kuzanya (to play).

Luganda Adjectives

In Luganda, adjectives also take a nominal concord and nearly always follow the noun. The adjectival stem-like nene (big) is used with the nominal concord ki- (agreeing with the noun class of its noun) as in ekitoke (banana) kinene (big) and having an initial vowel /e-/. Therefore, a base of adjectives like other lexical categories also attaches to the prefix. The adjective prefixes in Luganda are presented in Table 5 below.

Table 5
Full Reduplicated in Luganda Adjectives

Prefix	Base	Gloss	Reduplicated	Gloss
Mu/ba-	Silu	Stupid	Silusilu	Looks like stupid
Mu/ba-	Wanvu	Tall	Wanvuwanvu	Somehow tall
ki-bi	Ttono	Small	Ttonottono	Rather small
Ki-bi	Kadde	Aged	Kaddekadde	Somehow aged
Mu/ba-	Naffu	Lazy	Naffunaffu	Rather lazy
Ki/bi-	Bisi	Unripe	Bisibisi	Rather Unripe
	nsonyi	Shy	Nsonyinsonyi	Somehow shy
Ki-	nene	Big	Nenenene	Somehow big
Ki/	Kalu	Dry	Kalukalu	Rather dry

Table 5 shows that Luganda adjectives undergo full reduplication and provide a new meaning of showing something looks rather as a real thing. For instance, tobyo (wet) totobyotobyo (rather wet), sava (fat) savasava (somehow fat).

Full Reduplication in Luganda Adverbs
Luganda adverbs rarely undergo full reduplication where the stem is repeated to create different semantic meanings. From the collected sixty (60) adverbs, only twenty-five (25) adverbs approved by native speakers of Luganda undergo full reduplication with semantic meaning. The following examples indicated in Table 6 below are the full-reduplicated adverbs in Luganda with semantic functions.

Table 6
Full Reduplication in Luganda Adverbs

Disyllabic Stem	Gloss	Reduplication	Gloss
Wa-gulu	Above	Wa-gulugulu	Right above
Yekka	Alone (person)	Yekkayekka	Very alone(person)
Bwelu	Out	Bwelubwelu	Real out
Kyekyo	Real	Kyekyo	Really/very
Dala	Indeed	Daladala	Very indeed

The data in Table 6 show that adverbs in Luganda with disyllabic stem undergo full reduplication where the stem is entirely repeated and forms a new word and semantic meaning of showing something real done in real situation for example, bwelu' (out) is bwelubwelu (real out), or done extremely like zibbi (dark) is zibbizibbi (extremely dark).

### Analysis of Luganda Reduplication Patterns using MDT
Two identical inputs results in full reduplication in Luganda which has some added meaning, the inputs are identical semantically and this morphological doubling in Luganda serves the morphological purpose of marking a change in meaning. In this section, open categories which undergo full reduplication are analysed using MDT.
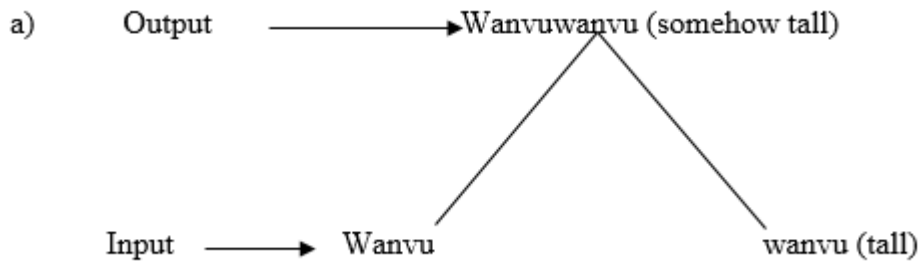
i) Noun Reduplication with Disyllabic Stem

12 a) Output ⟶ Mu- walawala (Looks like a girl)

Input ⟶ wala   wala (girl)
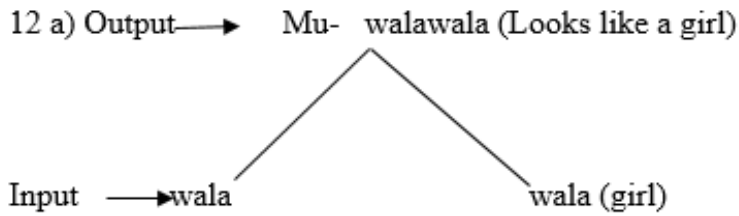
Verb Reduplication using MDT
The following are the analysis of verbs with disyllabic stem using MDT:

14 a)   Output ⟶ Kabakaba (cry repeatedly)

Input ⟶ Kaba   kaba (Cry)
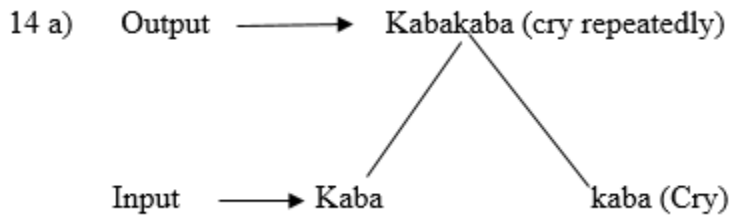
Analysis of Adjectives with Disyllabic Stem using MDT:

a)   Output ⟶ Wanvuwanvu (somehow tall)

Input ⟶ Wanvu   wanvu (tall)

Analysis of Adverb Reduplication using MDT
Reduplicated adverbs with disyllabic stem also can be analyzed using MDT as shown in the Example 18 below:

18a) Output ⟶ Ka-soobosoobo (Very slowly)

Input ⟶ Ka-soobo   soobo(slowly)
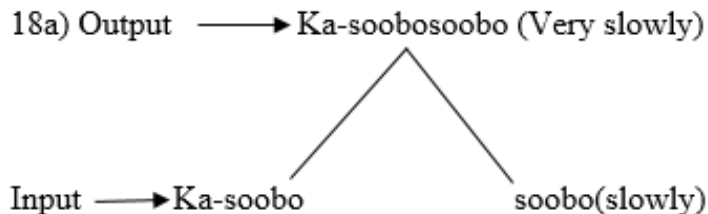
Conclusion
It can be concluded from the analyses that it is valid and evident to state that Morphological Doubling Theory (MDT) can be advanced to account for reduplicative patterns in Luganda and

other Bantu and non-Bantu languages. Reduplication, despite being profound word formation process in Luganda and most probably among other Bantu languages, has not been studied extensively. A comparative study on other word formations of Luganda could also be done. In this study, only the lexical categories (nouns, verbs, adjectives and adverbs) were considered. Therefore, analysis of reduplication in other functional categories like pronouns, prepositions, complementizers and determiners in Luganda should be considered too. This study relied on Luganda, hence, it is important for future researchers to look at other languages spoken in Uganda (such as Lunyankore, Lutooro, Lukiga, Luo, Lugbara and Achori and other Bantu and non-Bantu languages. This study was extensively done on full reduplication while other types of reduplication like partial, ablaut, rhyming, reduplication in onomatopoeia and reduplication in baby talk have not been studied exhaustively. Analysis of other types of reduplication in Luganda could also be done.

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