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MORPHO-PHONOLOGICAL EFFECTS
IN GIKUYU LANGUAGE REDUPLICATION

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Abstract:

This research is indispensable as it basically studies how Gikuyu language reduplication patterns can be explained using Prosodic Morphology Theory. It looks at the various types of reduplication in Gikuyu language and seeks to establish if reduplication in Gikuyu is considered morphological reduplication or phonological copying. Word classification as well as the Gikuyu vowels and consonants have extensively been discussed in this paper as a foundation for the reduplication discussion. The study tries to find out the logic worth of reduplication, how reduplication interconnect with morphological and phonological processes, linguistic units associated with this concept and draws conclusion that reduplication in Gikuyu is considered both morphological doubling and phonological copying. The study adopts Prosodic Morphology theoretical approach in reduplication patterns analysis. Gikuyu phonemic catalogue on vowels and consonants as well as the word categorization, that is, nouns, pronouns, verbs, adverbs and adjectives has been discussed as a foundation for the research. Reduplication is a morphological process in which there is repetition of a stem or a root of a word in Linguistics. Reduplication is important since it acts as a declension to bring out semantic roles such as lexical derivation, authentication and reinforcement to form new words. Qualitative sampling was done on the word categories and an outcome was established. There were various reduplication patterns in Gikuyu, several semantic patterns associated with it were listed, set out and reviewed. The findings have been scrutinized and analyzed for further recommendations.

1. Introduction

The language of the current study is Gikuyu and the community linked with this language is the Kikuyu community of Kenya. Gikuyu is a language spoken by the Gikuyu of the Central Bantus branch (Dwyer, 1997) from the Congo family. Generally, they live

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in the Central parts of Kenya such as Nyeri, Murang'a, Kirinyaga and Kiambu. However, most of them are scattered all over Kenya due to the rural – urban migration in search of jobs, education, skills and better living standards. They are found in various towns such as Nairobi, Nakuru, Eldoret and other big towns (Njoroge, 2006). Gikuyu language has five dialects comprising of Mathira (Nyeri), Ndia (Southern Kirinyaga), Southern Gikuyu (Murang'a South and Kiambu), Gichugu (Northern Kirinyaga), and Northern Gikuyu (Northern Murang'a). These lexical variation dialects were classified based on the semantic, phonological, linguistic and grammatical variations (Wachera, 2008). This research mainly focused on the five dialects of Gikuyu language (Dawyer, 1997).

Language entails the use of several sound symbols and signs to convey a meaning in self-expression and communication (Crystal, 2003). Languages also vary (Sapir, 1921) and thus it can be concluded that it keeps changing. The ultimate reasons to why languages keep changing shows more on how it is used in the society and the way it is obtained (Richard & Brian, 2003). Reduplication is not extensively rich in meaning and its level of linguistic output keep changing from time to time. It is simply the doubling of a syllable or part of a word sometimes through customization. Morphology basically is the generalization about form and meaning that relates words with others within or another language while phonology is deals with sound patterns in a language. Morphological investigation is a significant initial step in language handling errands such as parsing and data retrieval, grammatical featuring among others. This study focused on reduplication in the precincts of the Prosodic Morphology Theory in Gikuyu grammar where different word categories have also been tackled such as nouns, verbs and adjectives among others. The study therefore provides information on the types of reduplication, the Gikuyu grammar which is based on the word-class system and the basics of the theory of Prosodic Morphology in Gikuyu language.

2. Literature Review

The literature review in this study focuses on the theoretical review and reduplication process in the Gikuyu.

2.1 Theoretical Review

Reduplication has been discussed by Spencer (1991), Steriade (1988) and Broselow & McCarthy (1983). They contend that reduplication is an interaction that duplicates all or part of the phonological portrayal of a stem as a fasten. Fundamentally, they advocate for a phonological system in the study of reduplication. They give the previous structure of reduplication that has prompted the present hypothetical model. These hypotheses are important since they helped the researcher comprehend the idea of phonological replicating which is a part of this research.

A few studies on morphology and other parts of language have been done and one such study was completed by Njoroge (1978). He explores how objects are gotten from action words and he utilizes Transformational Generative Grammar Theory. He is worried about how appendage is utilized in nominalization. His work is fundamentally

on things dissimilar to this investigation is based on the four open word classes in Gikuyu: things, action words, descriptors and verb modifiers.

Numerous works exist on the morphology of Gikuyu language however none to our information, has tended to reduplication. Despite the fact that researchers have considered Gikuyu morphology from different hypothetical points of view, none, supposedly, has considered reduplication or applied the Prosodic Morphology hypothesis. A study by Mugane (1996) is likewise morphological, managing Bantu nominalization. He takes a look at the verbal framework in Gikuyu and notes that nominalized action words in Gikuyu have both inflectional and derivational appends.

Kamau (2002) explores verbal statements in Gikuyu utilizing the Lexical phonology- morphology hypothesis. He examines the phonological changes in roots and attachments coming about because of appendage. Kamau's work contrasts from this study as it is a research on the phonological cycle that happens following attachments inside the Gikuyu verbal complex while this study is morphological however utilizing hypothetical precepts that have phonological foundation.

2.2 Review on Reduplication

Ashton (1944) posits that Bantu language structures regularly incorporate areas showing that action words, modifiers, pronouns and demonstratives can be reduplicated in general with explicit semantic level. He also argues that reduplications show a great deal of comparability in both construction and significance. His study aided this research on checking the different grammatical features that reduplicate in Gikuyu.

Based on the research by Matthews (1974), it is imperative to say that reduplication is a morphological cycle and talks about the various sorts of reduplication, that is partial, complete, prefixal, and suffixal. These four kinds of reduplication were important to the current research. The current study explored which ones among them exists in Gikuyu.

Peng (1991) postulates that the verb word stem in Gikuyu reduplicate to bring out three assumptions, that is, a bit, fairly, and decreased in power. He takes a look at the design of the Gikuyu verb word root and makes it clear on the pieces of the stem that takes part in reduplication. He finds that tone is not protected in reduplication in Gikuyu. He additionally examines stress as an element of lexical items that are influenced by reduplication. This has helped much to gather information on the reduplication in the Gikuyu dialects.

Zwicky (1998) examined reduplication as a morphological activity, that is, a kind of appendage of a prosodic layout to a stem. He views reduplication as a part of phonological replication. His study is very crucial to this research since it helped in understanding the part of phonological duplicating which was applicable to this study and making various conclusions based on the Gikuyu reduplication.

It can therefore be argued that prosodic investigation of reduplication by phonological duplicating hypotheses, does not represent halfway reduplication since they treat reduplication as the absolute duplicate of the theoretical morphological design of the base. Reduplication is not completely a prosodic concept. The aforementioned

works are important to the current process since it is assisting in finding out the connection between reduplication, morphology and phonology.

3. Material and Methods

This research is based on both qualitative and quantitative method of data collection. In qualitative analysis data is mainly in form of words while qualitative data is in form of computable arithmetic. It generally deals with research design, sample size, sampling techniques, methods of data collection, data analysis and presentation techniques.

3.1 Research Design

This research employed several methods of data collection and analysis. Among it was case study method (Jensen & Rodgers, 2001). This helped since it brought clear understanding of reduplication as a basis of word formation. Content analysis was another method which was used since it shows the extent to which these words have been in usage. This method was of great use in explaining the composition of data and getting of Gikuyu text forms which helped in coming up with words for research.

3.2 Sample Size

This research consisted of three categories of Gikuyu native speakers. Five male and females representing the young people aged between 19-25 years, adults aging from 28-59 years and old people aging from 60 years and above. The figure below shows a simplified sample size.

Figure 1: Represents the Target group categories, age, total number and gender

Category of target group	Age of target group	Total number of target group and gender
Young people	19-25	5 males and females
Adults	28-59	5 males and females
Old	60 and above	5 males and females

Based on this research, the researcher came up with such a target group since there was a need of equality for easy interviews, saving on time and getting of first-hand facts and figures. The five males and females in each category represented five dialects in Gikuyu and was crucial since it aided in collection of data on the lexical items.

3.3 Sampling Techniques

Sampling is the general process of selecting a group that data may be fetched from them. In this research purposive sampling was used to establish the grammatical words in Gikuyu such as nouns, verbs, adjectives and adverbs. This method is important and efficient in both quantitative and qualitative form of data. It basically assists a researcher to get more information by maintaining focus on the key sources of information. Like in this case the aim was to get the information on reduplication on the Gikuyu language.

3.4 Data Collection

Data was collected in form of words since the aim was to form the grammatical parts such as nouns, verbs, adverbs and adjectives and establish which parts duplicates themselves. According to Chomsky (1977), original language speakers have more information on the grammatical order. Therefore, on the part of qualitative method a target group was chosen which provided a deep information on lexical variation and several grammatical parts based on Gikuyu language. In this study, the most used method was direct interviews since it was the easiest method for getting the first-hand information based on the study. This interview involved mainly informal dialogue to get a deeper understanding on the basic things regarding reduplication.

The interviews mainly took place in areas where there was a calm atmosphere and comfortable for the one-to-one conversation. These conversations were done in Gikuyu dialects and the researcher recorded in books the basic things got through the conversation. Observation was another method of data collection that was used. This way of data collection is helpful since one gets direct and raw data from the natural state of social activities thus an asset to the study.

3.5 Data Analysis

This study uses the formal analysis of the information on reduplication based on Prosodic Morphology theory on Gikuyu dialects. Basic information entailed in the study of the Gikuyu was represented in relation to the information got during the research. The words collected during data collection in the field were transcribed and arranged in a systematic manner. The reduplicated forms were grouped according to stem, root and word. The researcher looked deeper into the reduplicated words and went ahead to establish the meanings of the words before and after reduplication. Consequently, the tone of initial words was confirmed and that of reduplicated words to find whether reduplication had affected them.

4. Results and Discussion

The main concerns of this research were word classification system in the Gikuyu dialects, morphological and phonological reduplication in Gikuyu dialects. The discussion for the three as may be considered being the main objectives are as discussed below:

4.1 Word Classification in Gikuyu dialects

The words in Gikuyu language are classified mainly in form of nouns, verbs, adverbs, adjectives among others. Before looking into nouns, the Gikuyu language has got 25 speech sounds, that is, 18 consonants and 7 vowels. The table below simplifies the discussion.

4.2 Vowels

Table 1: Vowels in Gikuyu language

	Front	Central	Back
High	i		U
Mid-High	e		O
Mid-low	ɛ		ɔ
Low		a	

4.2.1 Front Vowels

Gikuyu language has got three front vowels which include, high front (i), mid high front (ĩ), and mid low front (e).

Example:

Gikuyu	English
Ini	Liver
Mĩtĩ	Trees
Mĩte	throw them away

4.2.2 Back Vowels

They are only three in number and these are high back (u), mid high back (ũ), and mid low back (o).

Examples:

Gikuyu	English
Iboko	Whips
Mbũkũ	Rabbit
Mabuku	Books

4.2.3 Central Vowels

Examples:

Gikuyu	English
Inĩ	In
Kũra	Get old
Mboga	Vegetables

4.3 Consonants

Table 2: Consonants in Gikuyu language

	Bilabial	Dental	Alveolar	Postalveolar	Palatal	Velar	Glottal
Stop	mb		t nd			k ng	
Nasal	m		n		ny	ng′	
Tap			r				
Fricative	b	th		C		g	H
Affricates				Nj			
Approximant	w				y		

Table 2 shows the consonants in Gikuyu language.

4.3.1 Stops
They include: (mb, t, nd, k, ng) in general.

Example:

Gikuyu	English
Mbũri	Goa**t**
Tua	Spit
Ndũri	Piercer
Ngathiĩ	I should go
Mwa**ki**	Fire

4.3.2 Nasals
They are four in number**:** bilabial (m), alveolar (n), palatal (ny), and velar (ng').

Examples:

Gikuyu	English
Ma	Of
Na	With
Nyama	Meat
Ng'eni	New

4.3.3 Taps
This exists as only one (r) consonant. The examples include:

Gikuyu	English
Rũma	Bite
Nja**r**a	Hand

4.3.4 Fricatives
There are five fricatives in Gikuyu language: labial (b), dental (th), postalveolar (c), velar (g), and glottal (h).

Examples include:

Gikuyu	English
Mai**th**o	Eyes

The fricative above takes the following forms as allophones [v], [β], [f], [ɸ].

Examples:

vafa   vava   fafa   fava

βafa   βava   ɸaɸa   ɸaβa

4.3.5 Approximants

They are two in number: (w) and (y).

Example:

Gikuyu	English
Nda**w**a	Medicine
Tha**y**ũ	Peace

4.3.6 Affricates

This is only one in general: (nj).

Example:

Gikuyu	English
Njina	Burn me
Njogoo	Rooster

The parts of speech that were found include nouns, verbs and adjectives among others.

4.3.7 Nouns

A noun is a naming word. It includes the names of places, animals, plants and many others. Comprehension of things and their morphological construction is considered significant in this research since reduplication happens for certain things in Gikuyu. The study utilizes inferred things, the investigations of things considers both solitary and plural prefixation. Bantu dialects have things that morphologically comprise of affixes and a stem. The affix and noun stem establish a basis for partitioning things into various thing classes that vary from one another in an assortment of linguistic classifications. The nouns contribute to a number of meanings and are grammatical (Welmers,1973). There are several classes of the Gikuyu nouns. Examples of the nouns include:

Class	prefix	Example	English
1	mũ-	Mũndũ	Person
2	a-	Andũ	Persons
3	mũ-	Mũaki	**Fire**
4	mĩ-	Mĩaki	**Fires**
5	i	Ihũa	F**lower**

4.3.8 Verbs

Verbs are doing words. The focal unit of significance in a given verb is its stem. The stem can't remain on its Own. In any case, it should take a suffix according to (Morrison & Mugane, 1997) on Bantu dialects. The verb stem and last vowel together involve the Gikuyu basic unit, which is the most essential verb structure in the language. An example is as given below.

Ina
In-a

In the English context it means 'sing'.
Example in a sentence:

*Mbembe nĩciakũrire-------mbembe nĩ- **ci-** a- kũr -ir -e*

English Translation.
The maize grew.

4.3.9 Adjectives

Adjectives are words that are used to modify nouns or words that tell us more about nouns. The adjectives found in Gikuyu dialects incorporate attributes of size, age, value, color and human affinity. They are bound stems that should be prefixed with the suitable noun prefix. Gikuyu utilizes different techniques for showing attributes.

Examples based on the attributes are:

Age	color	Value	Human affinity	Dimension
Kũrũ- old	*Tune*- red	*Ega*- good	*Athĩki*- obedient	*Raihu*-tall
Erũ- new	*Erũ*- white	*Thaka*-beautiful	*Rũaru*- sick	*Nini*- small

These word classes have contributed to morphological reduplication in the Gikuyu dialects.

4.4 Morphological Reduplication in Gikuyu

There are several instances of morphological reduplication in that they are influenced by nouns, verbs, adverbs, adjectives and many other word classes. There are several types of morphological reduplication and they include the following.

4.4.1 Complete/Total Reduplication

Complete reduplication is the morphological cycle where the reduplicant and the base are indistinguishable at the segmental level (Ngunga, 2002). It is called complete reduplication in light of the fact that the whole word is repeated. This sort of reduplication is the most well-known in Gikuyu since most word classes go through absolute reduplication**.** Examples include:

he-------give	*hee-a-hee-a*	give a little.
kua-----die	*kua-a-kua-a*	die a little.
Ira----yesterday	ira-ira	gives emphasis on yesterday
ici----These ones	ici-ici	emphasis on these ones (Things)
iru--- Knee	iru-iru	gives an emphasis that it is the knee.
tene----ago	tene-tene	emphasizes on ago.

Mũndũ mũgo-----medicine man   mũndumũgomũndũmũgo-------real   medicine man

Gatagatĩ----in the middle   gatagatĩgatagatĩ----------right in the middle.

Thuburia-----saucepan   thuburiathuburia-------real saucepan

Mũtumia-----woman   mũtumiamũtumia-----real woman

4.4.2 Partial Reduplication

This is the type of reduplication where only the part of the base is reduplicated. It is not much common. The following are the examples of Partial reduplication in Gikuyu.

ni-ma-r-oka---------They are coming   ni-ma-r-okaoka-----------They are coming closer.

As the main tenets of the Prosodic Morphology theory claims, it can be seen that reduplication takes place in the part of the root and the stem as exhibited in the examples above. The main tenets shows that the theory of how morphological and phonological determinants of linguistic form interact in a grammatical structure is known as prosodic morphology (McCarthy and Prince 1986 et seq.). It is a theory of how prosodic structure influences templatic and circumscriptional morphology, specifically reduplication and infixation. Issues to do with Principles of Prosodic Morphology as well as the authentic prosody units are used to define templates. This theory continues to envisage matters on Condition of Template Satisfaction, where satisfying temporal constraints is required and is determined by universal and language-specific prosody principles.

As far as Circumscription Prosodic is concerned, the theory posits that there is a Prosodic criterion, in addition to the more familiar morphological ones which can effectively be used to limit the domain to which morphological operations apply.

5. Recommendations

This study has shown that morpho-phonological reduplication is a broad aspect which can be studied in other African languages and can as well be explored using other theories. The major academic gaps in other African languages especially Nilotic languages can be an area of research. Based on the findings made in this study it is clear that the theory of Prosodic Morphology can be used to account for the reduplicative patterns in other languages. It has been used to study Gikuyu reduplication phenomena and it can be said that it qualifies to account for the same in other languages. Through doing so it will be of great benefit to compare Bantu languages.

6. Conclusion

Reduplication represents itself in two ways in in Gikuyu dialects, that is, full reduplication and partial reduplication based on Prosodic Morphology theory. This theory can be utilized to analyse reduplication in other Bantu languages. This is because it surveys various reduplication patterns which convey different meanings. These

meanings are normally not much different from the general observations according to (Moravscik, 1978).

More so, since most languages have not been studied based on this process of reduplication, a study should be done so as to be able to develop a comparative pattern based on these Bantu languages. This will also help to expand the knowledge on the sector of linguistics as a basis of reference during study.

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The author is a PhD candidate for Linguistics in the University of Nairobi. He holds Master of Arts in Linguistics and Bachelor of Education arts with Linguistics and Literature from the University of Nairobi.

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A. Appendix 1a: Interview for the Respondents Between 19- 25 years

I am a student at The University of Nairobi currently pursuing a PhD Degree in Linguistics. I would kindly need your response and provide the information based on your Gikuyu dialects for basic research. I will be grateful if you give me the information on your education and background. This information will be used to make further documentation and also aid in Linguistic studies. The interview will take a maximum of 15 minutes.

(1) Which language do you use mostly for communication while at home?

(2) Tell me more about yourself, education and background.

(3) Based on the age you are in does everyone in your area speak the same language regardless of the age, education and gender?

(4) If the answer to the above question is "NO" tell us why not everyone uses the same language.

(5) Are there any forms of Morphological reduplication in your area?

(6) If the answer to (5) is "YES" kindly give some explanation on by giving several examples based on the type of reduplication.

(7) What are the causes of such forms of reduplication in this area?

(8) What is the general effect of the morphological reduplication in your area?

(9) Based on the reduplicated words you told me earlier in the beginning of the interview, kindly tell me their meaning.

(10) Amongst the words you have given me which ones are commonly used in your language?

Thank you for your time. I would like to give out a brief overview of our interview and correct me where I made an error while collecting the information.

Appendix 1b: Interview for the Respondents Between 29- 60 years

I am a student at The University of Nairobi currently pursuing a PhD Degree in Linguistics. I would kindly need your response and provide the information based on your Gikuyu dialect for basic research. I will be grateful if you give me the information on your education and background. This information will be used to make further documentation and also aid in Linguistic studies. The interview will take a maximum of 15 minutes.

 (1) Which language do you use mostly for communication while at home?

 (2) Tell me more about yourself, education and background.

 (3) Based on the age you are in does everyone in your area speak the same language regardless of the age, education and gender?

 (4) If the answer to the above question is "NO" tell us why not everyone uses the same language.

 (5) Are there any forms of Morphological reduplication in your area?

 (6) If the answer to (5) is "YES" kindly give some explanation on by giving several examples based on the type of reduplication.

 (7) What are the causes of such forms of reduplication in this area?

 (8) What is the general effect of the morphological reduplication in your area?

 (9) Based on the reduplicated words you told me earlier in the beginning of the interview, kindly tell me their meaning.
 (10)   Among the words you have given me which ones are commonly used in your language?

        Thank you for your time. I would like to give out a brief overview of our interview and correct me where I made an error while collecting the information.

Appendix 1c: Interview for the Respondents Between 60 years and above

I am a student at The University of Nairobi currently pursuing a PhD Degree in Linguistics. I would kindly need your response and provide the information based on your Gikuyu dialect for basic research. I will be grateful if you give me the information on your education and background. This information will be used to make further documentation and also aid in Linguistic studies. The interview will take a maximum of 15 minutes.

(1) Which language do you use mostly for communication while at home?

(2) Tell me more about yourself, education and background.

(3) Based on the age you are in does everyone in your area speak the same language regardless of the age, education and gender?

(4) If the answer to the above question is "NO" tell us why not everyone uses the same language.

(5) Are there any forms of Morphological reduplication in your area?

(6) If the answer to (5) is "YES" kindly give some explanation on by giving several examples based on the type of reduplication.

(7) What are the causes of such forms of reduplication in this area?

(8) What is the general effect of the morphological reduplication in your area?

(9) Based on the reduplicated words you told me earlier in the beginning of the interview, kindly tell me their meaning.
(10) Among the words you have given me which ones are commonly used in your language?

Thank you for your time. I would like to give out a brief overview of our interview and correct me where I made an error while collecting the information.

Appendix 2: Dominant Gikuyu language Counties Map

Figure 3: Map of Dominant Gikuyu language Counties

Appendix 3: Reduplication forms

Word	Gloss
Ini	Liver
Mĩt**ĩ**	Trees
Mĩt**e**	Throw them away
Mbũkũ	Rabbit
Mabuku	Books
Kũra	Get old
Mboga	Vegetables
Mbũri	Goat
Tua	Spit
Ndũri	Piercer
Ngathĩĩ	I should go
Mwaki	Fire
Of	ma
Nyama	Meat
Ng'eni	New
Rũma	Bite
Njara	Hand
Mbogo	Buffalo
Maitho	Eyes
Maitũ	Mother
Fafa	Father
Ndawa	Medicine
Thayũ	Peace
Njina	Burn me
Njogoo	Rooster
Mũndũ	Person
Mũaki	Fire
Ihũa	Flower
Ina	Sing
Mbembe	Maize
Nĩciakũrire	Grew
Kũrũ	Old
Erũ	New
Athiki	Obedient
Rũaru	Sick
Thaka	Beautiful
Ega	Good
Raihu	Tall
Nini	Small
Kua	Die
Iru	Knee
Tene	Ago
Ici	These Things
Nimaroka	They are coming

Mundo mugo	Medicine man
Gaatagati	In the middle
Thuburia	Sauce pan
Mutumia	Woman
Ira	Yesterday
He	Give