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An Analysis of Gikuyu Reduplication in the Light of Prosodic Morphological Approach.

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DECLARATION

This dissertation is my original work and has not been presented for the award of a degree or a diploma in any other university.

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We confirm that the work presented in this dissertation was carried out by the candidate. This dissertation has been submitted with our approval as university supervisors.

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DEDICATION

This work is dedicated to my two daughters; Wanjīrū and Wangūi whose love and support I treasure, and who need to aim beyond the sky.

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OPERATIONAL DEFINITIONS OF TERMS

Morphology : study of word formation or word structure.

Reduplicant : an affix that is the product of the reduplication process.

Base : the output form that the reduplicant is attached or related to.

Root : basic form which remains after all the affixes have been removed.

Constraint : a structural requirement that may either be satisfied or violated by an output form.

ABBREVIATIONS AND SYMBOLS

AP	:	Autosegmental phonology
TM	:	Template Morphology
CV	:	Consonant Vowel
PM	:	Prosodic Morphology
CV-TM	:	CV-Template Morphology
PMH	:	Prosodic Morphology Hypothesis.
TSC	:	Template Satisfaction Condition
PCD	:	Prosodic Circumscription Domain

ABSTRACT

Linguistic studies on Bantu languages in general and Gikuyu in particular are rather scanty compared to studies on Western languages. Theories rarely test their claims on African languages. There is a tendency to generalize what holds for English to be true in general. The need to test such theories on Gikuyu data is the driving force behind this study. The study, a Morpho- Phonological analysis of reduplication as a productive word formation process in Gikuyu applies a Morpho-Semantic Perspective to Gikuyu nouns, verbs, adjectives and adverbs.

Reduplication, in linguistics, is a morphological process in which the root or stem of a word or only part of it is repeated. Reduplication is used in inflections to convey semantic functions, such as plurality, intensification and genuinity and in lexical derivation to create new words. It is often used, when a speaker adopts a tone more expressive or figurative than the ordinary speech. Reduplication is often but not exclusively, iconic in meaning. It is found in a wide range of languages and language groups, though its level of linguistic productivity varies.

Reduplication is also defined as the doubling of a syllable, part of a word or a word, sometimes with modifications. As we analyse this phenomenon in Gikuyu, we find that it often goes beyond the mere suggestion of a certain playfulness or intimacy it has in some languages and often serves a crucial grammatical function.

Research involves formulating concepts and generalization on a given theory. The goal of this study is three- fold: to provide an analysis of the variant patterns of reduplication; to describe the various semantic functions associated with the variant patterns, and finally to determine how Gikuyu reduplication patterns could be described using the Prosodic Morphology theoretical approach. This study has

applied the tenets of Prosodic Morphology Theory to Gikuyu data. The effects of the reduplicant on the language have been explained using the same tenets.

This qualitative study sampled nouns, verbs, adjectives and adverbs for the investigation. The data was in form of words and it revealed that there are variant patterns of reduplication in Gikuyu. Secondly, various semantic functions associated with those patterns were numbered, described and discussed. Logical deductions were drawn in relation to the behaviour of the reduplicating morphemes. Data analysis and presentation was done using principles of the Prosodic Morphology Theory.

The findings of the analysis of reduplication in this study confirm that there are variant patterns of Gikuyu reduplication. Those patterns are associated with various semantic functions. The patterns are drawn from both full and partial reduplication. Distinct word classes exhibit varying semantic functions. The reduplicative morphemes that form the patterns are suffixal for full reduplication. Partial reduplication is typically prefixal. The Prosodic Morphological theoretic approach is applied to analyse Gikuyu reduplication. Our recommendations were that a similar study could be done to investigate other Bantu languages or a comparative study of Bantu languages be conducted to give an overall description pertaining to this phenomenon.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Katamba (1993) notes that the interaction between syntax and morphology and between morphology and phonology could be studied with clearer result than when one of them is handled as a separate entity. Many earlier linguists separated the dimensions of language in their studies, that is, they studied the various components separately (Syntax, Morphology, Phonology, and Semantics). However, it has become increasingly clear that integrated approaches are more productive. Theories propounded using this interaction have proved effective and among such theories is the Lexical Phonology (Halle and Mohanan, 1985; Kiparsky, 1982) and the Prosodic Morphology theory (McCarthy and Prince, 1986, 1988, 1990) that interfaced phonology with morphology. Theoretical linguistics forms the basis for the study of languages. It is through such theories, for example, Prosodic Morphology, that we are able to analyze languages and make generalizations.

Natural languages express the presence of morphemes through phonological manifestations as in concatenative and non concatenative morphology. Concatenative morphology depends upon affixation, that is, phonological material affiliated with distinct morphemes that are sequentially agglutinated. Non concatenative morphology has no sequential concatenation of morphemes. This

kind of morphology includes phenomena like umlaut, suppletion, and mutation. Kazutaka (2001) observes that the difference between these two types of morphology however is not profound since both express the presence of morphemes contained in underlying representations.

In many languages, morphological categories are expressed not by conventional affixes but by morphemes whose only constant is a fixed canonical pattern-what might be called shape-invariant morphology. The most common kind of shape-invariant morphology is reduplication. Clearly, as more information about shape-invariant morphology in general and templatic morphology in particular became available, it became increasingly important that a satisfactory theory of these phenomena underlie the analysis. With for example, McCarthy and Prince (1986, 1988, 1990), an approach to shape-invariant morphology that is fundamentally founded in the phonology of prosody was developed.

Reduplication is a morphological operation usually used to express plurality, iteration, habitation and intensification consisting in copying part or whole of the stem. Katamba (1993) observes that the process is one whereby an affix is realized by phonological material borrowed from the base and is very widespread although it has tended to be treated as a marginal curiosity by many Eurocentric writers on morphology. Sapir (1921) observes,

Nothing is more natural than the prevalence of reduplication, in other words, the repetition of all or part of the radical element. The process is generally employed with self-evident symbolism to indicate such concepts as distribution, plurality, repetition, customary activity, increase in size, added intensity, and continuance.

Over the years, reduplication has been the focus of many phonological studies such as Wilber (1973), Marantz (1982) McCarthy and Prince (1986, 1990) among many others. Much work has been done in Bantu reduplication, for example, Kiyomi (1992, 1995), Downing (1994), Odden (1996) and Marlo (2002, 2004). The Bantu verb is morphologically complex and yields rich ground for exploring the behaviour of morphological and prosodic elements in Phonology. Since the Gikuyu morphemes share a lot with morphemes in other Bantu languages despite some dialectal differences, this study follows the analysis of stems used in a number of these studies, for example, Marlo (2002) who tackles Reduplication in Lusaamia. Marlo argues that reduplication in Lusaamia is prefixing despite the absence of partial phonological reduplication in the language.

The literature on reduplication within Prosodic Morphology theory and its predecessors is vast: Marantz (1982), McCarthy and Prince (1986, 1988, 1990, 1991, 1993), Archangeli (1991), Aronoff (1976, 1988), Broselow (1983), Broselow and McCarthy (1983) Clements (1985) Mutaka and Hyman (1990) Nivens (1992) among others. Kiparsky (2000) indicates that one of the things that

make prosodic morphology interesting is the rich additional phonology-morphology interactions that it gives rise to. With respect to selection, reduplication is more revealing than other kinds of morphology, for the copying operation mirrors the phonological shape of the base.

The Prosodic Morphology theory (McCarthy and Prince et seq.) is a theory of how morphological and phonological determinants of linguistic form interact with one another in a grammatical system. More specifically, it is a theory of how prosodic structure impinges on templatic and circumscription morphology, such as reduplication and infixation. There are three essential claims within prosodic morphology theory thus:

- a) Prosodic Morphology Hypothesis. The templates are defined in terms of the authentic units of prosody: mora (μ), syllable (σ) foot (Ft), prosodic word (Pr wd).
- b) Template Satisfaction Condition. Satisfaction of templatic constraints is obligatory and is determined by the principles of prosody, both universal and language specific.
- c) Prosodic circumscription. The domain to which morphological operations apply may be circumscribed by the more familiar morphological ones.

In other words, the theory of prosodic Morphology says that templates and circumscription must be formulated in terms of the vocabulary of prosody and must respect the well-formedness requirements of prosody. Earlier proposals for

including prosody in templatic morphology include McCarthy (1979), Nash (1980) Marantz (1982), Yip (1983), Levin (1983), Broselow and McCarthy (1983), Archangeli (1983, 1984), McCarthy (1984a, b) and Lowenstamm and Kaye (1986). Prosodic morphology extends this approach to the claim that only prosody may play this role, and the role includes circumscription as well.

Katamba (1993) uses the term reduplication restricting it to situations where the repeated part of the word serves some derivational or inflectional purpose thus bringing out the semantic implication of the reduplicant. This is the dimension that this particular study has taken. This study aims at providing an account of Gikuyu reduplication by applying and generalizing theoretical devices provided by template and prosodic morphology to Gikuyu data. By so doing, it has served the dual purpose of filling the descriptive and documentation gaps of this aspect of Gikuyu grammar as well as providing empirical support for the Prosodic Morphology principles (McCarthy and Prince 1986, 1988, 1990).

In the study, the analysis of the data focuses on the unit of the syllable owing to the fact that Gikuyu is predictably an open syllable system. Gikuyu is a Bantu language of the A category that is mainly spoken in Central Kenya and some parts of the Rift valley (Guthrie, 1967). Gikuyu speakers are also found in most of the major towns of Kenya as observed by Njoroge (2006). According to Guthrie (1967) it falls in zone E group 50 and it is language number 51.

The sound inventory of Gikuyu comprises eighteen primary consonants and seven vowels. In the southern dialect they are manifested as: /mb /, /m /, /t /, /nd /, /n /, /r /, /j /, /k /, /ŋ /, /ɲ /, /θ /, /β /, /ʃ /, /ɗ /, /ŋg /, /w /, /h /, /ñ /. The vowels inventory is as follows: /i /, /e /, /ɛ /, /ɔ /, /a /, /o /, /u /. All consonants of this language are phonetically realized as either simple or composite units. Consonants are therefore represented as either single or contour structures. Contour units of this composition have a two-to-one association with positions on the skeletal tier.

A lot has been written about Gikuyu language. The works available range from simple grammars, for example, Gecaga (1953), Gikuyu readers for example Leakey (1989) to recent linguistic analysis of the language for example Mwihaki (1998), Mwangi (2001). The earliest works of the language were written by missionaries, settlers and a small number of native speakers. These simple grammars of Gikuyu were meant for beginners learning the language, who included pupils in elementary classes, missionaries and settlers living in and around Kikuyu land during the colonial era. Other writers include: Armstrong (1940) who dealt with tonal classification, Gecaga and Kirkaldy (1953) who worked on the verbal morphology. Barlow (1960) also dealt with verbs. All these works provide useful data for this study.

1.2 Statement of the Problem

Reduplication in Gikuyu as a word formation process has not received explanatory attention. Little is known of the various patterns and sub-patterns of reduplication, the shape, the positioning of the reduplicant in relation to the base, the mechanisms of copying and the meaning of the reduplicant in Gikuyu. This study has analysed reduplication in Gikuyu and then provided an account of reduplication by applying some tenets of Template and Prosodic Morphology theory therein addressing the following: the way for instance, reduplication patterns of the consonant initial nouns differ from those of vowel initial nouns, whether the reduplicative template is prefixed or suffixed, and the part of the base that is copied as the melody.

Moravcsik (1978) discusses and reports reduplication thus: in verbs, reduplication indicates continuation, frequency or repetition of an event or action. The aim of this research study was to establish the variant patterns and the various semantic functions associated with Gikuyu reduplication and to give an account of Gikuyu reduplication through application of the Prosodic Morphology approach. The focus of the study is the four open-word classes the nouns, verbs, adjectives and adverbs:

The prosodic theory is guided by one fundamental idea called the Prosodic Morphological Hypothesis (PMH). The idea asserts that the templates of reduplicative or templatic morphology are defined in terms of the authentic units

of prosody: the mora, the syllable, the foot and the phonological word. In other words, the PMH demands that the vocabulary of templates is the same as the vocabulary of prosody in general, for example syllabification. Autosegmental phonology and Template morphology give background insights into prosodic morphology.

There are documentation gaps of this aspect of Gikuyu grammar. An attempt to provide empirical support for the principles of Prosodic Morphology (McCarthy and Prince (1986, 1990, 1993) is also missing.

1.3 Research Questions

The research has addressed the following questions:

1. Which variant patterns of reduplication are attested in Gikuyu open-word classes?
2. What are the various semantic functions associated with variant reduplication patterns?
3. How can Gikuyu reduplication patterns be described using Template and Prosodic Morphology theory?

1.4 Research Objectives

1. To determine the variant patterns of reduplication attested in Gikuyu open-word classes.

2. To describe the various semantic functions associated with variant reduplication patterns.
3. To determine how Gikuyu reduplication patterns can be described using prosodic morphology theoretic approach.

1.5 Research Assumptions

1. Gikuyu has variant patterns of reduplication attested in the open-word classes.
2. Gikuyu reduplication is associated with various semantic functions.
3. Gikuyu reduplication patterns can be described using Prosodic Morphology theoretic approach.

1.6 Rationale of the study.

This study gathers data from Gikuyu, and then analyzes it using tenets advanced by the PM theoretic approach in a way that sheds light onto the organization of Gikuyu grammar. The goal of this study is three fold: to provide a detailed description of the various patterns found in Gikuyu, to determine the semantic implication associated with the reduplicants. And thirdly, show how these patterns could be analysed in a unified manner within PM theory. This would be of interest to linguists who would like to study and generalize on human language universals and typology or gather information that enhances the research into the structures and patterns of human language. Reduplication is an aspect of language

found among many languages hence this study reveals aspects of language behaviour that are of comparative interest.

Morphology deals with words and has been taken for granted following the argument that it is not necessary to know how a word is constructed in order to understand it (Mwangi 2001). Reduplication being in the area of Morphology and phonology not only makes a contribution to the area of Morphology by showing the structures of the base and the reduplicant but also to Linguistics in general.

The data collected forms a useful base for many areas of language research. The data within the text and in the appendices, for instance, would help in a comparative study to determine how similar or otherwise Gikuyu is to other Bantu languages.

The study contributes to the area of semantics since it associates meaning to reduplicated morphemes as well as the semantic implication of the variant patterns of reduplication. The study contributes to documenting Gikuyu in describing reduplication. Although the literature on reduplication in most Bantu languages is now quite extensive, for example Kikerewe (Odden 1996), Bukusu (Downing 1994, 1996), Kinande (Mutaka and Hyman 1990), there is no overall analysis pertaining to this phenomenon in Gikuyu. Research studies on reduplication in other Bantu languages have been done for example Mecha (2006) analyzing

Ekegusii within the Optimality theoretic approach. It is against this background that we examine how Morphology interacts with phonology in the grammar of Gikuyu to analyse reduplication and by so doing serves the dual purpose of filling the descriptive and documentation gaps of this aspect of Gikuyu grammar.

1.7 Scope and Limitations of the Study.

The study focuses on Morphological reduplication in Gikuyu. It includes reduplication that is Morphosemantic through analyzing the dissimilarity between the base and the reduplicant and the meaning associated with the reduplicant. A sample of nouns, verbs, adverbs and adjectives in Gikuyu are analysed. These word classes exhibit productive reduplication as noted by Odden (1996). Naylor (1986) argues that meanings brought about by reduplication have a semantic core that is an underlying property of nouns, adjectives, adverbs, verbs called aspectual imperfectivity.

The study confines itself to reduplication as prefixation and suffixation. In the majority of the world's languages, morphological affixes appear at the periphery of the word they are modifying, that is, they are suffixed or prefixed. Infixes then are a mild sort of morphological curiosity, since they forsake the peripheral position for some phonologically-determined slot inside the word (Broselow and McCarthy, 1983). Internal reduplication as a process refers to affixes inserted

internally as opposed to at the initial or final position of a stem or base. Katamba (1993) states that such phenomenon is unusual; only found in a cross-section of the world's languages including among other Levantine Arabic, various native American languages of the Salishan family spoken in the Pacific Northwest.

Kiyomi (1995) argues that reduplication be considered distinct from ordinary affixation because it has more meanings than those that are associated with non-reduplicated affixes. He does not concur with Marantz's (1982) notion that reduplication is purely affixation. The view developed in this study is that reduplication is a special case of ordinary affixational morphology, where the affixes are phonologically underspecified, receiving their full phonetic and semantic expression by copying adjacent segments.

Gikuyu is an open syllable system. This study has focused on the four open- word classes in their syllabic forms: monosyllabic, disyllabic and polysyllabic. The open-word classes exhibit productive reduplication as noted by Odden (1996) as opposed to the closed classes. The syllable as a unit of analysis is used in this study.

1.8 Conclusion

In this section, we have set out the background of our research problem. We have stated the problem, raised the questions and objectives of this study as well as the

assumptions. The rationale of the study, the scope and limitations have been explained. In section 2, we review literature that is related to reduplication. The theoretical framework within which the study is carried out is also explained in the next section.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

This chapter focuses on morphology- related studies on Gikuyu as well as the relevant literature on reduplication. The section also reviews literature on the mechanisms of reduplication, general semantic functions of reduplication, the patterns of reduplication and the theoretical framework.

2.1.1 Morphology- related Studies on Gikuyu

Several studies on morphology or morphology and another component of language have been done and one such study was carried out by Njoroge (1978). He investigates how nouns are derived from verbs and he uses Transformational Generative Grammar Theory. He is concerned with how affixation is used in nominalization. His work is mainly on nouns unlike this study whose main focus will be on the four open word classes in Gikuyu: nouns, verbs, adjectives and adverbs.

Many works exist on the morphology of Gikuyu language but none to our knowledge, has addressed reduplication. Although scholars have studied Gikuyu morphology from various theoretical perspectives, none, as far as we know, has studied reduplication or applied the Prosodic Morphology theory. Among the studies on Gikuyu morphology are some that are structural in orientation. These

studies have merely listed and described the affixes without analyzing them. Their main objective in writing appears to be the provision of a simple grammar that could be used by those wishing to learn the language. Examples of such writers are: Gecaga and Kirkladay (1953), Leakey (1959) and Barlow (1960).

A study by Mugane (1996) is also morphological, dealing with Bantu nominalization. He looks at the deverbal system in Gikuyu and notes that nominalized verbs in Gikuyu have both inflectional and derivational affixes.

Gathenji (1981) and Mwangi (2001) have done morphosyntactic studies in Gikuyu. Gathenji studied verbal extensions of Gikuyu using the Functional Grammar Approach. Operating from a Functional approach, Gathenji extensively analyses the verbal extensions (suffixes) of various morphological categories and the meaning(s) associated with each. In addition, she looks at the syntactic implications of this suffixation. She also looks at the productivity of the suffixes (associated with each of these categories) and recommends that words containing highly productive affixes should not be given lexical entry. Mwangi on the other hand deals with verb morphology in Gikuyu using the Merger Theory (Marantz, 1984). Mwangi's concern was the distinction between derivational and inflectional morphology as well as verbal extensions and their syntactic implications. Mwangi's study addresses the interface between morphology and syntax. This study will look at the interface of morphology and phonology.

Kamau (2002) investigates verbal affixes in Gikuyu using the Lexical phonology – morphology theory. He studies the phonological changes in roots and affixes resulting from affixation. Kamau’s work differs from this study in the sense that it is an investigation of the phonological process that occurs following affixation within the Gikuyu verbal complex while this study is morphological but using theoretical tenets that have phonological background.

2.1.2 Mechanisms of Reduplication

Reduplication is often described phonologically in one of two different ways: either as reduplicated segments (sequences of consonants, vowels or as reduplicated prosodic units; syllables or moras). McCarthy and Prince’s theory of PM (1986) focuses on affixation as an invariant prosodic shape (such as a syllable) rather than a specific sequence of phonemes. Normally, when we consider affixation, what occurs as a prefix or a suffix is a certain phoneme or group of phonemes. For example, in English the plural suffix is /s/ while the progressive marker on the verb is /ing/. However, the cases in morphology that McCarthy and Prince focus on are not cases where the affix is expressible as some kind of invariant pattern. They argue that the invariant patterns found in PM are always expressible as authentic units of prosodic units or constituents. In addition to phonological description, reduplication often needs to be described morphologically as a reduplication of linguistic constituents (i.e. words, stems, and

roots). As a result, reduplication is interesting theoretically as it involves the interface between phonology and morphology.

Marantz, (1982) argues that in reduplication; the reduplicant is most often repeated only once. However, in some languages, reduplication can occur more than once, resulting in a tripled form, and not a duple as in most reduplication. Triplication is the term for this phenomenon of copying three times. For example Pingelapese has both reduplication and triplication thus:

Basic verb	Reduplication	Triplication
Mejr 'to sleep'	mejmejr 'sleeping'	mejmejmejr 'still sleeping'

Ordinary affixes of the sort found in concatenative morphological systems are specified fully on both the skeletal and the phonemic melody tiers, but a reduplicating affix is specified only for its canonical form (expressed by a skeleton of the units C and V) and not its segmental identity. Marantz (1982) argues that reduplication occurs in the special case of affixes that partially or completely lack a phonemic melody but have a CV skeleton. That is, these affixes are specified as to their canonical pattern but must obtain their phonemic melody elsewhere if they are to be phonetically realized. He proposes a mechanism for associating a phonemic melody with the underspecified affix, embedded within the overall autosegmental framework as follows:

- i. Create an unassociated copy of the phonemic melody of the root or stem.
- ii. Associate from the copied phonemic melody onto the CV-skeleton one-to-one from left to right in the case of a prefix and from right to left in the case of a suffix.
- iii. Erase all material from the phonemic melody or the skeleton that remains unassociated at this point.

McCarthy and Prince's Root – and -pattern morphology are typical cases where the principles of PM emerge with full vigor. In reduplicative and root- and- pattern morphology, grammatical distinctions are expressed by imposing a fixed phonological shape on varying segmental material. For example, the Ilokano reduplicative plural below specifies a prefix whose canonical shape is constant- a heavy syllable – but whose segmental content depends on the base to which it is attached. (McCarthy and Prince 1986, 1992b, Hayes and Abad 1989).

Pusa	cat	pus-pusa	cats
Klase	class	klas-klase	classes
Trak	truck	tra-trak	trucks

The morphemes or formatives that yield these fixed shapes are called templates, and the prosodic Morphology Hypothesis (PMH) regulates their form in a fundamental way. Under PMH, the templates can impose prosodic conditions but

not ordinary phonological ones- for example, they can require that the plural affix be a heavy syllable, but not that it has the shape VCV, because this is not a prosodically defined unit in some languages.

The Template Satisfaction Condition requires that a template be exactly matched in the output, within independently necessary limits on what constitutes a syllable, foot, or other prosodic constituent (McCarthy and Prince 1990). Prosodic Circumscription of Domains is a distinct notion from templates, but related; its prosodic character demands that phenomena like the locus of infixation also be characterized in terms of prosodic constituents.

A template that is affixed to a base will lead to copying or reduplication of the segments of that base, which then satisfy the template. This is reduplication. There are three fundamental issues in the theory of reduplication: the form of the templatic affix, the satisfaction of the templatic affix, and the interaction between reduplication and the phonology. For example, in Kinande, (Mutaka and Hyman, 1990) it was discovered that there is a whole morpheme effect in Kinande reduplication; which blocks partial reduplication. They called it the Morpheme Integrity Constraint (MIC) and viewed it as a restriction on templatic association. "If the whole of a morpheme cannot be successfully mapped into the bisyllabic reduplicative template, then none of the morpheme may be mapped."

In reduplication, whether for example, the initial syllable of the base is closed or open has no effect on the affix, rather, the prosodic shape of the affix remains constant throughout a particular morphological category. Thus, it is the morphology- via the template- and not the syllabification of the base that is the determinant of the outcome. Reduplication specifies a templatic target, not a constituent to be copied.

Kiyomi (1995) states that whatever their theoretical background, most scholars treat reduplication as a kind of affixation following Marantz (1982) Broselow and McCarthy (1983) and McCarthy and Prince (1990). Within the Autosegmental model (Marantz 1982); reduplication is treated as a morphological process, whereby affixation and the copied material constitute a fixed template. This framework has been adopted by Yen (2006b) to account for Buhun and Saisiyat (Formosan languages) reduplication.

Steriade (1988) argues that the mechanism of reduplication is a full copy of the stem and the subsequent modification of the reduplicant. Katamba (1993) states that although some instances of reduplication can be viewed as constituent copying, it would be wrong to assume that reduplication always requires constituent copying. Sometimes reduplication copies fragments that are not morphemes or even syllables of the base. Framtons (2004) says this of

reduplication: reduplication is one of the ways in which the presence of a morpheme in the structure of a word is made manifest.

2.1.3 General Semantic Functions of Reduplication

Lackoff and Johnson (1980:128) consider all cases of reduplication in natural language as instances where MORE OF FORM means MORE OF CONTENT. This enhances our awareness that reduplication is more than just echo as some researchers make it out.

Marantz, (1982) remarks that, many languages use reduplication for grammatical purposes or to form more complex words from less complex ones. For example the Malay language forms noun plurals by such repetition:

raja	'king'	raja-raja	'kings'
rumah	'house'	rumahrumah	'houses'

In Yokuts, an American Indian language, certain roots are repeated to add emphasis:

giyi	'touch'	giyigiyi	'touch repeatedly'.
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English also uses reduplication for emphasis: *a no-no* is something absolutely forbidden.

In some Indo-European languages, such as Sanskrit and classical Greek, Marantz, (1982) states that the reduplication of the initial consonant or syllable of a verb

root was a method of forming verb tenses and that many languages use reduplication as a handy way of indicating a plural, as in Indonesian thus:

Anak	child'	anak-anak	'children'
Orang	'person'	orang-orang	'people'

The Nama language uses reduplication to increase the force of a verb:

go 'look' go-go 'examine with attention' .

Finnish slang uses reduplicated nouns to indicate genuinity, completeness, originality and being uncomplicated as opposed to being fake, incomplete, complicated or fussy as in:

ruoka 'food' ruokaruoka 'proper food' as opposed to snacks'.

Puhelin 'phone' puhelinpuhelin 'phone for talking' as opposed to a pocket computer. (Harold, 1965)

According to Nevins and Vaux (2003), these sorts of reduplicative forms, such as 'food food' are not merely literal translations of the Finnish, but in fact have some frequency in contemporary English, for emphasizing as in Finnish, an authentic form of a certain thing. 'Food food' is one of the most common along with such possibilities for 'car car' to describe a vehicle which is actually a car (small automobile) and not something else such as a truck, or 'house house' for a stand-alone house structure as opposed to an apartment, for instance. This research

intends to examine Gikuyu as a language and establish whether reduplication serves similar or different semantic functions.

English uses some kinds of reduplication, mostly for informal expressive vocabulary:

Rhyming reduplications for example, abracadabra, boogie-woogie, bow-wow, claptrap, gang-bang, hocus- pocus and so on. Exact reduplications for example, bye- bye, chop-chop, fifty fifty, go-go, goody-goody, wee-wee, tsk-tsk. Ablaut reduplication for example bric- a- brac, chit-chat, criss-cross, dilly-dally, knick-knack, ping-pong, tick-tock, splish-splash etcetera. However, none of the above types are particularly productive, meaning that the sets are fairly fixed and new forms are not easily accepted.

Other languages in indicating plural repeat only a part of the word, as Ilocano in the Philippines:

Pingan	'dish'	pingpingan	'dishes'	
Talon	'field'	taltalon	'fields'	(Shaw, 2004)

Tagalog, spoken by large numbers of people in the Philippines, however, seems to do almost the opposite. Reduplication of a number means 'no more than' that amount.

dalawa	'two'	dadalawa	'only two'
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tatlo	'three'	tatatlo	'only three'
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In the Marshallese language spoken in the Pacific, reduplication often means that something is “full of” whatever is pluralized as in:

Bat	'hill'	batbat	'full of hills'
det	'sunshine'	detdet	'full of sunshine.'

(Shaw, 2004)

Similarly, in this same language, reduplication of a noun often indicates a verbal action associated with it:

Kal	'loincloth'	kalkal	'wear a loincloth'
Wah	'canoe'	wahwah	'go by canoe'

Shaw (2004) further states that in Yurok, a Native American language spoken in California, reduplication added to a verb indicates repetitiveness:

Menoot	'pull'	menomenoot	'keep pulling'
Pegon	'split'	pegpegon	'split in several places'

There are many other semantic functions that reduplication serves and has been used for. For example in Maninka, a language spoken in Africa, reduplication is used extensively in a variety of meanings such as to indicate a more subtle form of plural of a verb as in ('to cut', 'to cut in small pieces'), to indicate an extreme as in ('to go', 'to go as far as possible'), intensity as in ('to wipe', 'to twist' 'to knead') and so on. Therefore, Reduplication has been known to express the meanings of

emphasis, plurality, augmentation, intensity, diminution and repetition (Moravcsik, 1978). Other linguists like Naylor (1986) have argued that meanings brought about by reduplication have a semantic core, which is an underlying property of nouns, adjectives, adverbs and verbs.

Kiyomi (1995) argues that reduplication should be considered to be distinct from ordinary affixation because it has more meanings that are associated with non-reduplicated affixes. This differs with Marantz's (1982) notion that reduplication is purely affixation.

2.1.4 Patterns of Reduplication

A good reduplicant begins and ends like its base, McCarthy and Prince (1993). It has the same precedence and adjacency structure among its segments as the base. It includes nothing that is not in the base and it copies everything that is in the base.

Reduplication is realized in three major patterns, that is, total or full, partial and infixing reduplication. The process may also be discussed as reduplication as prefixation, suffixation or internal reduplication. Katamba (1993) states that the norm in most languages is for affixes to appear as prefixes or suffixes on the edges of the stem or base to which they are attached. Total or full reduplication occurs

when the copying is complete and asymmetrical. For example kham derives reciprocal forms from reflexive forms by total reduplication as in:

[gin]	‘Ourselves’	[gingin]	‘we’
[ja:]	‘themselves’	[ja:ja:]	‘they’ (Watters, 2002)

When there is any deviation, it is partial reduplication. The vast majority of African languages belong to the Niger-Congo family, and virtually all of these exploit partial reduplication as a morphological process. In West African languages such as Akan (Kwa), (Schachter and Fromkin 1968), the reduplicant consists of a copy of the base verb, except that the vowel must be [+high].

Examples from Nupe as in below:

a.	/gi/	‘eat’	gi-gi	‘eating’
	/ge/	‘be good’	gi-ge	‘goodness’
	/ga/	‘separate’	gi-ga	‘separating’
b.	/gu/	‘puncture’	gu-gu	‘puncturing’
	/go/	‘receive’	gu-go	‘receiving’

The Nupe data comes up in the context of an argument in favour of abstract phonological representations (Hyman, 1970), whereas corresponding Akan forms are cited both by Wilbur (1974) and Matantz (1982) for their “overapplication” property. Again, this can be illustrated from Nupe, where underlying /ts, dz, s, z/ are palatalized to [č, ĵ š, ž] before front vowels. The issue is that a verb like /tsa/ ‘choose’ reduplicates as tsi-tsa, not as čí-tsa. The above-cited authors revert to rule

ordering (palatalization precedes reduplication), whereas others have used this kind of African data to argue for a global “identity constraint” (Wilbur 1974), which is easily implemented as a base- reduplicant identity correspondence within optimality theory (McCarthy and Prince, 1999).

While the above gives some idea of how West Africa CV reduplication has contributed to phonology, Bantu CVCV verb stem- reduplication has also contributed to the development of prosodic morphology. The verb stem is a constituent consisting of a root plus one or more suffixes. In a number of Bantu languages, but not all, the preposed reduplicant may or must be exactly two syllables in length. Thus in Kinande, *tum-ir-an-a* ‘send to each other’ (root-applicative-reciprocal-final vowel) obligatorily reduplicates as *tum-a +tum-ir-an-a* ‘send to each other here and there’ (Mutaka and Hyman, 1990). Interestingly, *sw-a* ‘grind’ reduplicates as *sw-a-sw-a +swa* ‘grind here and there’, where the bisyllabic reduplicant, created by double reduplication, is actually longer than the base verb stem.

Odden (1996) shows that in Kerewe, there is some choice in how long the reduplicant can be. Hence, *lim-il-an-a* ‘cultivate for each other’ may reduplicate as *lim-il-an-a.lim-il-an-a,lim-il-a.lim-il-an-a*, or *lim-a.lim-il-an-a*.

In full reduplication, the entire phonological form of a stem is repeated in the reduplicating affix. In partial reduplication, only some of the phonological material from the stem appears in the affix. For example Marshallese forms words meaning 'to wear X' by reduplicating the last consonant- vowel- consonant sequence of a base as in:

kagir	'belt'	kagirgir	'to wear belt'
takin	'socks'	takinkin	'to wear socks' (Hurch, 2005)

Some languages use both full and partial reduplication, as in the Motu example below:

Base verb	full reduplication	partial reduplication
Mahuta 'to sleep'	mahuta-mahuta 'to sleep constantly'	mamahuta 'to sleep-plural'

(Harold, 1965)

The reduplicating affix is seen to be dependent on the stem but might include some change or deformation of the stem's phonological material. The phonological dependence characterizes reduplicating affixes which may prefix, suffix or infix to the stem. A reduplicant can copy from either the left edge of a word (left- right copying) or from the right edge (right – left copying). There is tendency for prefixing reduplicants to copy left- right:

Copying in Kunjen, a language of Australia – initial left- right:

[ŋaŋaj]	'a long time'	[nananaj]	'a long time –in years'.
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Final right- left copying in Siriono ;

[haska]	'tall'	[haskaska]	'tall -plural'
[waʃte]	'good-singular'	waʃteʃte	'good -plural.

(Fabricius,A.H 2006)

Infixing reduplication poses a challenge to morphological theory. Katamba (1993) notes that infixes are unusual and even greater morphological oddity is the phenomenon of infixing reduplication, whereby a copy of part of the base is inserted in the base as an affix. Internal reduplication is very similar at a formal level to infixing in Arabic. The essential difference is that unlike Arabic infixes, which are represented in the lexicon by vocalic melodies, reduplicative infix morphemes are devoid of segmental material. They obtain the segments that phonologically manifest them by raiding the bases to which they are attached.

Broselow and McCarthy (1983) argue that internal or infixing reduplication subverts the fundamental affixational character of reduplication. They distinguish between true infixing reduplication in which the affix is prefix- or suffix- like and infixing, in which infixation takes place in a prosodic constituent rather than in a morpheme.

2.2 Theoretical Framework

2.2.1 Introduction

This analysis of Gikuyu reduplication is done within the framework of Prosodic Morphology theory. PM theory as proposed by McCarthy and Prince is applied. Katamba used prosodic morphological approach, to give an overview of various languages of the world, as proposed by various linguists. This study specifically adopts PM theoretical approach as proposed by McCarthy and Prince (1986, 1988, and 1990). This study has also adopted the proposal (Marantz 1982) of providing a phonemic melody for an underspecified affix via reduplication as well as mapping principles in reduplication (Broselow and McCarthy, 1983). The claims made by some related theories herein are reviewed as some of the tenets from those theories form the basis of the main theory and consequently of the study. CV-template and PM, for example, emerge from 'phonology with tiers' theory, (the Autosegmental Phonology (AP) Theory). Brief background information on Autosegmental Phonology is included here below to show the interface between morphology and phonology in this study.

2.2.2 The Autosegmental Phonology Theory

'Phonology with tiers' (Goldsmith, 1976, Clements and Ford 1979) is a prerequisite to understanding PM theory and specifically CV – TM theory. Most relevant to this research study was the theory's tenets of tiers and association lines. This is an approach whereby representations have several independent levels that

are linked to each other. Autosegmental phonology representation posits two or more parallel tiers of the phonological organization. Each tier consists of a string of segments with the elements on each successive tier differing with regard to the features specified in them. The basic tier in the entire phonological is the skeletal tier. The latter comprises the phonemic units of language. It regularly alternates syllabic (V) and non syllabic (C) slots. This tier forms the anchor point for elements on the various other tiers.

The choice of the name autosegmental phonology (A.P) for this model, Katamba (1983) notes, is intended to reflect the fact that phonological representations consist of segments like stress, tone, vowels and consonants that appear on autonomous tiers. On their tiers, all phonological elements, be they tones, consonants, vowels and so on behave, as though they were segments. They follow each other in a linear sequence. The original impetus for autosegmental phonology came from the analysis of tone. Later, phonologists recognized that the essentials of this approach could be extended to other phonological phenomena. For instance just as tones may be linked in a variety of ways to tone bearing units, segments may be linked in a variety of ways to skeletal tiers. This acknowledgement has had repercussions for morphological theory because normally in the lexicon every vowel segment starts off being associated with a V-slot and every consonant with a C – slot on the skeletal tier (CV – tier).

Some languages have both long vowels and geminate (double) consonants. The geminate consonants are longer and have a more forceful articulation than plain, short, consonants. Geminate consonants arise if, where there are more C slots on the skeletal tier than there are consonantal segments on the segmental tier, a single consonantal segment is simultaneously associated with two C- slots on the skeletal tier. Similarly, although the norm is one-to-one linking of vowels and V-slots on the skeletal tier, it is possible to find more than one vowel segment linked to a V-slot. Vowels simultaneously linked to several V-slots are long. The phonemic tier represents the specific sounds of the words of the particular language in question. A phonemic representation of the word gikuyu [ʎekojo] for example, is depicted thus:

Gikuyu / ʎekojo/

Skeletal tier	C	V	C	V	C	V
	ʎ	e	k	o	j	o

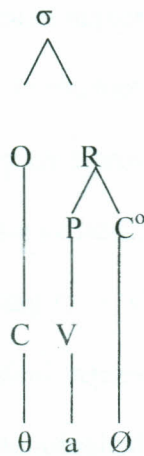
The syllabic tier depicts the phonotactic patterns of the phonemes of a given language. The phonotactic constraints of an open syllable system are portrayed in the syllable (σ) delimitation of the word [ʎekojo] depicted below:-

Skeletal tier	C	VC	VC	V
	∨	∨	∨	
	σ	σ	σ	

This research study has based its analysis on syllable system. A Gikuyu syllable has the following components: onset (O) and peak (P). The peak is the nucleus of the syllable and is the most prominent part.

The syllable element preceding the peak is the onset. Depending on the specific language, the onset may range from zero (\emptyset) to a cluster of four or more consonant sounds, for example in the English words 'thyroid' and 'strychnine'. In Gikuyu, the optimal onset is a single consonant sound; all consonant sounds may occur in this position. A more limited occurrence is \emptyset onset. The sound following the peak is the coda. A language may have \emptyset coda or a cluster of several sound segments. The facts stated about the Gikuyu syllable are substantiated through the analysis that follows for example in the word # tha # [θa] 'mercy'. Diagrammatically, the syllable structure of this word is:

Figure 2.1



The above is a typical Gikuyu monosyllable. The significant point is that the zero coda is characteristic of this syllable.

AP Theory sheds light on the necessary background insights into PM Theory.

2.2.3 Prosodic Morphology

PM was initiated by McCarthy (1979). He noted the similarity in the behaviour of vowels introduced into consonantal roots by morphological processes in Arabic on one hand, and that of phonological prosodies like tone spreading on the other. He hypothesized that the verb in Arabic has elements arranged on three independent tiers at the underlying level of representation in the lexicon, the three tiers being the root tier (also called the consonantal tier), the skeletal tier and the vocalic (vowel) melody tier. These three tiers are linked together by association lines similar to those used in autosegmental phonology.

McCarthy and Prince (1986, 1988, and 1990) propose a new theory of prosodic morphology (PM) which makes a number of important claims about the interaction between phonological structure and morphology. PM claims that a morphological melody maps directly on a prosodic phonological template consisting of a genuine prosodic unit such as a syllable, the foot, phonological word and so on. They argue in favour of by-passing the CV-skeleton in representing reduplication and instead mapping morphological representations directly onto prosodic units like Mora, syllables, feet and phonological words. The evidence for this is that in many cases, a reduplicative process supplies a template characterisable in terms of such prosodic units rather than C and V slots. Their proposal is centred round the three

principles which are set out in McCarthy and Prince (1990). These three essential components of PM Theory are: the Prosodic Morphology Hypothesis (PMH), the Template Satisfaction Condition (TSC) and the Prosodic Circumscription Domain (PCD).

The PMH requires that templates are defined in terms of the authentic units of prosody, that is, templates must have a direct prosodic interpretation. It is noted that the prosodic units are arranged in a hierarchy of exhaustive domination (cf. Selkirk 1980).

Phonological word	w
Foot	F
Syllable	σ
Mora	μ

The hierarchy is read from top to bottom, so the units at a higher level only contain units from lower levels. The phonological word corresponds roughly but not exactly to the grammatical or syntactic word. The foot is a constituent composed of at least one stressed syllable and usually an unstressed syllable as well. The Mora is the unit by which syllable weight is measured. Prosodic theory distinguishes between optional and obligatory elements at all levels of structure. A syllable for example, must contain a nucleus and in many languages an onset, codas but the latter are never obligatory.

The Prosodic Hierarchy and Foot Binarity, taken together derive the notion “minimal word” (Prince 1980, Broselow 1982, McCarthy and Prince 1986, 1990a, 1991a, 1991b). According to the Prosodic Hierarchy, any instance of the category prosodic word (PrWd) must contain at least one foot (Ft). By Foot Binarity, every foot must be bimoraic or disyllabic, that is, feet must be binary under syllabic or moraic analysis. Degenerate feet consisting of just a single light syllable, are not part of the basic typology. Foot must contain a heavy syllable or two light ones. Gikuyu has both light and heavy syllables. The Foot Binarity condition would prove it difficult for Gikuyu analysis due to the presence of monosyllabics that undergo reduplication

The TSC states how templates are actually matched in words and the Prosodic Hierarchy which defines the actual units of prosody out of which templates must be constructed. A template specifies the canonical form of its output, like the heavy syllable.

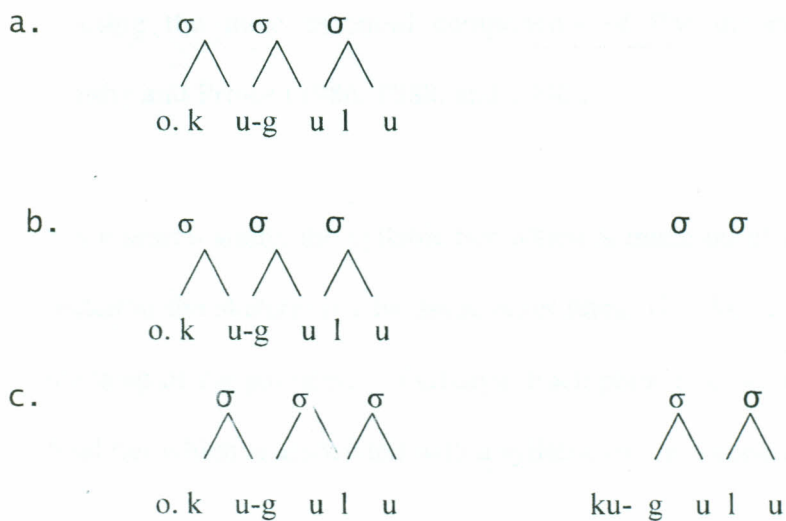
The third principle of PM Theory; PCD limits circumscriptional and delimitative morphology to reference prosodic units. Typically, a morphological operation like affixation is applied to a morphological category like root, stem or word to give a prefix or suffix of the usual sort. Under PCD though a morphological operation, is applied to a prosodically delimited substring within the morphological category.

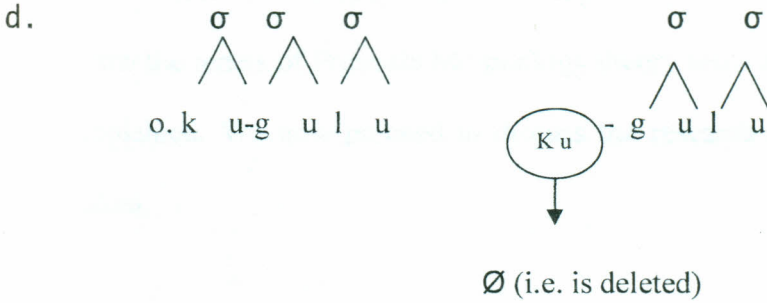
The proposal that reduplication is best described in terms of the copying or transforming of prosodic melodies rather than C and V slots on the skeletal tier has been influential. A number of linguists have taken it on board and applied it to a range of languages which include Sanskrit as well as Kinande (Mutaka and Hyman, 1990). Below is a reduplicative template of Kinande:

base	gloss	reduplicant	gloss
o.ku-gulu	'leg'	o.ku.gulu.gulu	'real leg'
a.ka-ti	'stick'	a.ka-ti.kati	'stick'

NB. σ stands for ‘

Figure 2.2





In Kinande, if a noun has a monosyllabic stem, the stem syllable, together with the prefix, is reduplicated. However, if a noun has a disyllabic stem, both stem syllables are reduplicated but the augment is excluded. Gikuyu like Kinande is a Bantu language and are therefore likely to share some morphological as well as phonological features. This research study has undertaken the analysis of Gikuyu data using the three essential components of PM theory as exemplified by McCarthy and Prince (1986, 1988, and 1990).

In this research study, the syllabic tier which is made up of a syllable or syllables is related to the skeletal tier by association lines. The skeletal tier is considered to be made up of the phonemes of Gikuyu. Each phonemic tier is associated with one skeletal tier which is associated with a syllabic tier in a vertical inclination.

2.3 Conclusion

In this section, the literature related to this research has been reviewed. The theoretical framework within which the study was carried out has also been dealt with. How the tenets of Prosodic Morphology theory were applied in the study has been explained. We now proceed to discuss the research methodology that was undertaken.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with the research design, sampling technique, data collection and analysis and presentation techniques. The study is basically qualitative. In a qualitative study the data is usually in form of words either spoken or written. The qualitative data is not always computable by arithmetic relations. In this study, the data was analysed thematically. Major concepts were identified through perusing the collected data and identifying information that was relevant to the research questions and objectives. Then developing a coding system based on samples of collected data and reporting the intensity of words in discussion.

3.2 Research Design

The study used varied methods of collecting and analysing data. One method was the case study (Jensen and Rodgers, 2001). This brought about deeper insights and better understanding of reduplication as a word-formation process.

Contents analysis to examine the intensity with which certain words have been used was another method employed. This method was also useful in systematically describing the form or content of the data and also to get intext forms from Gikuyu

literature books like Kago (1990,2000,2001) , Benson, (1975,2001), Wanjohi (2006) to create the word lists for generating data for the study.

We initially sought to create a corpus of two hundred and eighty Gikuyu morphemes as per the four open word classes: nouns, verbs, adverbs and adjectives each with equal representation of seventy words. The sample size is within the limits of the minimum sample for academic studies, the floor being 30-50 cases (Shrouder et.al, 2003). However, we observed that Gikuyu adverbs are not as numerous as the nouns, verbs and adjectives. We managed to identify forty adverbs ending up with a population of two hundred and fifty instead of the earlier anticipated number.

3.3 Data Collection and Sampling Procedure

In order to analyse reduplication in Gikuyu, we needed to collect data in the form of words. The primary data needed for this study was in form of the grammatical classes stated: nouns, verbs, adjectives (full adjectives, demonstratives and numerals) and adverbs as seen in the list of words in appendix A. We started by randomly obtaining a list of two hundred and fifty words from the following sources: Kago (1990, 2000, and 2001), Benson (1975, 2001) and Wanjohi (2006). We collected the morphemes from written texts and then isolated the roots. As a native speaker of the language, we were also able to generate roots to supplement the data acquired from the written texts. Mwangi, (2001), Mchombo (1993) and

Kioko (1994) have used similar method. Chomsky (1977, 1986) postulates in his theory of competence that any native speaker has adequate grammatical know how to tell grammatically ill-formed structures.

Initially we aimed at obtaining a total of two hundred and eighty words to work with; seventy words for each of the four Gikuyu open word classes. We however realized that unlike the nouns, verbs, and adjectives that were numerous, adverbs were limited and therefore difficult to identify thereby managing to get forty adverbs only, making a total of two hundred and fifty words. Words were then grouped into the four different word classes. Since it was not practicable to use all the two hundred and fifty words for the investigation, we had to scale them down by making further sampling. Using purposive sampling, we aimed at obtaining ten words from each of the four open word class members ending up with a total of forty words for analysis. The words were purposively sampled into three subcategories: two monosyllabic words, four bisyllabic and four polysyllabic words drawn from every category of open word classes. Monosyllabic words in Gikuyu (especially in verbs, adverbs and adjectives) are limited (Table 1 below) hence the lower allocation. Further more, out of the fourteen monosyllabics identified, only eight could reduplicate for meaning, five of which were nouns.

Monosyllabic words consist of data comprising of single syllable words. Bisyllabics are two syllable words while poly syllabic are more than two syllable

words. The morphemes were reduplicated and then analysed in terms of the various patterns as well as the semantic functions associated with those patterns. The different patterns were then checked against the claims of Prosodic Morphology Theory, illustrating them with templates.

Table 1. A sample of Gikuyu Reduplicable Syllabic Stems.

	Monosyllabics	Bisyllabics	Polysyllabics	
Nouns	5	29	36	
Verbs	5	41	24	
Adjectives	2	44	24	
Adverbs	2	19	19	
Total	14	133	103	250

3.4. Data Analysis and Presentation

As already noted, each of the base word was reduplicated and then the morphological, the phonological as well as the semantic change affecting the reduplicant were described. We made note of the semantic function, the shape of the reduplicant, direction of melody as well as testing the various reduplicants using tenets of PM theory. Data has been presented in relevant tables and templates. Tenets from PM have been adopted to analyse reduplication in Gikuyu. Marantz's (1982) and Broselow's and McCarthy's (1983) principles for dealing with reduplication, served as a back up to McCarthy's and Prince's (1990) Prosodic Morphology claims in the analysis (as seen in the Literature Review section). McCarthy and Prince (1990) argue in favour of mapping morphological

representations directly onto prosodic units like moras, syllables, feet and phonological words as opposed to C-V skeleton. The rationale here is that in many cases, a reduplicative process supplies a template characterisable in terms of such prosodic units rather than C and V slots.

This research study opted for McCarthy and Prince (1990) because other scholars have used it to analyse other Bantu languages, for instance Kinande (Mutaka and Hyman, 1990). Kinande, like Gikuyu is a Bantu language and therefore the two languages are likely to share morphological, phonological and semantic features. Again, Gikuyu is a syllabic language and therefore agrees with the notion of mapping morphological representations directly onto prosodic units.

The syllable has been used as the unit of analysis in this study as expressed in the Rationale and Scope sections. Generally speaking, a syllable must contain a nucleus, and in many languages an onset. Codas are optional, never obligatory elements of the syllable in some languages. There are two types of syllables; heavy and light syllables. Usually, heavy syllables are those that contain a long vowel CVV or are closed by a final consonant CVC while light syllables are open with a short vowel CV. By definition, heavy syllables contain two Moras while light syllables contain only one. The most direct way of analyzing the syllable structure of a given language involves an examination of monosyllabic word forms. This

approach is validated on the premise that a word boundary /#/ is also a syllable boundary.

Gikuyu exemplifies an open syllable system. In this system, the significant syllable constituents are the onset (O) and the nucleus (N), where the latter doubles as the rhyme (R). The basic syllable is CV. Syllables are classified as either light or heavy depending on the rhyme association to the skeletal positions. In a light syllable, the rhyme associates to a single skeletal position as depicted below:

Figure 3.1.

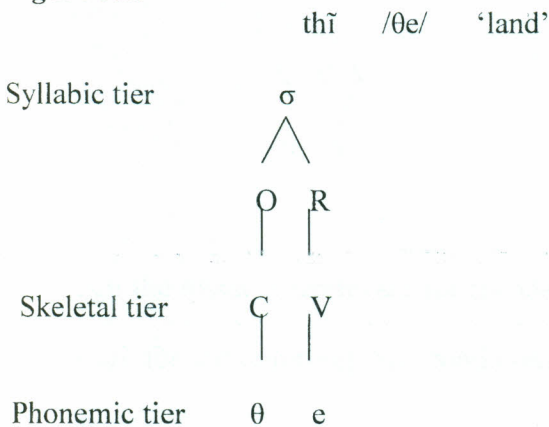
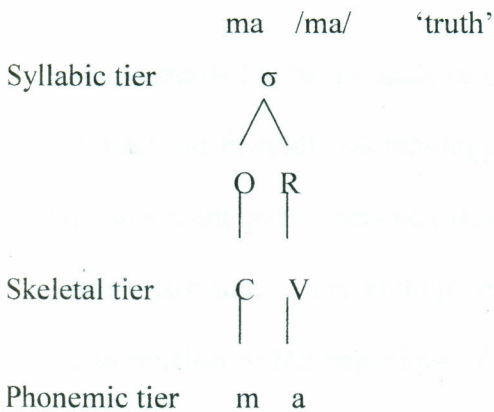


Figure 3.2.



A heavy syllable has a double association of the rhyme to positions on the skeletal tier. A double association results in a branching rhyme and significant phonetic weight as in:

Figure 3.3

thaa / θa: / 'watch'.



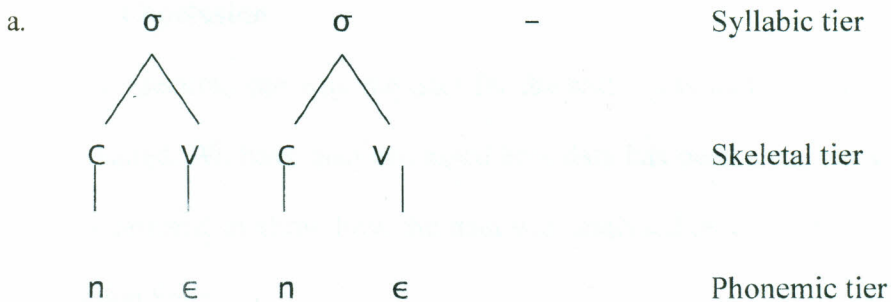
Although the onset is irrelevant for the classification of syllables, its composition is crucial for determining the conditions which govern well-formedness in a syllable.

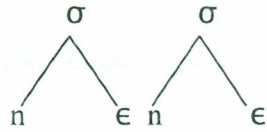
The study entailed a formal analysis of the reduplicated data-using tools advanced in Template and Prosodic Morphology theory as illustrated above. The convergent and the divergent points between what actually happens in Gikuyu and what the PM theory postulates were highlighted. The analysis and logical deductions were drawn in relation to the behaviour of the reduplicated morphemes. Using content

analysis, a classification system was developed to record the information and interpret the findings. The illustration of data was done in Gikuyu orthography in rows and the respective gloss was provided. Further, theoretical generalizations linked to reduplication were used in data presentation; the data in templates (patterns) coded in the tool stipulated in Template and Prosodic morphology theory as shown in the Gikuyu example below:

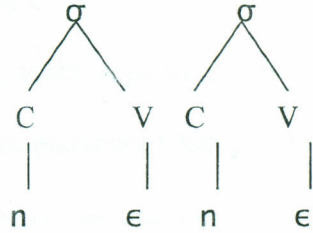
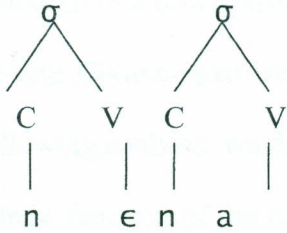
Base	gloss	reduplicated form	gloss	pattern	meaning
(a) nene/nɛnɛ /	big	nenenene	real big	full	intensification
(b) nene /nɛnɛ /	big	nenanene	bigger	partial	comparison

Figure 3.4

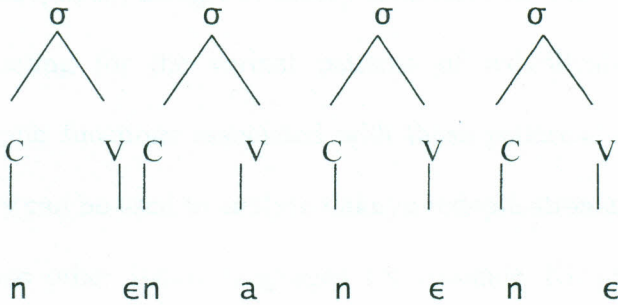


b. $\sigma \sigma$ 

c.



d.



3.5 Conclusion

In this section, the way the data for the study was collected and sampled has been explained. We have also discussed how data has been analysed and presented. We now proceed to show how the data was analysed and interpreted in the following Section Four.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This section gives a descriptive analysis of the collected data. The data was drawn from the four Gikuyu open word categories; nouns, verbs, adjectives and adverbs. In the following analysis, we first describe the variant patterns of reduplication and the semantic function of the reduplicant. A prosodic presentation of the base and the reduplicant using PM theory then follows. This is done with the objective of accounting for the variant patterns of reduplication in Gikuyu, the various semantic functions associated with those patterns. Then determine whether PM theory can be used to analyse Gikuyu reduplication as the theory has been used to analyse other Bantu languages for example Kinande. In the analysis, variant patterns of reduplication and various semantic functions of Gikuyu reduplication are exemplified with different illustrations. Relevant details concerning different shapes of the reduplicant as well as the direction of the mapping of the reduplicative affix are discussed. This research study focuses on reduplication as prefixation or suffixation. The part of the base copied in cases of partial reduplication is also discussed.

4.2 Data Presentation

Two hundred and fifty words were collected for this study. The sample size for analysis comprised of forty words that were purposively sampled. The words were

drawn from nouns, verbs, adjectives and adverbs. Ten words were picked from each of the four word class categories. The data was further divided into monosyllables, bisyllables and polysyllables as shown below:

Nouns

<i>Base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>
Thũ / θo /	foe	thũthũ	real foe
Maĩ / mae /	water	maĩmaĩ	water not any other drink
Nduka /nduka	shop	ndukanduka	real shop
Ngaari /ŋga:ri /	car	ngaaringaari	real car
Irio /iriɔ /	food	irioirio	real food
Mũrango /moraŋɔ /	door	mũrangomũrango	real door
ũrĩrĩ /orere /	bed	ũrĩrĩũrĩrĩ	real bed
gĩkwa /ŋekoa /	yam	gĩkwagĩkwa	real yam
iru /iru /	knee	iruiru	knee not any other joint
mũndũmũgo/mondomo	man	mũndũmũgomũndũmũgo	real medicine man
mũtumia /motumia /	woman	mũtumiamũtumia	real woman

Verbs

Thĩa /θea /	grind	thĩathĩa	grind further
Una /una /	break	unauna	break further
Thuura /θu:ra /	select	thuurathuura	select further
Kuua /ku:a /	carry	kuuakuua	carry further

Gaya /ʎaja /	divide	gayagaya	divide further
Hihinya /hihiña /	squeez	hihinyahihinya	squeeze further
Oneka /ɔneka /	appear	onooneka	appear more
Endia /ɛndia /	sell	endeendia	sell more
Thambia /θambia /	clean	thambathambia	clean further
Heana /heana /	give	heaheana	give more

Adjectives

ĩo /eɔ /	that one as in car	ĩoĩo	that particular one
Ithatũ /iθato /	three	ithatũithatũ	three by three
Ici / iši /	these ones as in cars	iciici	these particular ones
Inya /iña /	four	nyanya	eight
Noru /ɔru /	fat	noranoru	fatter
Thaka	beautiful	thakathaka	more beautiful
ũria /orea/	that one as in a person	ũriaũria	that particular one
ndũu /ndeũ/	drunk	ndũundũu	very drunk
kĩu /keu /	that one as in chair	kĩukĩu	that particular one
kĩrĩa /kerea /	that one over there	kĩrĩakĩrĩa	that particular one over there

Adverbs

Ira /ira /	yesterday	iraira	yesterday (emphatic)
Tene /tɛnɛ /	ago	tenetene	long ago

Kahora /kahɔra /	slowly	kahorakahora	gently
Gatagatĩ /ʎatagate /	middle	gatagatĩgatagatĩ	right in the middle
Thĩ / ʰe /	on the ground	thĩthĩ	right on the ground
Narua /narua /	quickly	naruanarua	very quickly
Kũu /kou /	that place	kũukũu	that particular place
Igũrũ / iʎoro /	on top of	igũrũigũrũ	on top of (emphatic)
Hanini / hanini /	a little	haninihanini	sparingly
Kaingĩ /kaiŋe/	often	kaingĩkaingĩ	quite often

We observed that not all words collected could reduplicate for meaning. Therefore, words that failed to reduplicate were not included in the analysis. From the nouns collected, 97.1 percent reduplicated fully while only 2.9 percent failed to. 87.4 percent of the verbs reduplicated and only 12.6 percent were unreduplicable. Adjectives featured the highest number of unreduplicable words with 23 percent while adverbs followed with 22.5 percent unreduplicable words. The table below shows the reduplication trend in the data collected.

Table 2: Reduplication Trends in the Study

WORD CLASS	POP N	FULLY REDUPLICATED	%	PARTIALLY REDUPLICATED	%	FULLY/PARTIAL	%	UNREDUPLICABLE	%
Noun	70	68	97.1	-	-	-	-	2	2.9
Verbs	70	45	64.5	16	22.9	-	-	9	12.6
Adj	70	19	27.1	28	40	7	10	16	23
Adv	40	21	52.5	7	17.5	3	7.5	9	22.5

4.3 Reduplication Patterns with Various Semantic Functions

4.3 Reduplication Patterns with Various Semantic Functions

There are two main divisions of reduplication considered in this study; full and partial reduplication. From the sample, thirteen variant patterns were identified from the two main classifications. Those patterns that occurred only once were not considered as influential since they could be a misnomer. The following patterns of reduplication were identified in the study.

4.3.1 CV Reduplication.

This was identifiable in both full and partial reduplication. The pattern involves a mono moraic syllable. The pattern was evident in nouns, adjectives and adverbs. Six instances of the pattern were identified from the data. In full reduplication, it copies the entire root while partial reduplication occurs as a suffix copying the second syllable as shown below:

<i>Base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>word class</i>
thũ / θo/	foe	thũ-thũ	real foe	noun
nda /nda /	stomach	nda-nda	real stomach	noun
thĩ /θe/	on the ground	thĩ- thĩ	right on the ground	adverb
Inya / iña /	four	inyanya	eight	adjective

The semantic functions observed in the two cases of reduplication; full and partial above, vary. Full reduplication denotes clarity while partial reduplication indicates quantification.

The prosodic analysis of the above pattern and any other pattern in this study takes four stages as shown below:

- a) presentation of the stem
- b) suffixation or prefixation of the template
- c) Copy of the base (for full reduplication) or presentation of reduplicative template for partial reduplication.
- d) Presentation of the input of reduplication (as one morpheme)

The templates are in three tiers: the syllabic, the skeletal and the phonemic tiers as seen in the following figures.

Figure 4.1:

<i>Base</i>	<i>Gloss</i>	<i>Reduplicant</i>	<i>Gloss</i>	<i>pattern</i>
inya/iña/	'four'	inyanya	eight	CV





The stem above has two syllables; one made up of a single vowel, the second syllable has a consonant and a vowel. Affixation of the reduplicative morpheme begins at stage two. Copying of the reduplicative template follows at the third stage. The final stage displays the reduplicant as one bound morpheme.

4.3.2 VV reduplication.

This is vowel initial and an all- vowel syllable as illustrated below:

<i>Base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>word class</i>
ĩo /eɔ/	‘that one’	ĩo-ĩo	‘that particular one’	Adjective

The pattern is a case of full reduplication. Two cases of the pattern were identified. This reduplicant which becomes one morpheme after reduplication

creates an emphatic effect to the root. The semantic function served is emphaticness.

In the view of PM theory, the above pattern can be analysed thus:

Figure 4.2

<i>Base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>pattern</i>
ĩo /eɔ/	'that one'	ĩo-ĩo	'that particular one'.	VV

a)



b)



σ

c)



d)



The above prosodic presentation forms an all vowel reduplicant. This is a unique construction that does not involve consonants. Morphologically, phonologically and semantically, it is a viable construction.

4.3.3 CVV Reduplication.

This may be consisted of a bimoraic syllable or a monosyllable with either a geminate vowel or a diphthong for full reduplication. The pattern is exhibited by the full as well as the partial reduplication and it is quite patent in nouns, verbs and adjectives. Thirty two cases of the pattern were recognized. Examples below exemplify the pattern.

<i>base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>word class</i>
Thaa /θa:/	'clock/watch/time'	thaa-thaa	'real watch or clock'	noun
Maĩ /mae/	'water'	maĩ-maĩ	'water not other drinks'	noun
thĩa /θea/	'grind'	thĩathĩa	'grind further'	verb
Imwe /emuε/	one	imwemwe	one at a time	adjective

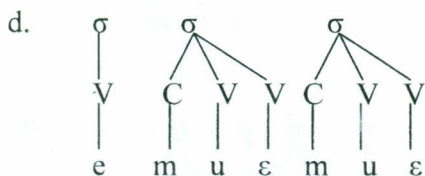
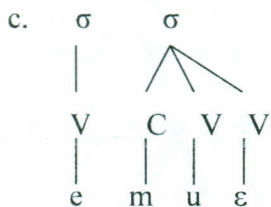
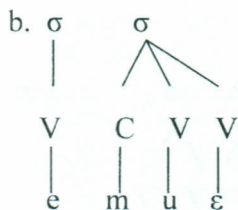
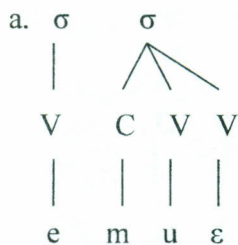
Partial reduplication takes place through suffixation in the above illustration.

Semantic function variation is observed in the above illustrations. The full reduplication of nouns denotes genuinity. The semantic change that occurs with the verb reduplicant in the above illustration points towards the direction of intensification while the adjective indicates quantification.

Using PM theoretic approach, the pattern is analysed as below:

Figure 4.3

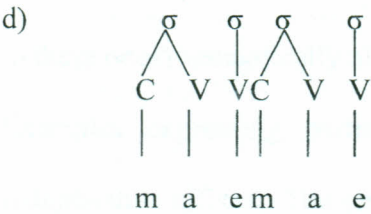
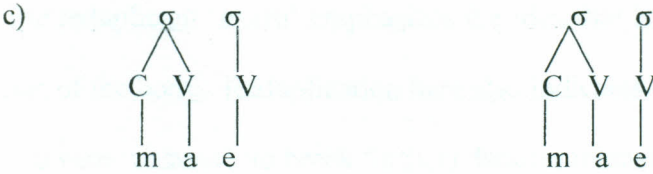
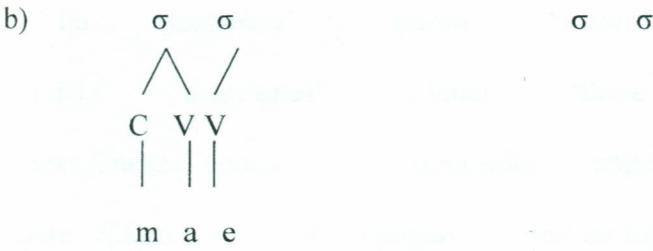
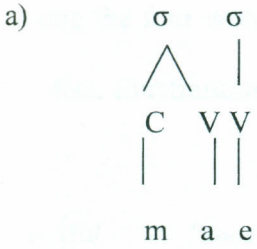
a)	Base	Gloss	Reduplicant	Gloss	pattern
	ĩmwe /emue/	one	ĩmweĩmwe	'one at a time'	CVV



In the above prosodic template, the second syllable reduplicates to form a suffix that attaches to the stem to form a reduplicant that amounts to semantic change.

Figure 4.3

b) *base* *gloss* *reduplicant* *gloss* *pattern*
 mai /mae/ water maĩmaĩ water not other drinks CVV



4.3.4 VCV Reduplication.

This is a vowel initial affix followed by a consonant then a vowel. Both the full and partial reduplication exhibit this pattern. This type of reduplication is apparent among the four word class and twenty four instances of such were observed from the data. Illustrations below demonstrate the pattern.

iru /iru/	'knee'	iru-iru	'knee-(emphatic) (noun)
una /una/	'to break'	unauna	'break further' (verb)
ira /ira/	'yesterday'	ira-ira	'yesterday-(emphatic) (adverb)
ici /iši/	'these ones'	iciici	'these particular ones (adjective)
oneka /ɔneka/	appear	onooneka	appear more (verb)
iguru /iYoro/	on top of	igaiguru	further top of (adverb)

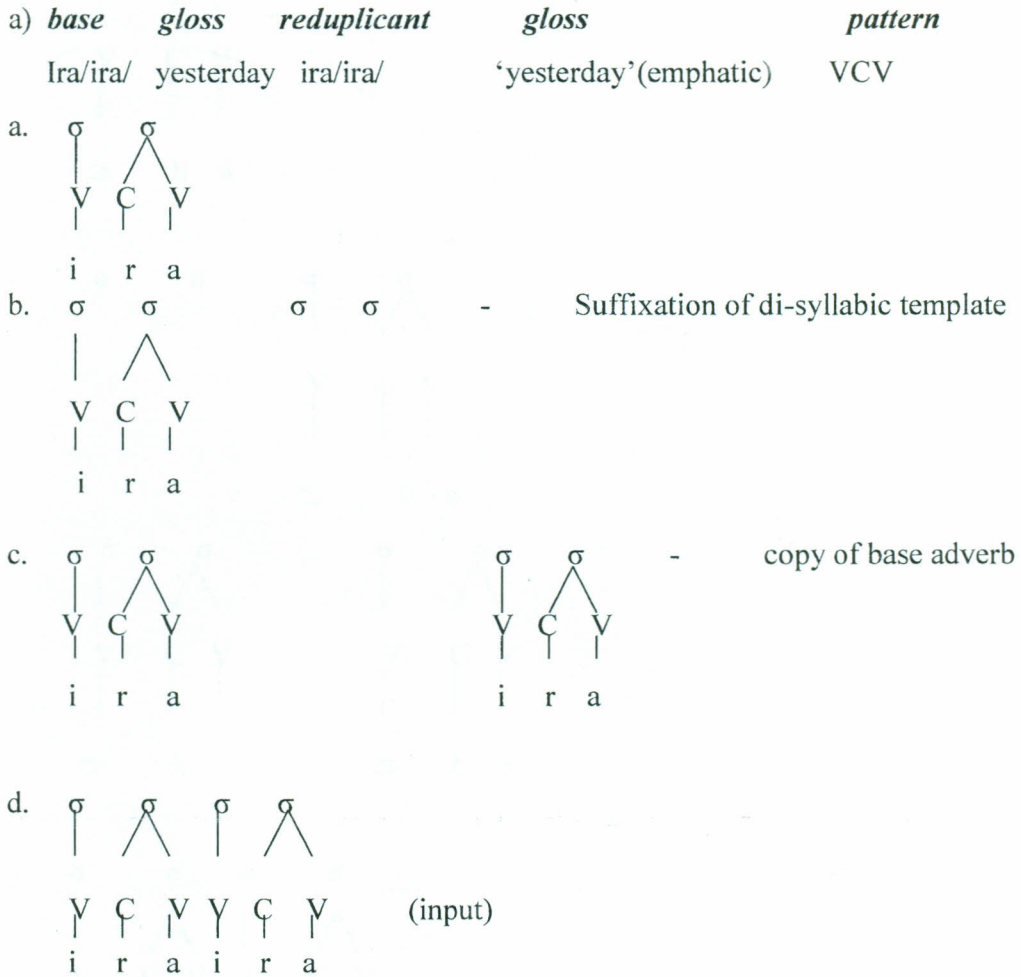
The reduplicant 'iruiru' emphasizes the idea that it is the 'knee' and not any other part of the body. Reduplication here also indicates clarification.

The verb 'unauna' (to break further) denotes intensity. 'Iraira' is used emphatically to either clarify or stress the idea of time. 'Iciici' (these particular ones as opposed to these ones) semantically allude to emphasis and clarity.

Examples expressing partial reduplication above bear a bisyllabic prefixal reduplicative affixes. The semantic implication revealed is intensification.

The PM theory analysis of the above pattern would thus be:

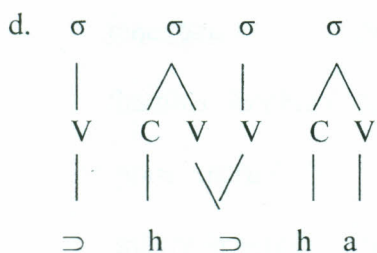
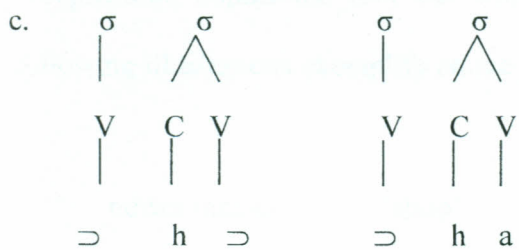
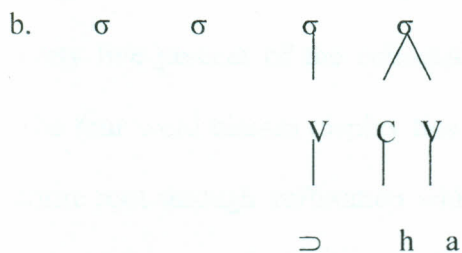
Figure 4.4:



In the above prosodic presentation, a two syllable stem subsequently copies the segmental melody in its entirety forming a polysyllabic morpheme.

Figure 4.4

b)	<i>Base</i>	<i>Gloss</i>	<i>Reduplicant</i>	<i>Gloss</i>	<i>Sub pattern</i>
	Oha /▷ ha/	tie	ohooha	tie further	VCV



In the above illustration, reduplication first introduces a prefix that is solely represented by VCV template on the skeletal tier. General mapping principles associate the C and V slots on the skeletal tier to the segmental realization of the

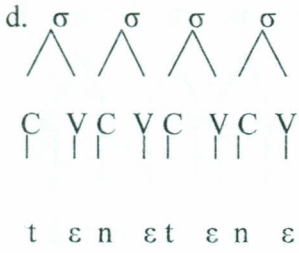
prefix created by reduplication. A phonological process takes place in the reduplicative prefix whereby vowel 'a' is replaced with vowel 'o'.

4.3.5 CVCV Reduplication.

This is the most frequent reduplication pattern in the data collected for this study. Forty five percent of the collected reduplicable words demonstrate this pattern. The four word classes display this pattern. Full reduplication typically copies the entire root through suffixation while partial reduplication is prefixed. The partial reduplication copies the root but with some modification in the vowels. The following illustrations exemplify above points.

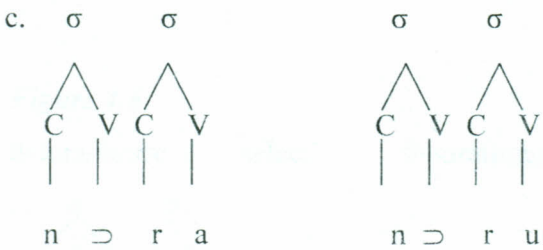
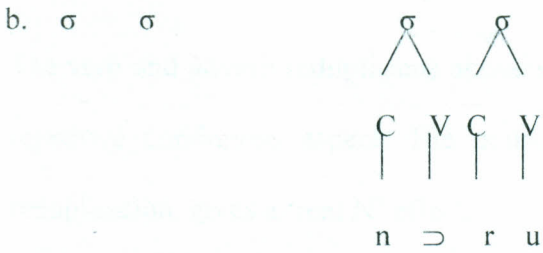
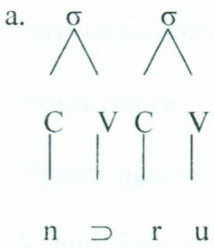
nduka /nduka /	'shop'	nduka-nduka	'shop-emphatic' (noun)
gaya /ɲaja /	'divide'	gayagaya	'divide further' (verb)
tene /tɛɛ /	'ago'	tenetene	'long ago' (adverb)
thambia /θambia /	'clean'	thambathambia	'clean further'(verb)
noru /nɔru /	'fat'	noranoru	'fatter' (adjective)
mbere /mɛɛ /	'ahead'	mberambere	'far ahead'(adverb)
thīiniĩ / θeinie /	'inside'	thīinathīiniĩ	'inner' (adverb).

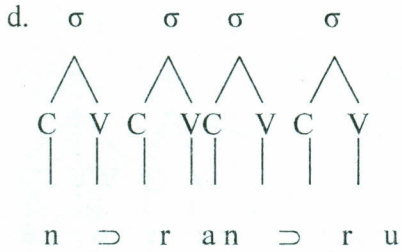
The semantic functions served by the above illustrations are varied. 'Ndukanduka' (real shop) allude to clarification or emphaticness. 'Divide further' indicates



b)

<i>Base</i>	<i>Gloss</i>	<i>Reduplicant</i>	<i>Gloss</i>	<i>Sub pattern</i>
noru/nɔru/	'fat'	noranoru	fatter	CVCV





4.3.6 CVVCV Reduplication.

This pattern is prototypical of full reduplication. Eleven cases of full reduplication were observed. The nouns, verbs and adverbs exhibiting this pattern reduplicate fully for meaning as shown below:

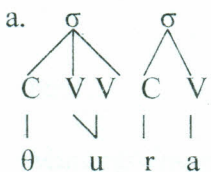
thuura /θu:ra/	select	thuurathuura	select further	verb
Ngaari /ŋga:ri/	car	ngaaringaari	a car not any other automobile	noun
Kaingī /kaingē/	often	kaingīkaingī	quite often	adverb

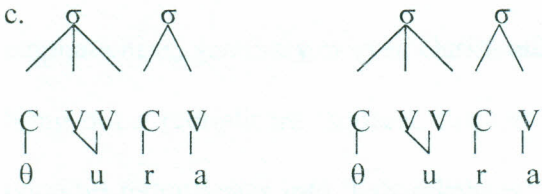
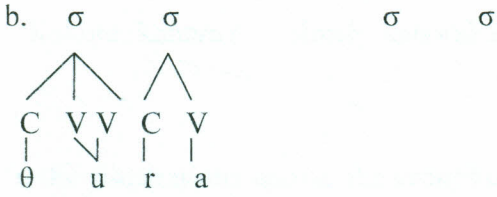
The verb and adverb reduplicants above spell out 'a do- it –further' effect with a repetitive continuous aspect. The noun, like all other nouns undergoing full reduplication, gives a 'real N' effect.

The following is a prosodic presentation of the above pattern:

Figure 4.6

thuura/θu:ra/ select' thuurathuura select further CVVCV





4.3.7 CVCVCV Reduplication.

This is another pattern that is common with full reduplication and specifically in nouns, verbs and adverbs. Nineteen cases were captured in the study. An observation was made with the effect that, the semantic functions in the different word classes are however varied as exemplified below:

base	gloss	reduplicant	gloss	word class
Murango /morangɔ̃/	door	murangomurango	real door	noun

Hihinya /hihiña /	squeeze hihinyahihinyasqueeze	further	verb
Kahora /kahɔra /	slowly kahorakahora	gently	adverb

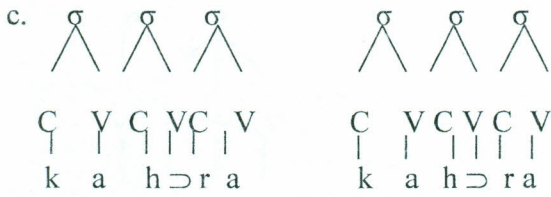
In the illustrations above, the reduplicant 'murangomurango' denotes "real door" as opposed to a makeshift door. The semantic change in this case therefore implies emphaticness, genuinity or even clarification. The verb 'hihinya' is fully copied to bring out a reduplicant 'squeeze further' thus revealing intensification. 'Kahora' (slowly) reduplicates into 'kahorakahora' (gently) and that morphological process has a connotation change.

Prosodic presentation of this pattern is as below:

Figure 4.7

kahora/kahɔra/ slowly kahorakahora gently CVCVCV





4.3.8 VCVV Reduplication.

Partial reduplication does not exhibit this pattern. Six cases of full reduplication were noted. From the data, nouns and demonstratives display the pattern as shown below:

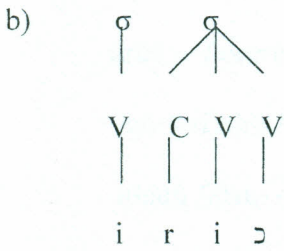
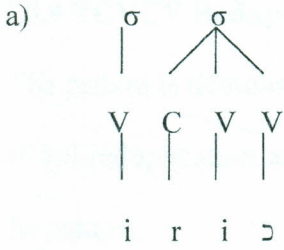
<i>base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>word class</i>
Irio /irio /	food	irioirio	real food not junk	noun
Icio /išiɾ /	those as in chairs	icioicio	those particular ones	adjective

The noun reduplicates to denote genuinity. The demonstrative reduplicant brings out clarity.

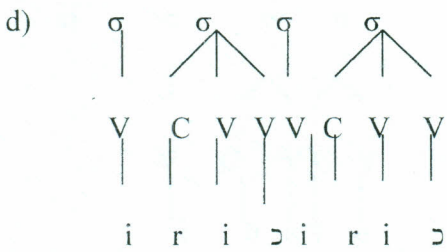
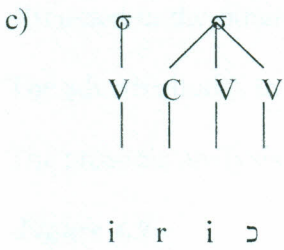
Prosodically, the pattern is analyzable as below:

Figure 4.8

Irio /iriɾ / food irioirio real food VCVV



σ σ



4.3.9 VCVCV Reduplication.

The pattern is demonstrated by nouns, adjectives and adverbs. The pattern is a case of full reduplication and eight instances were noted. Following are illustrations of the pattern.

<i>base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>word class</i>
ũrĩrĩ	/ orere / bed	ũrĩrĩũrĩrĩ	real bed	noun
igũrũ	/ iŋoro / on top of	igũrũigũrũ	on top of particular thing	adverb
ithatũ	/ iθato / three	ithatũithatũ	three by three	adjective.

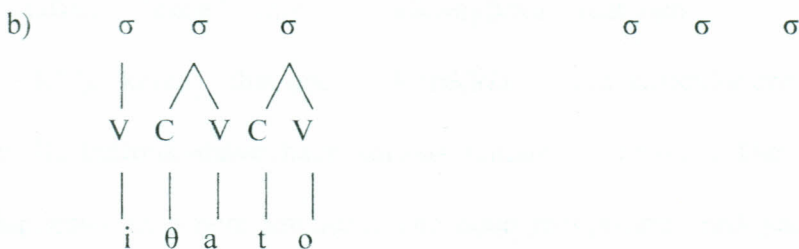
The reduplicated form of the noun has similar implication with other nouns discussed in the other patterns. Reduplication gives a noun the sense of 'a real N'.

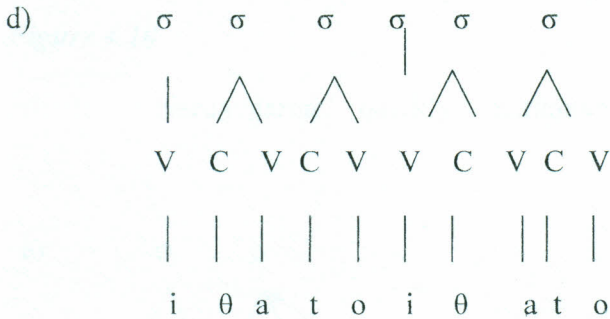
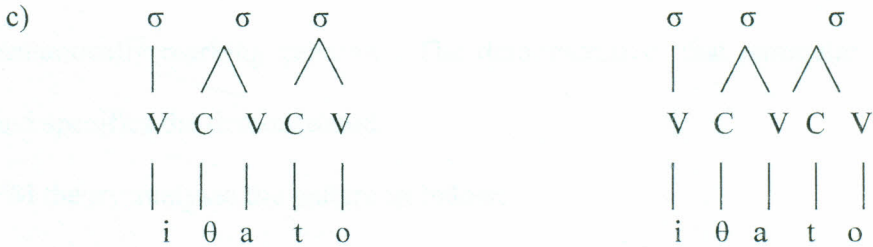
The adverb alludes to intensity while the adjective indicates quantification.

The prosodic analysis of the pattern is shown below:

Figure 4.9

Ithatu /iθato / three ithatuithatu three by three VCVCV



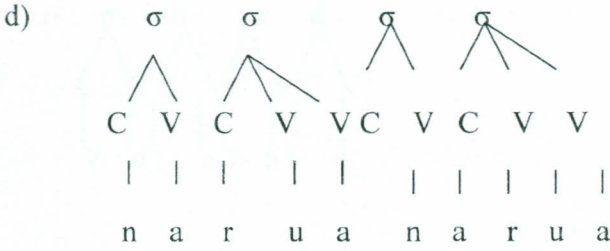


4.3.10 CVCVV Reduplication.

This is identifiable among nouns, adjectives and adverbs. The pattern is typical of full reduplication. Six cases of the pattern were observed. The illustrations below exemplify the pattern.

<i>base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>word class</i>
Narua /narua/	quickly	naruanarua	very quickly	adverb
Gĩkwa /ʒekoa/	yam	gĩkwagĩkwa	real yam	noun
Kĩrĩa /kerea/	that one	kĩrĩakĩrĩa	that particular one	adjective

The illustrations above have various semantic functions. The adverb 'quickly' reduplicates to denote intensity. The noun reduplicant 'real yam' helps make a



4.3.11 VCVCVCV Reduplication.

Nouns and adverbs express this polysyllabic pattern. The entire root is copied as in the following illustrations:

<i>Base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>w/class</i>
mundu mugo	/mondo mogɔ/	medicine man	mundumugomundumugo	real medicine man noun
gatagati	/ʔataʔate/	in the middle	gatagatigatagati	right in the middle adverb

The semantic function of the noun above follows the trend of nouns discussed in the previous patterns. The reduplicated noun reveals genuinity; 'real medicine man' as opposed to a bogus one. The adverb defines the position in question thus the function is locative.

PM theoretic approach analysis for Gikuyu reduplication compares very well in the above pattern as it would in other Bantu languages, for example Kinande. The above polysyllabic adverb is thus analysed:

Figure 4.11

<i>Base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>pattern</i>
Gatagati	in the middle	gatagati	right in the middle	CVCVCVCV

PM theoretic analysis of the above pattern as shown below:

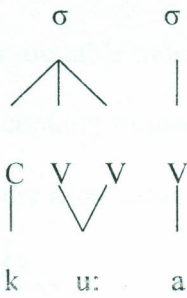
Figure 4.12

<i>Base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>pattern</i>
Kuua	carry	kuuakuua	carry further	CVVV

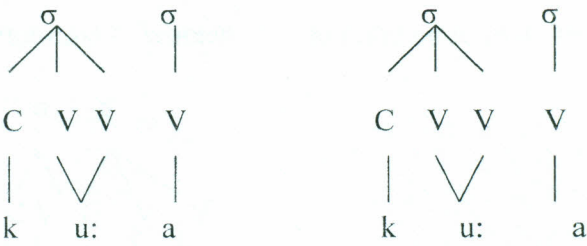
a.



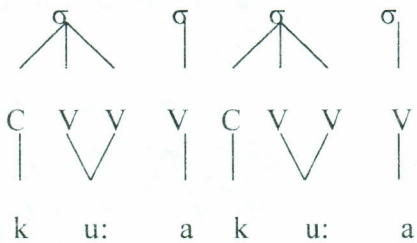
b.



c.



d.



4.3.13 CVCVCVV Reduplication.

The pattern is commonly identified in nouns and only two instances were noted as shown below.

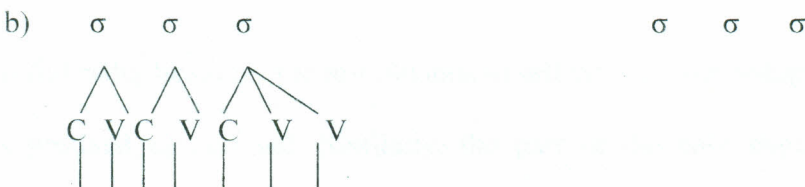
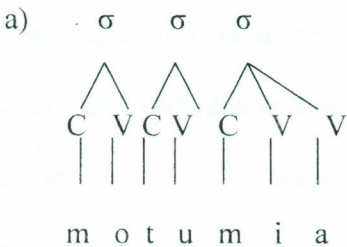
<i>base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>word class</i>
Mutumia /motumia /	woman	mutumiamutumia	real woman	noun
Thuburia /θuβuria /	saucepan	thuburiathuburia	real saucepan	noun

The reduplicants above undergo full reduplication. The semantic implications in both cases allude to genuinity. In the case of ‘mutumia’ (woman), the reduplicant denote a woman of integrity, possibly a mother, as opposed to a childless one and one of questionable morals. ‘Thuburiathuburia(real sauce pan) is used in place of any other cooking implement.

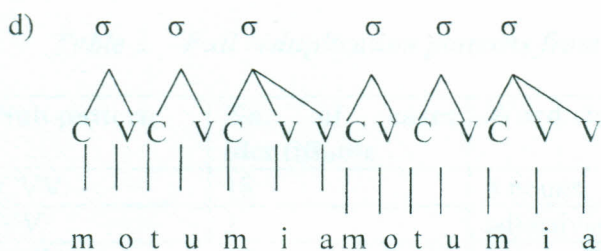
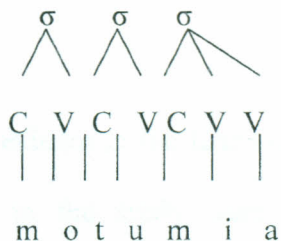
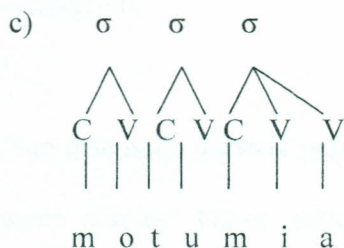
The prosodic illustration for the above pattern is as the following.

Figure 4.13

<i>base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>pattern</i>
Mutumia /motumia /	woman	mutumiamutumia	real woman	noun



m o t u m i a



In the PM theoretic approach construction examples above, PM Hypothesis is satisfied easily because the language in use is a syllabic language and therefore a syllable as a unit of prosody suits the analysis. McCarthy and Prince (1993) observe that a good reduplicant begins and ends like its base. That it has the same precedence and adjacency structure among its segments as the base. A good reduplicant includes nothing that is not in the base and it copies everything that is in the base. Going by the above view then, the conclusion can be drawn that nouns reduplication produces good reduplicants.

In full reduplication, it is not obvious to tell whether the reduplicative morpheme is prefixed or suffixed. Similarly, the part of the base copied as well as the

direction of the mapping of melody is not obviously identifiable due to the total copying of the base. However, this study perceives full reduplication as suffixation.

The discussed various reduplication patterns are evident in the four Gikuyu open word classes. Other patterns that occur once in the study were treated as misnomer. Different word classes feature in different patterns as below:

Table 3 Full reduplication patterns from a population of Two fifty words:

Sub pattern	No. of cases identifiable	Word classes
CVV	18	8 nouns, 5 verbs, 1 adjectives, 4 adverbs
VV	2	adjectives
VCV	13	1 noun, 7 verbs, 4 adjectives, 1 adverb
CVCV	61	22 nouns, 25 verbs, 8 adjectives, 6 adverbs
CVVCV	11	6 nouns, 4 verbs, 1 adverb
CVVV	2	1 verb, 1 adjective
VCVV	6	1 noun, 5 demonstrations
CVCVCV	19	14 nouns, 3 verbs, 2 adverbs
VCVVCV	10	6 nouns, 2 adjectives, 2 adverb
CVCVV	6	2 nouns, 1 adjective, 3 adverbs
CVCVCVCV	2	1 noun, 1 adverb
CVVCVCV	1	1 noun
VCVVCV	1	1 adverb
VCVCVCV	1	1 noun
CVCVCVV	2	2 nouns
CVCVCVCVV	1	1 noun
VCVCVV	1	1 noun
CV	5	4 nouns, 1 adverb

Table 4: Partial Reduplication Patterns from a Population of two fifty words

Sub pattern	Cases identifiable	Word class
CV reduplication	1	Adjective
VCV	11	8 verbs, 3 adjectives
CVV	4	1 verb, 2 adjectives, 1 adverb
CVCV	36	6 verbs, 23 adjectives, 7 adverbs

As observed from the Table 3 and 4 above, although variant patterns of reduplication have been identified, the following are the prominent ones in full reduplication: CVCV, CVCVCV, CVV, VCV and CVVCV. Correspondingly, CVCV, CVV and VCV feature, in addition, in partial reduplication. Observable also is the fact that full reduplication is a more productive word-formation process than partial reduplication. All nouns reduplicate fully. Verbs, adjectives and adverbs take part in the two divisions of reduplication. CV, VCV, CVV, CVCV patterns feature in both full and partial reduplication.

The morphological process of Gikuyu noun reduplication is simple. The nouns undergo total reduplication. Reduplication of nouns entails the affixation of the reduplicative morpheme to the stem of the noun with the added connotations of emphasis as well as marking contrast. The morphological change undergone by the base morpheme subsequently interprets into a semantic change. The full reduplication of the nouns marks the distinction of the base morpheme and the

reduplicant. Just like the other sub-categories of nouns, monosyllabic nouns reduplicate fully and the reduplicants semantically have an emphatic effect as well as enhancing a distinction and clarity between the base word and any other word that is closely related. However, there is a class of unreduplicable nouns as seen in Table 2 above.

Among the subclasses of verbs, a group reduplicates fully, another partially, while other verbs do not reduplicate at all. The process of full verbal reduplication is regular. The stem is fully copied. The reduplicant adds a repetitive effect to the stem and the semantic implication is augmentative as shown below:

<i>base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>
hihinya /hihiña /	squeeze	hihinyahihinya	squeeze further
negena /neɳena /	make noise	negenanegena	go on making noise
thigitha /θiɳiθa /	rub	thigithathigitha	rub further.

Partial reduplication is seen to be dependent on the stem but might include some change or deformation of the stem's phonological material as seen from illustrations below. Partial verbal reduplication adds an augmentative meaning to the root word as seen from the illustrations. The other observation made is that, phonological processes appear to take place in partial reduplication. For a CVCV

reduplicative morpheme template, there is deletion of the original vowel, which is replaced with vowel 'a' as in:

heherera /heherera/	whisper	hehaherera	whisper further
hingūra /hiŋgora/	open	hingahingūra	open further.

For the root whose final position is VV, one V is deleted as in:

tetia /tetia/	quarrel	tetatetia	quarrel further
thambia /θambia/	clean	thambathambia	clean further
makia /makia/	alarm	makamakia	alarm further.

The reduplicative morpheme template of verbal partial reduplication is prefixed with few exceptions. The direction of the melody is left to right as observed from the above examples.

As observed from the following examples, the reduplicative morpheme for partial reduplication has a CVCV and CVV template for consonant initial verbal roots and VCV for vowel initial ones as in:

Base	gloss	reduplicant	gloss
heherera /heherera/	whisper	hehaherera	whisper further
hingura /hiŋgora/	open	hingahingura	open wider
thambia /θambia/	clean	thambathambia	clean further
humbira /humbera/	cover	humbahumbira	cover further

thondeka /θɔ̃ndɛka/	correct	thondathondeka	correct further
Heana /heana /	give	heaheana	give further
tetia /tɛtia/	quarrel	tetatetia	quarrel further
ongerera /ɔ̃ŋgerɛa/	add	ongongerera	add further
etha /ɛθa/	look for	etheetha	look further
oneka /ɔ̃nɛka/	appear	onooneka	appear frequently
ikūrūka/ikoroka/	descend	ikaikūrūka	descend further

In this study, the adjectives are subcategorized into numerals, demonstratives and full adjectives. Adjectives exhibit the two reduplication patterns; fully and partially reduplicated morphemes.

Demonstratives, like nouns, reduplicate fully for emphasis and to mark authenticity of the referent. As observed from Table 2 above, the full adjectives that reduplicate fully are less in number than partially reduplicated ones. Some of the full adjectives that undergo total reduplication include:

<i>Word</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>semantic function</i>
Thaka /θaka /	beautiful	thakathaka	more beautiful	comparative
Tūhū / toho/	useless	tūhūtūhū	very useless	intensity
Mata /mata/	thick	matamata	thicker	comparative
nyūmū /ñomo /	dry	nyūmūnyūmū	very dry	intensity

Similar to partially reduplicated adjectives, the above class of adjectives depicts augmentative effect. In addition, demonstratives and numerals reduplicate fully to mark emphasis to the base morpheme as in the following:

<i>Base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>
ũyũ /ojo /	this one (human)	ũyũyũyũ	this particular one(emphatic)
aya /aja /	these (human)	ayaaya	these particular ones
ĩno /enɔ /	this(as in car)	ĩnoĩno	this particular one
ici /iʃi /	these(as in chairs)	iciici	these particular ones
ũrĩa /oria /	that (person)	ũrĩaũrĩa	that particular one
icio /iʃiɔ /	those (as in chairs)	icioicio	those particular ones.

Total reduplication of numerals exhibit varied quantifying semantic implications as seen below:

<i>base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>glosses</i>
Ĩmwe /emue /	one	ĩmwe ĩmwe	one by one
Igĩrĩ /iʎere /	two	igĩrĩigĩrĩ	two at a time OR two by two
Ithatu /iθato /	three	ithatuithatu	three at a time OR three by three
Inya /iña /	four	inyainya	four at a time OR four by four

However, the meaning of a certain reduplication pattern might change in co-occurrence with a particular affix for example, 'ithatu ithatu' (three by three) as opposed to 'ithathatu' (six), 'inya inya' (four by four) as opposed to 'inyanya' (eight).

Most of the bisyllabic adjectives undergo partial reduplication as shown below:

<i>Word</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>
nyũmũ /ñomo/	dry	nyũmanyũmũ	more dry/drier
noru /nɔru/	fat	noranoru	fatter
nene /nɛnɛ/	big	nenanene	bigger
mbuthu/mbuθu/	rotten	mbuthambuthu	more rotten
njeke /hjeke/	narrow	njekanjeke	narrower
thũku /θoku/	spoilt	thũkathũku	more spoilt
ndiku /ndiku/	deep	ndikandiku	deeper.

The change of form in the above constructions has some common features. The reduplicative affix has CVCV template. The reduplicant is formed by copying the base but with some modification of the second syllable of the base. The phonological process involved replaces the initial vowel in the second syllable with vowel 'a' to form the comparative form of the base. Often, as seen from the above examples, partially reduplicated adjectives have an augmentative meaning. They signal an increase in size, frequency or intensity. The reduplicative affix is

<i>base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>
mūhuro /mohurɔ/	below	mūhurahuro	far below.
hanini /tonini/	little	haninanini	less
hakuḥĩ /hakuhe /	close	hakuḥakuḥĩ	closer.

It is apparent that partial reduplication of adverbs is used with an augmentative as well as attenuative effect. The reduplicative affix is a CVCV template with a few exceptions. The V in the second syllable is replaced with vowel 'a' to mark the augmentative effect. The reduplicative affix attaches as a prefix and the melody maps from left to right.

It is observed from the above examples that the class prefixes 'mu', 'tu', 'ha' are not copied. What reduplicates is the root word. The original V in the second syllable of bisyllabic template CVCV is lost and replaced with 'a' to mark the comparative form of the base. The reduplicative affixes are prefixed to the stem.

Full and Partial reduplications depict varied semantic functions ranging from quantification, genuinity, continuous repetitive aspect, intensification, comparative, nominal intensification, connotation change, locative, collectivity and authenticity. A quick glance of the variant patterns of reduplication and the

semantic functions associated with the patterns can be gained through the summary tables below.

Table 5: Full Reduplication

Pattern	Base	Gloss	Reduplicant	Gloss	Word Class	Semantic Meaning
CV	thū/Θe/	foe	thūthū	real foe	noun	clarity
	thī/Θe/	on the ground	thīthī	Right on the ground	adverb	locative/clarity
VV	īo/eɔ/	that one	īo īo	that particular one	Adj	emphaticness
CVV	maī/mae/	water	maī maī	Water not any other quencher	Noun	clarity/genuinity
	kūu/kou/	there	kūu kūu	That particular place	Adv	locative/clarity
	kīu/keu/	that one e.g. chair	kīu kīu	That particular one	Adj	clarity/emphaticness
	thīa/θea/	grind	thīa thīa	Grind further	Verb	intensity
VCV	una/una/	break	Una una	Break further	Verb	intensity
	īci/īši/	these ones	īciīci	These particular ones	Adj	clarity/emphaticness
	īra/īra/	yesterday	īraīra	Yesterday emphasized.	Adv	clarity/emphaticness
	īru/īru/	knee	īruīru	Knee not any other joint	noun	clarity
CVCV	nduka/nduka/	shop	ndukanduka	shop not a kiosk	noun	clarity/genuinity
CVCV	tene/tene/	ago	tenetene	long ago	adverb	nominal intensification
	thaka/θaka/	beautiful	thakathaka	more beautiful	adj	comparative
	gaya/ʎaja/	divide	gayagaya	divide further	verb	intensity
CVVCV	ngaari/ŋga:ri/	a car	ngaaringaari	a car not any other automobile	noun	clarity/genuinity
	kaingī/kaiŋge/	often	kaingīkaingī	more often	adverb	intensity
	thuura/θu:ra/	select	thuuruuura	select further	verb	intensity
	mūrango/morango	door	mūrangomūrango	real door	noun	genuinity/clarity
	kahora/kahɔra/	slowly	kahorakahora	gently	adverb	connotation change
	hihinya/hihiña	squeeze	hihinyahihinya	squeeze further	verb	intensification
	VCVCV	ūriri/ɔre/	bed	ūririūriri	real bed	noun

	igūrū/iʎor o/	on top of	igūrūigūrū	on top of(emphatic)	adverb	intensity
	ithatū/iθat o/	three	ithatūithatū	three by three	adj	quantification
CVCVV	gīkwa/ʎek oa/	yam	gīkwagīkwa	real yam	noun	genuinity
	harīa/hare a/	that place	harīaharīa	that particular place	adverb	clarity/locative
	kīrīa/kerea /	that one	kīrīakīrīa	that particular one	adj	emphaticness
VCVV	irio/iriɔ	food	irioirio	real food not junk food	noun	clarity/genuinity
	icio/išiɔ	those ones e.g chairs	icioicio	those particular ones	adj	emphaticness/clarity
CVVV	kuua/ku:a/	carry	kuuakuua	carry further	verb	intensity
	ndīū/nde: u	drunk	ndīūndīū	very drunk	adj	intensification
CVCVCV	mūndūmū go/ mondomo ʎɔ	Medicine- man	mūndūmūgo mūndūmūgo	real medicine man	noun	genuinity
	gatagatī/ʎ ataʎate/	middle	gatagatīgatagatī	right in the middle	adverb	locative/emphaticness/clarity
CVCVCV /V	mūtumia/ motumia/	woman	mūtumiamūtumi a	real woman	noun	clarity/emphaticness
	thaburia/θ aβuria/	saucepan	thaburiathaburia	real sauce- pan.	noun	clarity

Table 6: Partial Reduplication

Pattern	Base	Gloss	Reduplicant	Gloss	Prefix/Suffix	Word Class	Semantic Meaning
CV	inya/iña/	four	inyanya	eight	suffix	adj	quantification
VCV	Oneka/ɔneka/	appear	onooneka	appear again	prefix	verb	intensity
	igūrū/iʎoro/	on top of	igaigūrū	on top of another	prefix	adverb	comparative/locative
CVV	heana/heana/	give	heaheana	give more	prefix	verb	intensity
	īmwe/emuc	one	īmweīmwe	one at a time	prefix	adj	quantification
CVCV	thambia/θambi a/	clean	thambathambi a	clean further	prefix	verb	intensity
	noru/nɔru/	fat	noranoru	fatter	prefix	adj	comparative

	thĩiniĩ/θeinie/	inside	thĩinathĩiniĩ	inner	prefix	adverb- adj	category change.
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From the literature on reduplication and observations by Moravcsik (1978:312): for a construction to be a reduplicative one, it has to include at least two instances of the same form. It is not possible to clearly state in universal terms what meaning reduplicated forms convey in natural language. However, it has been observed that there are recurrent concepts in what meanings reduplicative constructions convey. These include increased quantity either of referent or emphasis, repetition of the event described by the verb, intensity, augmentation or diminution, and sometimes categorial distinction or derivation. This description generally agrees with the findings of this study reduplication.

From the two tables, 5 and 6 above, it is clear that semantic functions in any one pattern are not absolute. It is apparent that some reduplicants serve more than one semantic functions for example in nouns; clarity/ locative, clarity/ emphaticness and so on. Intensity and intensification are prototypical of verbs while comparative, quantification associate with adjectives. Adverbs are more inclined towards locative, emphatic, nominal intensification than intensity.

From this study, it is observed that different word-classes serve varying semantic functions. Reduplication of nouns has emphatic function. Due to the fact that all nouns reduplicate fully, reduplication in nouns may appear like mere constituent

copying. However, through this research study, it has been established that this phenomenon trigger a distinctive effect between the base word and the reduplicant. It produces what is by all definitions another word with a distinct meaning even though relatable to the meaning of the principal form. In Gikuyu for example, there is tendency to making general reference to some entities as in, ‘mucii’ (home). ‘Mucii-mucii’ (real home) as opposed to mucii (rented home or residence in urban areas in comparison to ancestral home) makes that distinction.

Nevins and Vaux (2003) report something similar in Finnish; that it is used in contemporary Finnish and English for emphasizing an authentic form of a certain thing for example, ‘car car’ to describe a vehicle which is actually a car (small automobile) and not something else such as a truck), a ‘house house’ for a stand alone house structure as opposed to an apartment, for instance.

While it is true that different patterns of reduplication may overlap in their semantic functions, it seems more difficult to ascertain that a specific pattern of reduplication only conveys a unique meaning in Gikuyu. With nouns, for example, some patterns have more than one semantic function as in; clarity, emphaticness or even genuinity(Table5)

A template specifies the canonical form of the pattern’s output. The most obvious, almost trivial case of a –templatic prosodic morphology is total reduplication

(McCarthy and Prince 1986, 1990a, 1991b). In total reduplication unlike partial reduplication, there is copying of canonical form of the base. This sort of a situation generally occurred among nouns in this study. Out of the seventy collected nouns, only two could not reduplicate for meaning (Table2). One of the words that could not reduplicate is 'kirimu' 'a fool'. In Gikuyu, 'kirimu' is an absolute word since one is either foolish or not foolish.

It was also observed that some nouns do not have any semantic significance at all after reduplication. A case in point is 'huhu' bats'. The reduplicant 'huhuhuhu' is a nonsense word since in Gikuyu, bats are rare unique and solitary creatures; therefore not practicable to contrast or make distinction.

The obvious observation drawn from the analysis of partial reduplication is that although some instances of reduplication can be viewed as constituent copying, it would be wrong to assume that reduplication always requires constituent copying. Sometimes reduplication copies fragments that are not in the base morpheme for example in the cases of partial reduplication where some segments are deleted and replaced with other segments.

Although reduplication is a productive word-formation process in Gikuyu, it has been observed that monosyllabic words are limited and the reduplicable

monosyllables are not prototypical. From a list of seventy verbs for example, only the following monosyllabic verbs were identified:

- (a) Tee /tɛ:/ discard it, for example
 Tee mahuti maya kiara-ini (discard the rubbish)
- (b) kee /k ɛ:/ take (this) ,for example,
 Kee irio ici (take this food)
- (c) Hee /h ɛ:/ give (it) to me, for example,
 Hee ibuku riu (give (to) me that book).
- (d) Nee /n ɛ:/ pass (it to me) for example,
 Nee karamu kau (pass that pen to me)

The verbal forms above can be interpreted as full sentences in the context that allow close interpersonal understanding. They are cases of elision in which the rest of the sentences are inferred from the context. They are however very rare and hardly reduplicate for meaning.

- (e) tua /tua / snap tuatua ?
- (f) gũa /ŋoa / fall gũagũa ?
- (g) rĩa /rea / eat rĩarĩa 'eat more'

(h) thiĩ /θie / go thiĩthiĩ 'go'- dismissive

From a list of eight, only two can reduplicate for meaning. What appears to be a common feature among the above monosyllabic verbs is the CVV pattern. Worth noting is that other Bantu languages resort to various mechanisms so as to expand the base word to enable the monosyllabic words to reduplicate. The example below is drawn from Kinande reduplication (Mutaka and Hyman, 1990). In Kinande, reduplication of monosyllabics is achieved through multiple copying as follows:

e-o-swa e-swa-swa-swa 'to grind'

e-o-twa e-tw-a-twa-twa 'to cut'.

In Siswati (Downing, 1994) reduplication is achieved through segmental epenthesis as follows:

-pha -phayi-pha 'give'

-wa -wayi-wa 'fall'

Among these subclasses of verbs, a group reduplicates fully, another partially, while other verbs do not reduplicate at all (Table2). The following are examples of full verbs that do not reduplicate for meaning. The root words depict an absolute connotation such that attempting to copy them gives an awkward implication as in:

orota /ɔɔta /	'point at'
Ūra /'ora /	run away
Enda / enda /	love, like, accept
Uga /uʎa /	say
Ĩra /era /	tell.

Similarly, there are some adjectives that do not reduplicate for example the following:

<i>Word</i>	<i>gloss</i>
hiũ / hio /	hot
njiganu /hjiʎanu /	enough
ngia /ŋgea /	poor
ngũta /ŋgota /	lazy
njororo /hɔɔɔɔ /	soft
ng'eni /ŋeni /	strange/fiction.

This preceding list of adjectives has adjectives with absolute connotations; they can neither mark comparatives nor indicate emphasis. Such Gikuyu words need intensifiers in order to indicate degree. To show intensity for example in the word, 'njororo' 'soft', the word takes 'muno' 'very' to mark the degree of softness.

Monosyllabic adjectives are limited (Table 1) and are mostly drawn from demonstratives as in:

- (a) ĩo ‘that one’ as in plate
 ĩoĩo ‘that particular plate’ OR
 b) ĩo ‘those ones’ as in trees
 ĩoĩo ‘those particular trees’

It was also observed that some Gikuyu adverbs and adjectives enjoy both total and partial reduplication but with distinct semantic implications as in:

<i>Base</i>	<i>gloss</i>	<i>reduplicant</i>	<i>gloss</i>	<i>semantic function</i>
(a) hanini /hanini/	little	haninitũnini	little by little	progressive
hanini	little	haninanini	less	comparative
b) mbere /mbere /	first	mberembere	first and foremost	emphaticness
mbere	a head	mberambere	far ahead	comparative / locative
(c) goro / ɣ ɔ ɔ /	costly	gorogoro	very costly	emphaticness
goro	costly	goragoro	more costly.	Comparative
(d) tene /tene /	punctual	tenetene	quite punctual	intensification
tene	early	tenatene	earlier	comparative

Many of the adverbs in Gikuyu however are not single words that can be reduplicated but descriptive phrases which when translated into English are single-word adverbs. Some examples of such adverbs include:

<i>Word</i>	<i>English gloss</i>
rũere-ini/roere-ini /	aside
ũru makiria kũri ũria ũngi/ oru makeria kore orea oŋge /	worst
mbere ya ihinda riria riiranire /mberɛ ja ihinda rerea re:ranerɛ /	already
hingo ciothe /hiŋgɔ ʃi ɔθɛ /	always
hamwe na /hamuɛ na /	along
na mbere /na /mberɛ /	forth
kuma gũkũ /kuma ʎoko /	hence
na kayũ kanene /na kajo kanerɛ /	aloud.

With the preceding observations therefore, adverbs are the least productive in reduplication among the Gikuyu open word classes.

The reduplicative constructions of nouns, demonstratives and adverbs may at times not sound at all possible. The meaning of these reduplication constructions is perhaps best described in context by illustrations as in:

- a) Wambũi akuire maĩ na cuba (Wambui carried water with a bottle)
- (b) Wambui akuire maĩ na cubacuba (Wambui carried water with a glass bottle plastic)

- (a) Mwangi ni muthuuri. (Mwangi is a man)
- (b) Mwangi ni muthuuri muthuuri (Mwangi is a man of integrity)
- (a) Uyu nĩwe waiyiire mbeca ciakwa.(This person stole my money)
- (b) Ũyũĩyũ nĩwe waiyiire mbeca ciakwa(This particular person stole my money)
- (a) Mũndu ũcio niendete ciana icio mũno. (That man loves the children very much)
- (b) Mũndũ ũcio niendete ciana icio mũnomũno(that man loves the children very very much).

Some adjectives and adverbs in this study are likely to overlap in meaning if not used in context. Examples of such words are the following: ‘goro’ (expensive/costly),’ kahora’ (slowly/ slow), ‘nini’ (little/small),’toro’ (sleepy/asleep) as shown in the following illustrations.

endagia indo goro (he sells his wares expensively)

Ee goro (he is an expensive trader)

Athiaga kahora (he walks slowly)

Ni mundu wi kahora (he is a slow man)

Athiire o hanini (he walked a short while)

Athiire hanini (he walked little)

Ee toro riu (he is asleep.)

Ee toro muno (he is a sleepy baby)

Reduplication appears to be matters of morphology in as far as it involves change of word forms and/ or creation of new words for example:

- (a) theru /θeru / 'clean' theratheru cleaner
 (b) Hanini /hanini / little haninihanini little by little

'Haninihanini' is derivable from 'hanini' by a process of inflexion. It is a word by most criteria, and the same lexeme as 'hanini' to which it can be related in a paradigm of comparison. What is not easy to say is whether 'haninihanini' 'little by little' is one or two morphemes and if they are two as it is likely, then which is the stem and which the affix. It is not clear whether the reduplicative affix is prefixed or suffixed. The other dilemma in this concerns the direction of mapping; if it is from left-right or right-left. Perhaps following the notion of linearity of language, it might be logical to say it is the second 'hanini' that is the affix but there is no enough justification.

The case in point above might be echoed to some extent by Marantz (1982:445) that '... reduplication is simply the affixation of a skeleton to a stem as there is no way of determining which is the stem and which the affix. A number of researchers looking at cases of total reduplication also propose analyses that exclude the consideration of Base- Reduplicant, in non-affixal ways (Struijke, 2000, Inkelas and Zoll, 2005). However, this study holds that the initial half of the reduplicant is an affix on its own. Never the less, the preceding sentiment may

only apply to instances of total or full reduplication. Where we have a partial reduplicative construction, it is not complex to identify the stem and the affix as with the following illustrations:

- | | | | | |
|-----|---------|--------------|---------------------|-------------------|
| (a) | ndegeru | 'loose' | ndegandegeru | 'more loose' |
| (b) | ng'umu | 'stale' | ng'umang'umu | 'more stale' |
| (c) | heana | 'give' | heaheana | 'give more' |
| (d) | wega | 'accurately' | wegega | 'more accurately' |

The above reduplicative constructions can be looked at as phonological processes taking place. For the three cases, the partial reduplication is prefixed. The mapping of the melody does so from left to right. It is noticeable that in the two cases above; (a) and (b), the reduplicative affix is CVCV. The vocalic 'e' and 'u' are replaced with 'a'. The analysis suggests that the new form in the construction has two morphemes; the root or stem and the reduplicative affix which would perhaps be considered a single discontinuous morpheme. The function of these morphemes is not difficult to establish given that they all bend towards creating an augmentative effect.

Although the major categories of nouns, verbs, adjectives and adverbs seem to be repeatable especially in full reduplication, such forms are restricted in use. In

Gikuyu for instance, there is tendency to the use of language to casually refer to goat and sheep interchangeably.

Through reduplication therefore, the use becomes specific as in:

- (a) mbūri 'goat' mbūrimbūri 'goat not sheep'
- (b) rūĩ 'river' rūĩrũĩ 'a river not a stream or a well'.
- (c) mūhĩndĩ 'Indian' mūhĩndĩmūhĩndĩ 'pure Indian'

More significantly, without a little more search into a language, it is not realistic to conclude that all repeated words in use in the language are instances of reduplication, or any other phenomenon of the same derivational history, for example in the case of ideophones as shown below:

Micimici- description of the chirping of birds, or unintelligible jabbering (as of a foreign language).

Kunyukunyu- description of a griping, throbbing or twitching sensation as in stomach-ache, head-ache, tooth-ache or grit in the eye.

Memememe- expression of rapid spreading of fire, an ulcer, gossip or news.

Momomomo- description of trees, crops being blown down by the wind or flattened by some other agency.

Nugunugu- description of mumbling, grumbling (as of child after beating)

Menjemenje- expression of soft munching (as a child or lamp sucking, a dog or cat lapping)

Ngurunguru – description of quiet munching with losed lips (as a cow chewing the cud, or a horse).

Moravcsik (1978) defines reduplication as a quantitative representation of meaning by sound. She further makes the point that “the qualititative form differences associated with a particular meaning distinction, may involve repetition of one semantic-syntactic constituent, or that of more than one semantic constituent that may stand in various grouping relations to each other. The above definition disqualifies ideophones from the class of reduplicants because what looks like the base word is not a morpheme on its own. Other examples include such words as: tang’a tang’a (wobble), taritari (slippers), bŭrŭbŭrŭ (bullets) etcetera.

4.4 Conclusion

In this chapter, the data has been presented and analysed. Different patterns of reduplication have been clearly identified, numbered, exemplified, briefly discussed and analysed. The semantic functions attributed to the variant patterns have been described and discussed. The variants patterns have been analysed and accounted for using the theoretical constructs of PM thus filling the documentation gap of this aspect of Gikuyu grammar. In the next chapter, we present a summary of the findings, conclusion and recommendations.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This study has been guided by three objectives; to determine the variant patterns of Gikuyu reduplication, to describe the various semantic functions associated with the reduplicative patterns and to determine how the PM theoretic approach could account for Gikuyu reduplication. In this chapter, Gikuyu reduplication is reviewed within the tenets of PM theoretical approach as proposed by McCarthy and Prince (1986, 1988, and 1990). Conclusions, recommendations and suggestions for further research are drawn from the findings. The four Gikuyu open- word class categories are evaluated and analysed leading to the conclusions made.

The research study was guided by the three assumptions: Gikuyu has variant patterns of reduplication. These patterns are associated with different semantic functions and that Gikuyu reduplication patterns can be described using template and prosodic morphology theory. Following is a summary of the findings and conclusion from our research.

5.2 Summary of Findings and Conclusion

This study gives a detailed account of the patterns of Gikuyu reduplication. Two main divisions of reduplication; partial and full, subsume different patterns of reduplication. The patterns are drawn from single syllable, bisyllable and polysyllable templates. Gikuyu nouns, demonstratives and numerals realize full reduplication in which prefixal material is copied alongside the root, but with a few exceptions of unreduplicable nouns. Verbs, adjectives and adverbs display both full and partial reduplication. There are also cases of unreduplicable morphemes in the last three word classes. Full reduplication patterns are typically suffixed while partial reduplication ones are prefixal. Full reduplication takes place among the four word classes but nouns do not reduplicate partially. Therefore, full reduplication is a more productive word-formation process than partial reduplication in Gĩkũyũ. Such description has led us to the conclusion that patterns of reduplication are productively found in the four open word classes. Gikuyu reduplication is generally class maintaining but with some exceptions.

Although Gikuyu has variant patterns of reduplication, the semantic functions served are not necessarily distinct. In nouns for example, full reduplication gives a 'real N' effect. However, while it is true that different patterns of reduplication may overlap in their semantic functions, it seems more difficult to ascertain that a specific pattern of reduplication only covers a unique meaning in Gikuyu. The

meaning of a reduplicant depends on the following: the lexical category of the base it is derived from and the semantic implication associated with the category as well as its actual use in context.

Meanings are more likely to be associated with certain parts of speech. The reduplication of nouns favours one of the following: clarification, emphasis and genuinity. The reduplication of stative verbs typically marks intensification, attenuation, and comparison. Comparative, clarity and quantification functions are prototypical of adjectives and adverbs.

Reduplication of nouns operates according to principles which are nearly identical to those in verbs, adjectives and adverbs. Since the classes are open, one has the opportunity of inspecting a very wide range of phonological structures to see how they operate under reduplication. Nominal reduplication, for example, gives a noun the sense of 'a real 'N''. In Gikuyu, as in other Bantu languages for example Bukusu (Downing, 2003), stems reduplicate fully to give a meaning like 'repeatedly'. Such reduplication gives the verb the added connotation of being done further.

This study has surveyed reduplication in Gĩkũyũ. The finding is that there are variant reduplication patterns with several semantic uses of the phenomenon. Except for the fact of one form resembling another, each instance tends to raise its

own issues in relation to the grammar of the language and the theoretical approach to the description of that grammar. Whereas there probably are universals around the phenomenon (for example, the meanings of reduplicative constructions are not too different from the general observations by Moravcsik 1978), the observation that there should be minimal presuppositions about reduplication is supported.

Gikuyu reduplication has variant patterns and various semantic functions; consequently this phenomenon is not a peripheral matter in Linguistics. As stipulated by McCarthy and Prince,(1990), we see that Gĩkũyũ has met the requirements of the Prosodic Morphology Hypothesis that indicates that templates are best stated in terms of the units of prosody, for example, the syllable. Gĩkũyũ also satisfies The Template Satisfaction Condition. This principle makes it obligatory to satisfy all elements in a template. It is forbidden to leave any part of the morphological template unassociated with some prosodic unit. Similarly, Gĩkuyu fulfils the requirements of the Prosodic Circumscription of Domains which state that the domain in which morphological processes take place may be circumscribed not only by morpho-syntactic factors but also by prosodic criteria. In particular, morphological operations may target the minimal word within a domain rather than the whole domain.

5.3 Recommendations and Suggestions for Further Research

As per the findings and conclusions made in this study, it is valid to state that Prosodic Morphology theory can be advanced to account for reduplicative patterns in Bantu languages. Mutaka and Hyman (1990) have applied it to analyse Kinande and we have used it to investigate Gikuyu. Therefore, a replica of such study can be done with other Bantu languages in order to get more insight of the reduplication processes and the phenomenon in general.

Reduplication, despite being a profound word –formation process in Gikuyu and most probably among the other Bantu languages has not been studied exhaustively. A comparative study on reduplication of Gikuyu and any other Bantu language could also be done.

In this study, only the open word class members were studied. The closed class members were not examined. Though the number of Gikuyu closed class members is small, it is imperative that they are accorded attention. This could be done with a view of assigning to Gikuyu a grammatical system that is comprehensive.

In the course of this investigation, it was observed that although reduplication as infixation has been frowned upon by other linguists, for example, Broselow and McCathy (1983) –they argue that internal or infixing reduplicative subverts the fundamental affixational character of reduplication- this is a viable area of research

study. Such a study would help in establishing whether internal reduplication is an unusual phenomenon as other scholars like Katamba (1993) have expressed.

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APPENDICES

A1: Below is a sample list of words, some of which were used in generating reduplicated forms in the study. The words were picked from various sources as indicated in the methodology section.

Nouns

	<u>Word</u>	<u>English gloss</u>			
			16.	huhu	a bat
1.	Nyoni	bird	17.	nyina	mother
2.	mbūri	goat	18.	rūi	river
3.	ng'ombe	cow	19.	mūtumia	a woman
4.	cuba	bottle	20.	wendo	love
5.	tawa	lamp	21.	thuburia	saucepan
6.	ūrīrī	bed	22.	nduuma	arrowroot
7.	mata	saliva	23.	nduka	shop
8.	maĩ	water	24.	ndawa	medicine
9.	handū	place	25.	metha	table
10.	igego	tooth	26.	icembe	hoe
11.	kiratū	shoe	27.	ithanwa	an axe
12.	mūgeka	mat or carpet	28.	irigū	banana
13.	mūthuri	a man	29.	rūimbo	a hymn
14.	gikombe	cup	30.	thū	foe
15.	mūndu-mūgo	medicine man	31.	rūgiri	a hedge

32.	ūtukū	night	54.	tuuba	file
33.	ikūmbī	granary	55.	kīrimū	a fool
34.	mbura	rain	56.	mūtītū	forest
35.	njagathi	a lizard	57.	mūirītu	girl(adult)
36.	mboco	beans	58.	mūhīndī	Indian
37.	thiia	antelope	59.	mbwe	jackal not fox
38.	ma	truth	60.	iru	knee(not ankle)
39.	nyūngū	pot	61.	mwere	bulrush millet
40.	ngaari	a car	62.	gīkwa	yam
41.	mwana	child	63.	kīhī	a big boy
42.	irio	food	64.	mūrango	door
43.	matu	clouds	65.	mwanake	a young man
44.	njohi	beer	66.	urīrī	bed
45.	matū	ears	67.	mūhuko	bag
46.	thaa	clock/watch/time	68.	mūguī	arrow
47.	ngūū	firewood	69.	ruoya	feather
48.	mbica	picture/image/photo	70.	tha	mercy
49.	ngengere	bell			
50.	mūithikiri	bicycle			
51.	ithandūkū	box			
52.	thwariga	bushbuck			
53.	ngūū	firewood			

Verbs				
<u>Word</u>		<u>Eng. gloss</u>		
1. rega		refuse	21. enda	like,accept, love
2. ranga		step	22. heana	give
3. ũria		ask	23. thii	go
4. tanuka		chew	24. kuua	carry
5. ruga		cook	25. ita	pour
6. humbīra		cover	26. ũka	come
7. orota		point at	27. thīa	grind
8. hurūka		rest	28. ura	rain or bleed
9. rūma		bite	29. gwaka	build
10. ruma		abuse	30. gūa	fall
11. ũra		run away	31. rīa	eat
12. handa		plant	32. ita	hang
13. gwata		hold	33. ũraga	kill
14. nyita		get hold of	34. hūra	beat
15. gaya		divide	35. etha	look for
16. hara		scratch	36. rora	look,see
17. tee		discard	37. koma	sleep
18. negena		make noise	38. twara	take
19. akia		light	39. hinga	shut
20. una		break	40. ĩra	tell
			41. uga	say
			42. thambia	clean

43.	kee	take(this)	47.	ikūrūka	descend
44.	aka	build	48.	ambata	ascend
45.	tema	cut	49.	rīma	weed
46.	hoya	borrow	50.	endia	sell
51.	tetia	quarrel	69.	noora	sharpen
52.	chimba	dig	70.	nora	get fat
53.	ruta	remove			
54.	ita	strangle			
55.	thigitha	rub			
56.	hihinya	squeeze			
57.	theka	laugh			
58.	tua	pluck			
59.	oha	tie			
60.	heherera	whisper			
61.	ongerera	add			
62.	makia	alarm			
63.	oneka	appear			
64.	keera	filter			
65.	hingūra	open			
66.	toonya	enter			
67.	thua	limp			
68.	hee	give (me)			

Adjectives

Word	English gloss	Word	English gloss
1. nene	big	21. nditu	heavy
2. njega	good	22. nyingĩ	many
3. nini	small	23. njĩthĩ	raw/unripe
4. njerũ	white/new	24. ndungu	thick/fat
5. ngũrũ	old	25. njĩru	ripe
6. njirũ	black	26. nogu	tired
7. ndaya	tall/long	27. njiyuru	full
8. tene	punctual/longtime	28. goro	expensive
9. ndũrũ	bitter	29. thaka	beautiful
10. ngenu	happy	30. hiũ	hot
11. nguhĩ	short	31. njamu	sweet
12. njariĩ	broad/wide	32. ngũta	lazy
13. nyũmũ	dry/hard	33. nduhu	blunt
14. noru	fat	34. hũthũ	light
15. ng'eni	strange	35. ũyũ	this one
16. ndiitu	foolish	36. aya	these
17. buthu	rotten	37. hacĩku	curved
18. theru	clean	38. ici	these
19. njororo	soft	39. gĩkĩ	this e.g. chair
20. njũgĩ	clever/sharp	40. ĩrĩa	that e.g. person

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|-----|-----------|---------------------|-----|-----------|----------|
| 41. | arĩa | those e.g. person | 58. | njeke | narrow |
| 42. | ũcio | that one eg person | 59. | thũũku | spoilt |
| 43. | ĩo | that one eg trees | 60. | mũkĩĩa | poor |
| 44. | kĩu | that one e.g. chair | 61. | mata | thick |
| 45. | ĩo | that one e.g. plate | 62. | ĩmwe | one |
| 46. | acio | those e.g. people | 63. | igĩrĩ | two |
| 47. | ĩno | this one e.g. car | 64. | ĩthatu | three |
| 48. | icio | those e.g. chairs | 65. | inya | four |
| 49. | kĩrĩa | that e.g. chair | 66. | mwathĩki | obedient |
| 50. | gaka | this e.g. knife | 67. | ng'onyoku | bent |
| 51. | ndĩũ | drunk | 68. | mũtongu | rich |
| 52. | theri | empty | 69. | tũhũ | useless |
| 53. | njiganu | enough | | | |
| 54. | ndũaru | ill | | | |
| 55. | mũgũrũku | mad | | | |
| 56. | mũgima | mature | | | |
| 57. | mũhooreru | meeek | | | |

Adverbs

Word	English gloss	Word	English gloss
1. haha	here	21. mūno	exceeding
2. harīa	there	22. ūtheri	empty-handed
3. rīu	now	23. haraya	far
4. mūno	very	24. narua	quickly
5. rīmwe	once	25. ningī.	further
6. rūciū	tomorrow	26. wega	well
7. kahora	slowly	27. kuo	that place
8. njaa	outside	28. kaba	rather
9. mbere	ahead	29. gatatū	thrice
10. kaingī	often	30. thutha	after/behind
11. igūrū	on top of	31. kūu	there
12. thī	on the ground	32. rīngī	again
13. hakuhī	close	33. mbere	ahead/beyond/before
14. tene	long time	34. goro	costly
15. thīniī	inside	35. mūhuro	below
16. ira	yesterday	36. kahinda	a while
17. ūmūthī	today	37. mīndī	ago
18. iyo	the day before yesterday	38. toro	asleep
19. kūngī	elsewhere	39. ithuothe	all of us
20. hanini	little	40. gatagatī	middle