A PHONOLOGICAL INVESTIGATION OF IRREGULARITY

AND VARIATION IN THE KIMERU NOMINAL

CONCORDIAL SYSTEM

LUCYLINE   GACUNKU

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DECLARATION

This dissertation is my original work and it has not been presented for a degree in any other university.
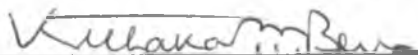
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LUCYLINE GACUNKU

This dissertation has been written under my supervision and submitted for examination with our approval as supervisors.

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DEDICATION

To my beloved parents:

Sebastian Marangu (late)

Silveria Gaaji Marangu

And

My late daughter Glory Muthoni (*Kanyanya*)

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LIST OF SYMBOLS AND ABBREVIATIONS

IPA SYMBOLS

Symbol Used	Orthography	Description
p	p	Voiceless bilabial stop
t	t	Voiceless alveolar stop
c	c	Voiceless palatal stop
k	k	Voiceless velar stop
m	m	Bilabial nasal
n	n	Alveolar nasal
ɲ	ny	Palatal nasal
ŋ	ng'	Velar nasal
m̥	m	Voiceless bilabial nasal
n̥	n	Voiceless alveolar nasal
ɲ̥	ny	Voiceless palatal nasal
ŋ̥	ng'	Voiceless velar nasal
ᵐp	mp	Prenasalised voiceless bilabial stop
ᵐb	mb	Prenasalised voiced bilabial stop
ⁿt	nt	Prenasalised voiceless alveolar stop
ⁿd	nd	Prenasalised voiced alveolar stop
ⁿð	nth	Prenasalised voiced inter-dental fricative
ᶮc	nc	Prenasalised voiceless palatal stop
ᶮɟ	nj	Prenasalised voiced palatal stop
ᵑk	nk	Prenasalised voiceless velar stop
ᵑg	ng	Prenasalised voiced velar stop
β	b	Voiced bilabial fricative
ð	th	Voiced inter-dental fricative

tʃ	ch	Voiceless alveo-palatal fricative
j	j	Voiced palatal fricative
ɣ	g	Voiced velar fricative
r	r	Alveolar trill
y	y	Palatal glide
w	w	Velar glide
ʔ	ʼ	Pharyngeal glide
i	i	Tense high front vowel
e	ĩ	Tense mid-high front vowel
ɛ	e	Lax mid-high front vowel
ɔ	o	Lax mid-high back vowel
a	a	Low vowel
o	ū	Tense mid-high vowel
u	u	Tense high back vowel

OTHERS

C	Consonant
V	Vowel
C.B	Common Bantu
:	Marks length
~	Alternates with
//	Encloses a phonemic transcription
[ ]	Encloses a phonetic transcription
#	Word boundary
Ø	Zero morph
→	Means 'becomes' in synchronic description
>	Becomes in historical linguistics

<	'comes from' in historical linguists
*	Indicates a reconstructed form
* *	Marks a non-attested. ungrammatical form in synchronic description
+	Morpheme boundary
T.G.G.	Transformational Generative Grammar
N. G. G.	Natural Generative Grammar
agr	Agreement
pl.	Plural
Sg	Singular

ABSTRACT

This study is a description of the Kimeru nominal system within the theoretical framework of Natural Generative Phonology as proposed by Theo Vennemann (1973) and expounded by Hooper (1976).

The research problem focused on the irregularities evidenced in the synchronic grammar. Our major task has been to account for these irregularities pervading the nominal system.

To starts with, we set up correspondences between the current prefix series and the concordial affixes; and between these synchronic prefix series and the reconstructed proto-nominal prefixes. Based on these correspondences two observations were made: one, the current prefixal variants are phonetically predictable and could be accounted for by well motivated morphophonemic processes. The synchronic phonological rules that link the underlying prefix morphemes to the surface alternates have therefore been discussed. Secondly, certain surface realizations did not seem to have any phonetic motivation. Using both internal and comparative reconstruction methods, such forms have been shown to point at the phonological link between the diachronic and synchronic grammar. Underlying these correspondences are the various diachronic phonological processes as discussed in this study. These diachronic rules have been noted to be synchronically unproductive. Their residue occurrence in the synchronic grammar is what breeds the evidenced irregularities.

The above summary of analysis is discussed in detail in the five chapters of this dissertation. Chapter one provides general background information on the language including a description of the research problem, theoretical issues, as well as outlining the various research activities carried out.

Chapter two dwells on the morphological aspect of the nouns in Kimeru, particularly, the criterion by which nouns are classified. We have noted that the class prefix is inherent in the head-noun and it is the basis by which Bantu nouns are classified. Based on this fact we sought to account for such phenomena as the lack of an overt prefix, the homophonous class prefixes, allomorphic prefixes and the lack of correspondence between the primary class prefix and its occurrence as the concordial morpheme. These morphophonemic puzzles form the basis for our discussions in chapter three and four.

In view of the above, chapter III is taken up by an analysis of the synchronic morphophonemic processes that link the various surface realizations of prefix forms and the underlying prefix morphemes. Such processes have been shown to be responsible for some instances of allomorphy in the language. How these processes alter the prefix shape has therefore been demonstrated. Further, the motivation for these rules has also been discussed.

Chapter IV complements chapter III. Although the study is synchronic, this chapter deals with diachronic phonological process. The chapter is aimed at assessing the diachronic implications of the nominal phonology. The bulk of the noted irregularities have been traced in the diachronic process. Such processes

have accounted for some of the null prefixes, the allomorphic prefixes such as class 1 mu/mo class 5 re/e, class 8 βi/i and the noted lack of correspondence between the class prefix and the corresponding concordial affix as in class 2 a~βa; class 14 o~βo; class 3 mo~o among others. We have pointed out that the various historical rules having lost their motivation and having ceased being productive left traces in the synchronic grammar. Such traces are clearly the cause of irregularities in the synchronic grammar.

Finally, chapter V provides a summary of research findings and conclusion by reviewing the research problem, objectives and hypotheses to establish whether the findings answer the various research questions. This is done in the light of the insights, findings and observations made in the course of analysis.

CHAPTER ONE

BACKGROUND TO THE STUDY

1.0   INTRODUCTION

This study examines the synchronic morphophonology of the Ki-Meru Nominal system. Our focus will be on the nouns and their modifiers particularly the sound changes affecting the class-prefix and the concordial morphemes. This does not however suggest that our study is limited to the alternating prefixes and corresponding concordial affixes. We will also consider changes affecting stem-initial elements where there is any interaction between the changes affecting the stem-initial segment and the class prefix. We will therefore, seek to establish the morphophonemic processes that underlie the class prefixes and nominal stem alternations and variants. Such processes should in effect account for the synchronic shape of the class prefixes and concordial morphemes.

The study is primarily synchronic but historical changes will be referred to wherever they enable us to account for the synchronic phenomena.

1.1   LANGUAGE BACKGROUND

Ki-Meru language is spoken by the Ameru people, who live on the Eastern slopes of Mt. Kenya. They occupy what was the old Meru District, which has since been sub-divided into four smaller districts namely: Meru-North, Meru-Central, Meru-South and Tharaka District.

Ki-Meru language is not homogenous: it displays a lot of dialectal variation. However, scholars and historians have differing views on the dialects of Kimeru.

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Besides, there is a discrepancy between what the native speakers recognize as the dialects of Ki-Meru and what the scholars consider to be the language's regional varieties. To clearly appreciate this, let us trace the history of the Ameru according to scholars and historians.

Meru oral tradition and the myths about the origin of the Ameru indicate that they came from Mboa where they were enslaved by a people called "Nguo Ntune" (red clothes). According to Fadiman (1936) this flight is dated 1700 A.D.

Fadiman (1973:9) Notes that the pre-Meru people who escaped from Mboa along the Kenyan coast were known as Ngaa. Later the Ngaa entered the area now known as Tharaka and settled. However, due to intermarriage and increase in number the earlier unity of Ngaa dissolved and they entered an era he calls "the dividing" or dispersal. It is during this period that the Ngaa split into the current sub-tribes of Meru which represent the various dialects of the Ki-meru language.

They gradually dispersed, resulting in the loss of their common name (Ngaa) and identity. The various groups that emerged after the dispersal were: Igembe, who settled to the North of the Nyambene ranges; the Tigania, who occupied the Southern slopes of the Nyambene ranges, the Imenti, who moved to the west into Mt-Kenya forest and the Mwimbi, who moved southwards settling below the slopes of Mt. Kenya.

Following their dispersal the various tribes were known by their different names until much later when the common identity and name was re-established through the common experience brought about by colonial occupation and administration.

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The name "Meru" according to Marete G.N. (1981) was introduced by the colonial administrators. To him Ki-Meru speakers recognize about five regional varieties. which he lists as Ki-Tharaka. Gi-Tigania. Gi-Chuka. Ki-Mwimbi and Ki-Imenti. He does not list the Ki-Igembe. Ki-Egoji. Ki-Muthambi and Ki-Miutine among the regional varieties.

Nkubitu P.K. (1993) on the other hand recognizes only four dialects of Ki-Meru: the Ki-Igembe. Gi-Tigania. Ki-Imenti. and Ki-Mwimbi. Besides the above views. other notable scholars hold quite divergent views about Ki-Meru dialects.

Guthrie (1967-71) in his attempt to classify the Bantu languages divides them into groups under various codes. He classifies all the Bantu languages of central Kenya together with Sengeju spoken in Tanzania and they form what he refers to as the Kikuyu-Kamba group or Thagicu. He assigns this group code E50 and distinguishes six languages under this group. He gives each of the six languages a code number as illustrated below:

E51	Gikuyu
E52	Embu
E53	Meru
E54	Tharaka
E55	Kamba
E56	Sengeju

(Guthrie 1967-71: vol. 3:13)

It is worth noting that Guthrie assigns Meru and Tharaka different codes thus treating Tharaka as a language distinct from Ki-meru

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In line with Guthrie. MÖhlig and Heine (1980: 14-15) show the Central Kenya Group to include Kikuyu. Ki-Embu. Ki-Mbeere. Ki-Tharaka and Ki-meru. This is what Guthire calls the Kikuyu-Kamba group also known as the Thagicu. The Thagicu language is said to have developed from the beginning of the 2nd millennium as its speakers fanned out over the central highlands from a probable origin in Thagicu between the Athi and Tana rivers (Guthrie 1981: 39).

According to Guthrie. the proto-Thagicu speakers moved Northwards and Westwards along mountain ridges and a proto-west Thagicu emerged. In the 1st half of the 2nd millennium. proto-west Thagicu developed into Chuka. Embu /Mbeere and Kikuyu. The Central-Thagicu speakers gave rise to the Meru and Tharaka speakers.

Notice that Guthrie here talks of Cuka (his spelling). treated here as a dialect of Ki-Meru. as a distinct language. Guthrie thus treats Ki-Tharaka and Ki-Chuka as distinct languages but he does not mention Ki-Muthambi in his discussion. his views contradict Bennett's views who sees the two varieties as lialects of Ki-Meru.

Bennett (1981: 58) in defining the term "Thagicu" observes the following:

> The name Thacicu refers to a cluster of dialects or closely related languages spoken mainly in the South central portion of Kenya. It can be divided into two main sections: Northern and Southern Thagicu. The former includes. Chuka. Egoji. Mwimbi. Imenti. Tigania. Tharaka and Some other dialects and sub–dialects.

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Bennett here treats Ki-Tharaka as a dialect of Ki-Meru unlike Guthrie who sees it as a distinct language.

The controversy over what to consider as the dialects of Ki-Meru is also noted by Mberia. (1993: 7). who notes: "Whereas some people consider Ki-Tharaka to be a distinct language others see it as a regional variety – that is a dialect of Ki-Meru."

Mberia (1981, 1993) treats Ki-Tharaka as a distinct language and not as a dialect of Kimeru. He considers the categorization of the Tharaka as a sub-group of the Meru as a recent development with its roots in the British colonial administration. Similar views are held by Fadiman (1973 a) who says:

Before the colonial era, the Meru referred only to five of the present nine sections: the Igembe, Tigania Imenti, Miutine and Igoji. The British administrators however chose to include the Tharaka who live on the adjoining Eastern plains and later the Mwimbi, Muthambi, Chuka who border the Meru to the South.

(Journal of African History, XIV, (1973:9)

The foregoing discussion presents many diverging views about the various dialects of Ki-meru. Most notable scholars see Ki-Tharaka as a distinct language. If this is assumed to be the case then, Ki-Meru can be considered to have the following eight dialects.

E53   Ki-Meru: District (where spoken)

a) Igembe   ⎤
b) Tigania   ⎰   Meru -North

c) Imenti   ⎤
d) Miutine   ⎬   Meru -Central
e) Egoji   ⎦

f) Muthambi ⎤
g) Mwimbi   ⎬   Meru-South
h) Chuka   ⎦

The question as to which are the 'proper' dialects of Ki-Meru may not be easy
answer given the many conflicting views. While many scholars treat Ki-Tharaka
as a distinct language, Ki-meru native speakers consider Ki-Tharaka as dialect
Ki-Meru. A dialectal study would probably establish what linguistic evidence
suggests to be the dialects of Ki-Meru.

Our present study will ignore this controversy since the question of what
consider a language or a dialect remains as controversial in linguistics.

We will focus on the Mwimbi variety, which is my native tongue. We sl
therefore use the data from Ki-Mwimbi to represent the Ki-Meru language.
believe the results should throw significant light into the situation in all
varieties of Kimeru.

1.2   STATEMENT OF THE PROBLEM

This study is an investigation of morphophonemic puzzles in the Ki-Meru nou
system. In Ki-Meru like in other Bantu languages, nouns fall into various

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classes. The nouns are classified by noun prefixes. These prefixes are reflected on the noun modifiers as the concordial morphemes. This fact is noted by Welmers (1973: 162), who says:

> Bantu noun classes must be distinguished and defined not simply by noun prefixes but in addition by morphemes such as the subject pronoun prefixes... which stand in agreement or "concord" with noun prefixes. It is the combination of the noun prefix and concordial morphemes that is significant.

The Ki-Meru data below confirms this observation:

[1]

		Noun		Modifiers				
a)	cl 6	/ma-ɣoro	#	ma-ma	#	ma-ku	#	ma-nɛnɛ
		legs		these		yours		big
				'these big legs of yours'				
b)	cl 12	/ka-ramu	#	ka-u	#	ka-ɛ	#	ka-irɔ/
		pen		that		his		black
				'that black pen of his'				
c)	cl 8	/βi-ara	#	βi-u	#	βi-aku	#	βi-ɛɣa/
		fingers		those		yours		good
				' those good fingers of yours'				
d)	cl 5	ri-iðɔ	#	ri-u	#	ri-aku	#	ri-nɛnɛ
		eye		that		your		big
				' that big eye of yours'				

The regularity of the nouns and the concordial morphemes in the above illustration seems straightforward. However, if we get tempted to generalize the regularity about the whole nominal system, we immediately run into structural problems as

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we handle more data. The following are some of the problems we would encounter in synchronic Ki-Meru Nominal phonology.

One of the most visible problems is the lack of correspondence in sound between the class prefixes and the concordial morphemes. The following data is an illustration of such phenomena.

[2]

Class	Class prefix	Concordial prefix
1	mu /mo	mo
2	a	ßa
3	mo	o
4	me	e
5	ri/e ˙	re
14	o	ßo
16	a	a

Notice that in class class 2 and 14 have a vowel as a prefix while a consonant features on the concordial prefix. Conversely, class 3 and 4 have just the vocalic elements /o/ and/e/ as the concordial affixes corresponding to the class 3 and 4 prefixes /mo/ and /me/ respectively.

Another problem has to do with existence of allomorphic prefixes in the language. Such allomorphy is attested as in data (3) below:

[3]

Class	Class prefix	Noun (prefix +stem)	Gloss
8	ßi-	/ßi-ɔndɔ /	baskets
	ji-	/ji-ɔndɔ/	baskets
	i-	/i-kɔmbɛ/	cups

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Intuitively, the phenomenon seems to be phonetically conditioned in the language. This however, needs to be determined beyond mere intuition. One needs to establish the phonological processes which account for the observed phenomena.

Another interesting phenomenon has to do with class 9/10 nasal prefixes. When the morphophonemic nasal [N] appears before the palatal stop / ɟ / it is realized as a palatal nasal / ɲ /. This seems to be because the palatal stop gives the Nasal its palatal features. However, the same palatal nasal is also realized before stems with initial vowels. The question here is: "what gives the morphophonemic nasal its palatal features?" This phenomenon is attested in forms such as:

[4]   [ɲ-ɔŋgo]   ' pot'

        [ɲ-ɔnta]   'thirst'
        as opposed to:
        [ɲ-ɟara]   'hands'
        [[ɲ-ɟata]   'stars'.

While similar data in other Bantu languages has been treated as Nasal palataliation by various Bantu scholars (cf. Polome 1970, Welmers 1973, Heinnebusch 1974, Bakari 1985 and Wa Mberia 1993), we would like to revisit the phenomenon and propose a different treatment.

Generally, the only safe assumption one can make is tha the irregularieties observed in the Nominal system of Ki-Meru have a scientific basis which can be established by systematic research. Specifically, we need to address such questions as: Are all the relevant phonological process still productive? If not, which ones

are synchronic and which ones are diachronic? Can we naturally account for the observed irregularities and variations?

1.3 OBJECTIVES

Our main aim in undertaking this study is to provide an adequate account of the Ki-Meru nominal morphophonology by establishing well-motivated phonological processes. In this regard our specific objectives include:

1. To establish the relevant morphophonemic processes in the realization of the various concordial affixes in the Ki-Meru nominal system.

2. To account for the irregularities in the realization of the class prefixes as concordial morphemes in the Ki-Meru nominal system.

3. To demonstrate that the concepts and descriptive tools of Natural Generative Phonology (NGG) can adequately account for the relevant data.

4. To demonstrate that both synchronic and diachronic processes are involved in the Ki-Meru phenomena outlined in the research problem (1.2).

1.4 HYPOTHESES

The following hypotheses are to be tested in this study:

1. The synchronic Ki-Meru nominal phonology is an interplay of both diachronic and synchronic phonological rules.

2. Underlyingly, Ki-Meru has a CV syllable structure: the other realizations such as V,VV or VCV are consequences of historical phonological processes.

3. The allomorphic class prefixes are products of sound changes that can be shown to be phonological, morphological or analogical.

4. The mismatch between the concordial affixes and their corresponding class prefixes is an indicator of change which can be accounted for through the methods of internal and comparative reconstruction.

1.5   LITERATURE REVIEW

The bulk of what has been written about Ki-Meru is of a pedagogical nature and has very little scientific significance. The few scientific works that exist are mainly on syntax. Besides, all the existing literature is found only in the Imenti dialect. which is considered the standard variety. Nevertheless, there are few studies that are relevant to the concerns of this research.

Bennett (1981) provides a comparative study of the Thagicu verbal systems using data from kikuyu (southern dialect). Kamba (that of Machakos area) Embu and Mwimbi (a dialect of Kimeru). In his analyses, he makes interesting observations on the Noun class systems of these languages. For instance, about the class 7 prefix he says, "variant forms of the prefix occur, but these are in all cases phonologically conditioned and completely predictable" Bennett (1981: 321). He however does not explain the phonological conditioning involved.

About class 5 prefixes he posits the following: i, re or ri... the former being used before consonant-initial stems and the latter two before vowel initial stem. In further discussing the noun class system, he suggests that the class prefix is copied on the concordial prefixes. In line with this he says that, "an adjective will take the prefix of the class to which the modified noun belongs, a pronoun has the prefix of the class to which the noun it refers to belongs" Bennett (1981:59). This view is in

line with our intuitions about the relevant Ki-Meru data. It will be investigated and its implications will be determined to establish its full explanatory potential for the relevant phenomena. As it is, the work is mainly descriptive and does not mention the phonological processes involved either with regard to the prefix or the concordial morphemes. He is basically concerned with the verbal systems of the languages and does not concern himself with their phonology. But the work provides useful insight into the nature of the problem investigated in this research.

Guthrie, in his 1970/71 publication on comparative Bantu (Vol. 3 p11–15), groups the various Bantu languages into zones and sub-zones with each language bearing a different number. Under this classification, Guthrie categorizes Ki-Meru under zone E53, sistered to kikuyu E51, Embu E52, Tharaka E 54 Kamba E55 and Daiso E56. This classification enables us to place the Ki-Meru language within the Bantu sub-family of Thagicu. Guthrie's reflexes of the common Bantu words are invaluable in this study as they enable us to identify the reflexes responsible for the synchronic Ki-Meru nominal phonology.

Heine and MÖhlig in *language and Dialect Atlas of Kenya* (1980) also attempt to classify Bantu languages. including Ki-Meru and a few of its dialects. The information they provide on historical classification is useful for this research.

Other works that are of benefit to this study include Welmers (1973) work on *African language structures*. In his publication Welmers looks at the noun class and concordial systems of Bantu languages. In particular. he analyses the structure and function of the Bantu nouns prefixes. He reconstructs the nominal prefixes and

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further observes that the noun prefixes fall in singular-plural pairing. According to him. these sg-pl pairings have nothing in common. He however notes that for some. there is partial semantic correlation.

We shall in this study attempt to determine the extent to which Welmers' statements are valid for Kimeru. Although Welmers (1973) and Bennett (1981) as noted discuss prefixes in various Bantu languages. none of their works give a phonological account of the prefixes. We will in this study provide the phonological description of the nominal concordial prefixes.

Marete (1981). in discussing grammatical gender in Kimeru. looks at the noun classification and further considers a few of the phonological processes. Towards this end. he discusses the criteria by which nouns are classified and at the same time explores the phonological processes affecting the class prefixes. His analysis however does not go beyond his concern of grammatical agreement in Kimeru. He not only fails to offer an in-depth analysis of the phonological phenomenon but also handles only a few phonological processes. Nevertheless. his work is a significant basis for our analysis. We will in this study provide a more in-depth analysis of the Kimeru nominal system.

Works on languages related to Ki-Meru are also significant in this study. For instance. parallels can be drawn between the Ki-Meru phonological system and those of sister languages. Studies carried out in these languages have thus given impetus to this study. Such studies that wholly or partly deal with segmental phonology include the following: Mberia. K. (1981) on *Consonants of Ki-*

Tharaka and 1993 on *Segmental Morphology With Special Reference to the Noun And The Verb;* Mutahi E. K (1977) on *Sound Change And The Classification of the Dialects of Southern Mt. Keny;,* Maundu. P.M. (1980) on *Sound Change and the Reconstruction of Kikamba Consonantal Sound;* and Njeru. B.K. (2000) on *Ki-Embu Phonological Processes and Rules.*

Owing to the closeness of these languages to Ki-meru. data from/descriptions of them are vital in instances where a sound needs to be reconstructed to account for a diachronic change.

Unlike these works though, our study zeros in on the irregularities within the synchronic nominal system which the fore mentioned works do not dwell on.

1.6   THEORETICAL FRAMEWORK

This study adopts the Natural Generative Phonology (NGG) paradigm as its theoretical framework. Its concepts and descriptive tools look most appropriate for the Ki-Meru data to be handled in this study. The NGG model was proposed and developed by Theo Venneman in his 1971 paper. In this particular paper he initiated a program based on the principle that phonological statements should be restricted to ones that are literally true to surface forms; and phonological representations should be regarded as largely identified with phonetic forms.

The theory was later expounded by Vennemann's student Joan Bybee Hooper in her 1973 doctoral dissertation entitled *Aspects of Generative Phonology.*

The NGP program was developed as a reaction to the perceived inadequacies of the Transformational Generative Grammar (TGG). used by Chomsky and Halle

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(1968) in their work. *The Sound Pattern of English.* Citing the weaknesses of TGG. Anderson S.R. (1985: 342) observes that.

> The major thrust of the reaction against SPE theory in the 1970s was that although such a theory might (if appropriately modified…) capture what is possible in the sound system of natural languages. it is intrinsically incapable of representing what is natural about such systems.

In other words. the abstractness of the relation between underlying forms and surface realizations was counterintuitive.

Hopper (1976:5) puts this more aptly when she points out that the generative apparatus of TGG is too powerful or abstract so that it is capable of describing many systems that are not possible human languages.

The NGG model was therefore devised to counter the abstractness of the TGG model. Although the two theories make similar claims about phonological rules. NGG is more constrained and therefore less powerful than TGG. The constrained devices enable an analyst to arrive at correct predictions about sounds of a natural language.

Apart from rejecting abstractness. the model takes into consideration the fact that language processes are complex and cannot be adequately analyzed without making use of various levels of language. The theory thus recognizes the intraction between the phonological and morphological levels of language.

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To this end of minimizing abstractness and taking into cognizance the various levels of language, NGP works with a number of principles or conditions and various categories of rules. The conditions imposed by this model include:

1) The True Generalization Condition

This is a constraint on phonological rules, which requires that a form that is posited as underlying ought to have surface manifestation if it is to be acceptable as a correct underlying form. Thus Hooper (1976: 10) says that, "if the alternation fails to take place when the phonetic environment is present, then it cannot be associated with a phonetic environment, but must be associated with something else in the Grammar".

In Hooper's view, not every change need to be viewed as being phonetically motivated. Rules that native speakers formulate about their language relate surface forms to other surface forms so that such rules can never be abstract.

2. The No-Ordering Condition

This is a condition that constrains the order in which rules are applied. In this case, rules should not be forced on a language but should apply only when the structural description of a rule is met. Rules thus apply on the products of other rules so that they have their own intrinsic ordering and are not extrinsically ordered. Intrinsic rule ordering should maximize transparency and minimize opacity. Thus the principle governing rule-ordering should maximize a feeding order and minimize a bleeding order. This condition eliminates the abstractness generated by extrinsic ordering of rules. Vennemann notes that it is the extrinsic rule-ordering that is a

major reason as to why TGG generates abstractness since the rules are either forced on the data or they are ordered arbitrarily (Vennemann 1974a)

3) The Strong Naturaliness Condition

Strong naturalness condition limits the abstractness of underlying forms. Hooper (1976:20) asserts that phonological representation of the lexicon and the phonetic properties of a morpheme should be related in a non-arbitrary way. Under this condition, surface forms must not differ too much from underlying forms. This constrains abstractness to ensure correct representation of the native speaker's competence.

In addition to the three constraints, the model distinguishes between several rule categories. These include the following:

i) Phonological rules (p-rules) that are phonetically motivated, exceptionless, unsuppressable and universal. These rules apply each and every time their structural description is met. Such rules are universal regardless of language. Phonological processes such as assimilation, weakening and strengthening of sound segments are good examples of p-rules.

ii) Morphophonemic rules (mp-rule)

These are rules conditioned by morphosyntactic or lexical categories. They thus take into account morphological and syntactic information such as morpheme boundaries, morpheme classes and lexical categories. These rules are determined within the sound meaning correspondences of individual languages and are thus language specific.

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The alternation of /i/ and /βi/ as the class 8 prefix is morphologically conditioned.

As evidenced in data 3 the /i/ occurs only before consonant initial stems while /βi/

occurs before vowel initial stems.

Mp - rules are of three types:

a) Morphophonemic rules. which capture the alternations of a morpheme in different morphemic environments.

b) Morphological spell-out which shows how morphemes are strung together in forming words. They give phonological shape to abstract phonemes.

c) Syllabification rules. which assign syllable boundaries to phonological strings when they are formed;

iii) Sandhi Rules.

These are rules that fall between p-rule sand mp-rules. In this category of rules word boundary is taken into consideration making them resemble the mp-rules. Word boundaries are determined not in phonetic terms but in terms of the syntax and semantics of a given language.

When the word boundary coincides with a syllable boundary or a pause. sandhi rules behave like p-rules. In this case they appear to be regular. productive. and unsuppressable processes.

iv) Via-Rules

These are rules that express phonological relations between lexical items. Some lexical items have phonological relationships that cannot be generated through phonological rules. Such cases are handled through via rules. Though the rules show no phonetic motivation. the semantic relation between the lexical items in question is obvious.

In Ki-Meru for instance. certain lexical items belonging to class 9 / 10 are related to items of class 3 in a fascinating way. The data below illustrates this:

[5]

Class 3 (names of trees)		Class 9/10 (names of fruits)
a) muuru [mu:ru]	~	mpuru [mpu:ru]
b) muuti [mo:te]	~	mpuuti [mpo:te]
c) muage [mwaɣɛ]	~	mbage [mbaɣɛ]

Notice that the names of fruits have the bilabial stops /p/ and /b/ that are lacking in class 3 names. The voiced bilabial stop /b/ is arguably a result of strengthening of /β/ after the

pre-nasal. In class 3, both stops must have been deleted. Diachronically then. the following via-rules seem to have operated.

P > β / V - V

β > Ø / V - V

The data given shows some phonological relationship between the segments that underwent weakening and their synchronic manifestations that are restricted to a particular morphological class 9/10. In expounding on via-rules. Hooper posits the following:

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> When a phonological rule loses its phonetic motivation. it becomes a morphophonemic rule and / or a via rule or just a via-rule. The existence of a via-rule implies that there are certain lexical relations to be expressed; this implies restructuring of lexical representation

> (Hooper 1976: 121)

Hooper's view clearly explains the data in [5] above.

Generally. the NGG model is the most suitable tool for our study as it recognizes the various levels of language i.e. phonology. morphology. syntax and semantics.

1.7   METHODOLOGY

As noted earlier (section 1.0). Ki-Meru is not a homogenous language. We also noted that the Mwimbi dialect will be used to represent Ki-Meru. although generalizing on the entire language continuum on the basis of the dialect may be inaccurate. Such limitation is inevitable due to limited time.

The data of this study will be collected in Meru-South District particularly Muthambi and Mwimbi divisions where this dialect is spoken. To this end. interviews will be used to gather the data. This will involve using a 100 hundred word list comprised of names of people. plants. animals. insects. places. objects. material culture. body parts and rituals. These interview questions will be administered to a purposive (judgment) sample consisting of five respondents – adult males or females. The respondents in this case are chosen on the basis of their typicality so as to better serve the research purpose (See Nunan 1992:142). They should thus be native speakers of the Mwimbi variety (of Kimeru). who have lived in the research area for the better part of their lives. The interviewees will be

required to pronounce the words listed giving both singular and plural forms. These will be supplemented by spontaneous speeches in public places and discussions with various individuals consciously drawn from a representative sample. These data will be recorded in a tape recorder to be analyzed later.

Besides the researcher is a native speaker of the language and shall therefore rely on her intuition to provide some of the data for analysis. This will involve the technique of introspection whereby the researcher records her own utterances according to her own intuition. The data collected this way will be confirmed with the data collected through interviews.

Furthermore, naturalistic observation will be used. This will involve listening to the language users speak without soliciting information from them. The relevant utterances from them will be noted down for analysis.

Finally, I intend to supplement the above data with written material on the subject

1.8   SCOPE AND LIMITATIONS
This study is limited to the Ki-Meru nominal morphophonology. We are therefore not interested in all the phonological processes in the language. Our study is basically synchronic and historical changes will be referred to only when they help in resolving some of the phonological issues. Besides, the study is not on dialectology, however data from other Ki-Meru dialects and sister languages will be used to reconstruct the earlier forms (sounds) of the language. Furthermore, supra-segments do not concern us here. ours deals with the segmental phonology and therefore supra-segmental phonology is beyond our scope.

1.9 RATIONALE

There is need for immediate scientific investigation into the Ki-Meru language as little is known about it. First of all, the dialect used in this study (Mwimbi) has no orthography leave alone being investigated scientifically. This is a fact echoed by Bennett (1981: 295) who says, "some dialects of the so called "Meru" group have been studied to some extent, but Mwimbi is not one of them." Except for being mentioned in a few publications no detailed description of the dialect exists. This is true of other Meru dialects except the Imenti dialect that serves as the standard variety.

In our view, the observations and conclusions drawn from this study will be useful in the field of Bantu linguistics particularly the Bantu phonology. This study is also useful to those researchers engaged in comparative studies or reconstruction of such languages as the Thagicu.

Besides, the need for a scientific investigation into the Ki-Meru nominal system cannot be relegated to the periphery, due to the pivotal role the nominal system plays in any Bantu grammar.

The syntax and morphology of the Bantu languages hinges on the noun class system especially for the supply of the necessary concordial prefix. No analysis of Bantu structures is possible without reference to the nominal system of its language. This study is therefore useful not only to the phonologist concerned with

sound changes but also to the syntactician puzzled by the nominal system in analyzing the structure of Bantu languages.

Finally, Owing to the fact that languages are dynamic, this study is significant for posterity. It serves as a written record for future reference since the dialect used in this study has no written orthography.

CHAPTER TWO

CLASS PREFIXES AND NOUN CLASSIFICATION IN KIMERU

2.0 INTRODUCTION

This chapter is primarily concerned with the morphological form of the nominal in Kimeru Phonology .As pointed out in the introduction (section 1.0) our study focuses on the nouns and their modifiers in order to establish the phonological processes responsible for the current shapes of the class prefixes. The observed changes (shown in chapter one) are not idiosyncratic to the prefix series; the relevant changes are attested throughout the lexicon .Our findings in this study will therefore not be relevant just to the nominal category but to the entire language.

The chapter contains a detailed discussion of the Kimeru noun class system with which the prefixes are associated. In discussing the noun classes and the concordial system, we directly relate the contents of this chapter to our research objectives as highlighted in section 1.3 of our previous chapter. Such a discussion is the background we need in order to establish the scientific basis of the Morphophonemic puzzles in the Kimeru nominal system. It is by looking at the prefixes and the stems to which the prefixes are appended that we will be able to establish the morphophonological processes underlying prefix and nominal stem alternations. Diachronic changes will also be easy to capture within this framework of the noun morphology.

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2.1   KIMERU NOMINAL PREFIXES

A noun in Kimeru as in other Bantu Languages is principally composed of two elements: a prefix and a stem. In a few derived nouns. a suffix is also found attached to the stem .Example 1a and 1b below illustrate this.

[1]

Word				gloss
1.(a) mu + nto				'person'
Pref.cl.1(sg) stem				

| 1.(b)   mu   +   rug   +   i | | | | | 'cook' |

pref.cl.1(sg) + root + suffix

Generally. nouns in Kimeru (as is typical of Bantu Nouns). fall into an elaborate system of what is called gender or class system. Each noun is marked for gender which is formally manifested in the shape of a singular-plural pair of prefixes. Some stems however occur with only one prefix while others often occur with more than two prefixes. a variety which as Welmers (1973:159-160) notes . is likely to reflect semantic difference in addition to number . In view of this. the class one singular prefix for instance is {mo-}. The stem {-ana}. unlike the prefix is not bound to a given class but can take different class prefixes to reflect varying semantic gradations. We thus can have different nouns with an identical stem but falling in different classes as illustrated below:

[2]

Word	gloss
2a) /ka-ana/ – [ka:na]	small child
˜cl.12 (sg)	

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2b)   /to-ana/ –   [twana]   small children

cl.13(pl)

2c)   /ro-ana/ –   [rwana]   small. uncouth. malnourished children.

cl.11(pl)

2d)   /βi-ana/ –   [βyana]

or

/ji-ana/ –   [ʃyana]   big children who are well-fed and careo for.

cl.8(pl)

The fact that a stem can occur with prefixes of different classes is evidence that classification of nouns is not inherent in the stems. Rather. nouns have inherent gender. Characterized by a nominal prefix singular-plural pairing.

The prefix on the head-Noun is morphologically assigned while that on other lexical items is syntactically determined. What this suggests is the existence of two types of prefix forms; the prefix associated with the head-noun and the prefix appearing on the various noun modifiers. Heinnebusch (1974:14) calls these sets of prefix. the primary prefix and the secondary prefix respectively. He thus posits that:

> the prefix ... termed primary ... are associated with. both noun and adjectival stems. There is a further series termed secondary. which is associated with verbal. possessiveness.demonstratives.etc. which stand in a concordial relationship to a head-noun .These categories must agree with the head of a nominal phrase in class and the overt making of this relationship is marked by the secondary prefix .

Heinnebusch. (ibid:) further argues that the primary and the secondary prefix series have the same derivation .To him the primary prefixes and secondary series

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arc identical .His observations confirm our earlier suspicion (see1.2) that the class

prefixes are reflected on the modifiers as the concordial morphemes.

The discussions and data in 2.2 illustrate this fact and at the same time

demonstrate the nature of correspondence between the two set of prefixes in

Kimeru .

Let us look at these two set of prefixes in detail.

2.2. Correlation Between The Primary Prefix And The Corresponding Concordial Morphemes In Kimeru

For clarity, let us look at each of these set of prefixes at a time.

2.2.1 Primary prefixes

The primary or independent prefix is inherent in the head-noun. It is this set of

prefixes that determine the membership of a noun to a given class. Normally.

nouns sharing identical prefixes in Bantu constitute a noun class either singular or

plural .The classes so constituted are assigned numbers in line with a numbering

method started by Bleek (1869).

Table 1 below presents the Kimeru Primary prefixes. The first form in each pair is

the singular prefix and the second form is the plural prefix .

TABLE I: PRIMARY PREFIXES IN KIMERU

Class	Underlying Prefixes	Prefixal Variants
1	mo-	mu- mo
2	a-	a-
3	mo-	mo-
4	me-	me-
5	e-	e-ri-
6	ma-	ma-
7	ke-	ki-

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8	i-	i-βi-ji
9	N-	N-
10	N-	N-
11	ro-	ro-
12	ka-	ka-
13	to-	to-
14	o-	o-
15	ko-	ko-
16	a-	a-
17	ko-	ko-

The Kimeru prefixes in table (1) are synchronically attested. A number of allomorphic variants are indicated as seen in class 1.5. and 8. Notable too, is the occurenrent of prefixes with V., CV and C syllable structure. What we need to remember here is that the primary prefixes and secondary prefixes are identical (as already pointed out). Let us therefore look at the secondary set of prefixes as they appear on the various noun modifiers in Kimeru. This should demonstrate the nature of correspondence between these two set prefixes.

2.2.2 Secondary prefixes
This category of prefixes is associated with the verbal. possessives and demonstratives. Although the prefix on the adjective is termed primary (see Heinnebusch op.cit) the occurrence of the prefix on the adjective is not inherent as is the case with the head-noun prefix. The prefix on the Adjective will therefore be discussed under the secondary prefix as a concordial element.

Let us look at each of the noun modifiers so as to demonstrate the occurrence of the secondary set of prefixes and thereby establish the secondary set of prefixes for Kimeru.

2.2.2.1 Adjectives

The adjective in Kimeru occurs after the noun being qualified. Like in Kitharaka (cf Wa Mberia 1993:42) the form of the adjective in Kimeru is dependent upon the noun class. In other words, the prefix on the adjective, like on the other noun modifiers has no independent existence. It exists only as a "copy" of the primary prefix.

The adjective stem for "short" in Kimeru is {-kue}. When this stem occurs with the class one noun for instance, it takes the class one prefix. If the noun being modified changes, the prefix also changes accordingly. Thus in each of the seventeen nouns classes in Kimeru, the adjective in question, will acquire different shapes depending upon the class prefix to which the adjective stem is attached.. The data below shows the various shapes of the adjectives derived from {kue}. The given form in each class is equivalent in meaning to the English phrase 'a short x.' X here is a variable and can be a noun in any of the seventeen noun classes.

[3]

class	underlying form	phonetic form
1 sg	o-mo-kue	[omokue]
2 pl	βa-βa-kue	[βaβakue]
		[βa:kue]
3 sg	o-mo-kue	[omokue]
4 pl	e-me-kue	[emekue]
5.sg	re-re-kue	[rerekue]
		[re:kue]
6 pl	ma-ma-kue	[mamakue]
		[ma:kue]

7 sg	ke-ke-kue	[ɣeɣekue]
		[ɣe:kue]
8 pl a)	a) βi-βi-kue	a) (i) [βiβikue]
		(ii) [βi:kue]
	b) i-ŋ-kue	b) [iŋkue]
9 sg	e-ŋ-kue	[eŋkue]
10 pl	i-ŋ-kue	[iŋkue]
11sg/pl	ro-ro-kue	[rorokue]
		[ro:kue]
12 sg	ka-ka-kue	[ɣaɣakue]
		[ɣa:kue]
13 pl	to-to-kue	[totokue]
		[to:kue]
14 sg	a) βo-βo-kue	a) (i) [βoβokue]
	b) o-mo-kue	(ii) [βo:kue]
		b) [omokue]
15sg	ko-ko-kue	[ɣoɣokue]
		[ɣo:kue]
16.sg	a-kue	[a:kue]
17 pl	ko-ko-kue	[ɣoɣokue]
		[ɣo:kue]

Several observations can be made from the data 3 above.

To start with. it appears that at one stage. the duplicated class prefix occurred with the adjective roots as the concordial element. Synchronically. duplication is attested optionally or obligatorily in some classes.

In Kimeru. the class 1, 3. 4. 9 and 10 pre-prefixes are vocalic elements that occur obligatorily in the synchronic grammar. In all the other classes the first prefix of

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the reduplicated prefix form, surfaces optionally, either as a duplicated form or is deleted leaving the trace of this process in the lengthened vowel of the remaining prefix. This lengthening however does not take place in class, 1,3, 4, 8b, 9, 10 and 14b where the stem initial segment is a nasal.

Evidently the duplicated prefix form is of the structure CVCV. In a few classes VCV structure is also attested. What is apparent here is the fact that historically, the duplicated prefix form of the structure CVCV was the underlying form. The structure VCV attested synchronically is therefore evidence that consonantal elements of the pre-prefix have been deleted, leaving a vocalic element as the pre-prefix.

Noting the existence of pre-prefixes in Kitharaka, Wa Mberia (1993:160) posits the residue vocalic element in classes 1,3,4,9 and 10 as the obligatory pre-prefixes in the language. According to Wa Mberia (ibid), the pre-prefix vowel is identical to the class prefix vowel. This confirms our suspicion that, the five classes had consonantal elements of the pre-prefix deleted. Before such deletions the VCV prefix forms were of the structure CVCV. Such classes as 1, 3 and 4, for instance, thus would look like,

[4]

*cl.1	[mo-mo-kue]	>	[omokue]
*cl .3	[mo-mo-kue]	>	[omukue]
*cl .4	[me-me-kue]	>	[emekue]

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Clearly, the prefixed forms here were also once duplications of the class prefix. From the above data however, it is not clear what the underlying CV prefix, that underwent duplication in classes 9,10 and 16,was.The adjective prefix in these classes cannot be accounted for using our "duplication" hypothesis. Certain earlier changes blur the duplication process. We can only hope that the concordial prefixes of other modifiers will avail the necessary evidence.

The duplication of the prefixes in forming adjectives is however not disputable. Mutahi (1977:60) in writing about consonant dissimilation in the dialects of southern Mt Kenya acknowledges duplication of class prefixes in adjectives, albeit indirectly.

He thus says:

> When the pre-prefix /ke-/ precedes the /ke-/ prefix, the class 7 noun class marker, the consonant of the pre-prefix is either deleted or dissimilated ....
> This phenomenon occurs when the prefixes are attached to adjective roots.

Clearly, our observations about the adjective prefixes in data 3 are further confirmed .This in effect means that the prefix that is attached to the adjective stem should be identical with the prefix of the corresponding class. Based on this hypothesis, we will then rely on internal evidence availed by these concordial morphemes, to account for irregularities in the Kimeru prefix system.

Other than the nominals such as the nouns and the adjectives, pronominals, such as the demonstratives, possessives etc are also dependent upon the class prefix for the supply of the necessary concordial morpheme. Let us therefore consider the

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demonstrative and the possessive (each at a time) in order to avail more evidence

of the possible historical changes that have taken place in the Kimeru nominal

phonology.

2.2.2.2. Demonstratives

Basically, a demonstrative is a grammatical element that is used to indicate the

referent. In Kimeru there are four demonstratives used variously depending on the

location of the referent in relation to the speaker and hearer. In referring to a

specific place in Kimeru for instance, we can say.

[5]

    (a) /a-a/   —   [a:]   'here' –near to the speaker

                and hearer

    (b) /a-u /   — |au]   'there' near hearer

    (c) /à-r é-à/   —   [àréà] ' there' away from both

                speaker and hearer

                but visible to both

    (d) / à -r é - à / —   [à ré à] ' that place', removed

                in space and time from

                both speaker and hearer.

Notice, the prefix element on all the four forms of the demonstrative is identical

except for the tonal variation in 5 c-d. Aspects of tone however are outside our

scope in this study.

The prefix /a-/ in this pronominal form is identical to the class 16 prefix / a- / of

the synchronic Kimeru noun system. Let us look at how prefixes occur with

demonstratives in order to establish the existing correspondence between class

prefix and the concordial affixes. For illustration, let us use the demonstrative equivalent to English 'this' or 'these' in Kimeru.

[6]

Class	Demonstrative		
1.	a) /o-jo/	-	[ojo].
	b) /o-o/	-	[o:]
2.	a) / βa-βa /	-	[βaβa]
3.	a) /o-jo/	-	[ojo].
	b) /o-o/	-	[o:]
4.	/e-no/	-	[eno]
5.	/ re-re/	-	[rere]
6	/ma-ma/	-	[mama]
7.	/ke-ke/	-	[ɣeke]
8.	a) /βi-βi/	-	[βiβi]
	b) /i-no/	-	[inɔ]
9	/e-no/	-	[enɔ]
10.	/i-no /	-	[inɔ]
11.	/ro-ro/	-	[roro]
12.	/ka-ka/	-	[ɣaka]
13.	/ to –to/	-	[toto]
14.	a) /βo –βo/	-	[βoβo]
	b) /o-o/	-	[o:]
15.	/ko –ko/	-	[ɣoko]
16.	/a – a /	-	[a:]
17.	/ko –ko/	-	[ɣoko]

From the data (6) above, three types of demonstratives can be identified

a)   The demonstratives formed by the duplicated class prefix .These include:

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[7]

(i) cl .2	[βaβa]			(vii) cl .12	[ɣaka]
(ii) cl.5	[rere]			(viii) cl 13	[toto]
(iii) cl.6	[mama]			(ix) cl.14.	[βoβo]
(iv) cl.7	[ɣeke]			(x) cl 15	[ɣoko]
(v) cl .8a	[βiβi]			(xi) cl.17	[ɣoko]
(vi) cl 11	[roro]				

b) Demonstrative forms that are possibly the residue forms of the duplicated prefixes or some sought of innovations.

[8]

ii)   cl. 1   a) |ojo|
                  b) |oː]

(ii)   cl. 3   a) |ojo|
                  b) |oː]

(ii)   cl.14   a) |ojo|
                  b) |oː]

(iv)   cl. 16   [aː]

Notice that the class 14 duplicated variant / βoβo/ is attested synchronically besides the other two forms in example 8(iii) a-b above. The occurrence of the palatal fricative / j / in 8ia. 8iib. and 8iiia cannot be accounted for based on the "duplication hypothesis". No class prefix in Kimeru has a prefix with a /j/ as the prefix consonant. Some other process has to be posited to account for the occurrence of /j/ even where the class prefix consonantal segment is /β/ or a /m/ for instance.

c) The third type of demonstratives are forms that at a glance seems to be ˈpure innovations', arbitrarily distributed.

[9]

(i)	cl. 4	/e-nɔ/	as in. /me-te e-nɔ/	this tree
(ii)	cl. 9	/e-nɔ/	as in /ɲ- ɔ mba e-nɔ/	this house
(iii)	cl. 8	/ i-nɔ/	as in /i-kombɛ i-nɔ/	these cups
(iv)	cl.10	/i-nɔ/	as in /ŋ- ɔ mbɛ i-nɔ/	these cows

Clearly, the prefix forms in the 9i-iv above seem quite arbitrary at a glance. It is not immediately clear how class 4 a plural class share the same prefix with class 9, a singular class. Use of [e] as the prefix can only be justified in cl.9, where ordinarily the class prefix is /e-/.

About class 8 and class 10 prefix, Mutahi (1977:54) notes " both class 8 and class 10 are plural classes thus [i] cannot be interpreted as a plural marker" However, a closer look at the above data in relation to the corresponding primary prefixes, invalidates this statement . The data 10 below illustrate this.

[10]

Class prefix	Nominal (Primary) prefix	Pronominal (secondary)
i) 4. (pl)	/me-/	/e-/
ii) 9. (sg)	a) /N-/ (noun class marker)	/ e-/
	b) /e-/ (Adjective prefix)	
iii) 8. (pl)	βi- /i-	/i-/
iv) 10. (pl)	a) /N-/ (noun class marker)	/ i-/
	b) /i-/ (adjective prefix)	

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The data above (10i-iv) is self explanatory .The occurrence of [e-] in cl.4 as the

prefix with the pronominal is as a result of deleting the nasal of the primary prefix.

that is. • /me-/ > /e-/

Similarly. the occurrence of [i] in the class 8 of the demonstrative is as a result of

deleting the consonantal element of the class prefix. that is. • /β i-/ > /i-/

This makes the class 8 pronominal prefix [i] identical to the class 10 [i] a plural

marker as attested in adjectives. What this suggests is that before such deletions.

the following shapes were diachronically attested in the concordial prefix of the

demonstrative pronouns .The forms below thus acted as the demonstratives in

class 4.9.8 and 10

[11]

Demonstratives

cl.   4   •/me-nɔ/   > [e-nɔ]

cl   9   •/e-nɔ/   > [e-nɔ]

cl   8   •/βi-nɔ/   > [i-nɔ]

cl   10   •/i-nɔ /   > [i-nɔ]

This data (above) compare well with the duplicated forms of the prefix as

demonstratives in data 7 i-ix above.

According to Mutahi (1977: 52) the suffix {-nɔ} is found as part of the

demonstrative in old forms of Swahili dialects .The two examples (from Mutahi

(ibid) below illustrates this.

[12]

cl.   1   huyu no

cl.   7   hikino

Mutahi thus posits •{-nɔ } as the suffix that was used for all or most of the classes

in forming demonstratives. If we in concurrence with Mutahi (1977 ibid) posit •{-

nɔ} as the suffix form of the demonstrative then we can account for the occurrence

of the suffix {-nɔ} in class 4. 9.8and 10 in our case .

The four demonstratives in data 11 do not seem to have been duplicated at any one

time .What seems probable is that the earliest form of the demonstrative consisted

of the class prefix marker and the suffix •{-nɔ}.

Later the duplicated class prefix replaced the {-nɔ} suffix to function as a

demonstrative. Duplication of the prefix however failed to replace the suffix {-nɔ}

in 4. 9. 8and 10.

It is however not clear why this duplication failed in these four cases. In Kimeru

and in other Thagicu languages. we would therefore like to leave this issue open

for further investigation.

Nevertheless. it is quite clear that the prefix on the demonstrative is a reflection of

the corresponding class prefixes.

2.2.2.3   Possessives

In marking possessiveness in Kimeru the class prefix is appended to the

possessive stem, depending upon the person and number. The possessive will thus

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vary in shape to reflect the first person. second person or third person singular or
plural. We therefore have the following six possessive stems in Kimeru.

[13]

    1st person singular   -   {-a kwa}

    1st person plural   -   {-etu}

    2nd person singular   -   {-aku}

    2nd person plural   -   {-enu}

    3rd person singular   -   {-ae}

    3rd person plural   -   {-aɔ}

Taking the first person singular form {-akwa} for instance. the following shapes of
the possessive pronoun are realized in the various noun classes.

[14]

	Underlying form	Phonetic form	Examples	
cl.1	o-akwa	[wakwa]	/mwana wakwa/	'my child'
ci.2	βa- akwa	[βakwa]	/aːna βakwa/	'my children'
cl.3	o- akwa	[wakwa]	/mote wakwa/	'my tree'
c. 4	e-akwa	[yakwa]	/mete yakwa/	'my trees'
cl.5	re-akwa	[ryakwa]	/riðo ryakwa/	'my eye'
cl.6	ma-akwa	[makwa]	/mɛðo makwa/	'my eyes'
cl.7	Ke-akwa	[ɣyakwa]	/keː ɣyakwa/	'my palm'
cl.8 a)	βi –akwa	[βyakwa]	/βie βyakwa/	'my palms'
b)	ji-akwa	[jyakwa]	/ie jyakwa/	
cl.9	e-akwa	[yakwa]	/ŋɔndu yakwa/	'my sheep'
cf.10	ji-akwa	[jyakwa]	/ŋɔmbɛ jyakwa/	'my cows'

cl.11	ro-akwa	[rwakwa]	/roriɣi rwakwa/	˙my thread˙
cl.12	ka-akwa	[ɣakwa]	/Ka:na ɣakwa/	˙my little child˙
cl.13.	to-akwa	[twakwa]	/twana twakwa/	˙my little children˙
cl.14 a)	βo-akwa	[βwakwa]	/ocoro βwakwa/	˙my gruel˙
b)	o-akwa	[wakwa]	/ocoro wakwa/	
cl.15	ko-akwa	[ɣwakwa]	/korima ɣwakwa/	˙my farming˙
cl.16	a-akwa	[a:kwa]	antu a:kwa	˙my place˙ (specific.)
cl.17	ko-akwa	[ɣwakwa]	ɣonto ɣwakwa	˙my place˙ (general.)

The prefix forms on the possessives are almost identical to those worked out on the demonstratives and adjectives. To clearly see the correspondence between the primary prefixes and the secondary prefixes, let us draw a summary of those prefix forms as attested in Kimeru synchronically.

TABLE II: AS SUMMARY OF THE PRIMARY PREFIXES AND THE SECONDARY PREFIXES.

CLASS	Primary Prefixes	Secondary Prefixes		
	Noun class prefix	Adjective prefix	Demonstrative prefix	Possessive prefix
1	mo- / mu-	mo-	o-	o-
2	a-	βa-	βa-	βa-
3	mo-	mo-	o-	o-
4	me-	me-	e-	e-
5	e-r/i-	re-	re-	re-
6	ma-	ma-	ma-	ma-

7	ke-	ke-	ke-	ke-
8	i-/βi-/ji-	βi-/i-	βi-/i-	βi-/ji-
9	N-	e-	e-	i-
10	N-	i-	i-	ji-
11	ro-	ro-	ro-	ro-
12	ka-	ka-	ka-	ka-
13	to-	to-	to-	to-
14	o-	βo-	o-	βo-
15	ko-	ko-	ko-	ko-
16	a-	a-	a-	a-
17	ko-	ko-	ko-	ko-

The table (II) above shows the adjectives as the lexical category with the most stable prefixes. All except class 9/10 have a CV prefix. The demonstratives are the most unstable category. Evidently all concordial morphemes can be traced from the underlying forms of the primary class prefix. In the next chapter, we shall establish the morphophonemic processes that account for the observed lack of correspondence between the noun prefix and the concordial morphemes. Although our study is synchronic, diachronic processes will be considered, to account for certain phenomena such as the class 16 prefix /a-/ reflected in all the concordial morphemes.

Having looked at both the primary prefixes and the corresponding secondary prefixes, let us now look at the criteria by which nouns are classified in Kimeru.

2.3. KIMERU PREFIX SYSTEM IN RELATION TO COMMON-BANTU PREFIX FORMS.

It is the norm in Bantu linguistic studies to classify nouns by their prefix. with a number assigned to the class so constituted. This method of classifying nouns was introduced by Bleek (1869) and was later adopted by subsequent Bantuists.

Using Bleek's classification criteria. various Bantuists have reconstructed the Proto- Bantu nominal forms. Their reconstructions posit between 19 – 23 noun classes.

Guthrie (1970/ 71) for instance reconstructs 19 noun classes while Welmers (1973) and Meinhof (1932) reconstructs 23 noun classes. It is from these proto-Bantu forms that various languages draw their synchronic set. Thus Kimeru has 17 noun classes out of the 23 probable proto forms. The Kimeru prefixes shown in Table I. are synchronically attested.

Classifying nouns using prefixes as done by Bleek (op.cit) has certain limitations. From the synchronic Kimeru prefixes presented in table 1. a number of observations can be made.

a) There is occurrence of allomorphic prefixes evidenced in class 1- mu-/mo-. class 5e-/ri- and class 8 i / βi /ji.

b) Certain prefix elements are identical as in class 1 /mo- / and 3 /mo-/ class 15 / ko-/ and class 17 /ko-/.

c) Given the fact that the typical syllable structure in a Bantu language is CV, then occurrence of isolate vocalic or consonantal elements as prefixes is peculiar.

Based on these observations, our suspicion is that certain diachronic sound changes underlie the synchronic nominal prefixes in Kimeru. Some of these changes, however can be accounted for by looking at the internal evidence availed by the concordial morphemes (see table II). Such evidence, nonetheless, cannot fully account for the observations above.

There is need therefore to supplement the internal data with comparative data. Two possibilities are available for us here. Kimeru is a language with many genetic affinities that are synchronically attested. Its immediate sister languages include: Kitharaka, Kiembu, Kikuyu, Kikamba and Sengeju spoken in Tanzania (our study will ignore Sengeju, since no data on Sengeju is available to us). Noting the genetic relationship between these languages, Guthrie (1970/71) groups them under zone E50 and calls them the Kikuyu-Kamba group. Working with these attested relatives, we can then reconstruct the proto-prefixes of this Kikuyu-Kamba also called Thagicu. These proto-forms would then avail to us the necessary evidence in order to establish possible historical sound changes partly responsible for the synchronic Kimeru nominal prefixes.

The use of a Proto-Thagicu prefix system would however not yield the expected results. Thagicu is a fairly homogenous group with the nominal system showing minimal variations.

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The seventeen noun prefixes attested in Kimeru for instance are the same for all

other Thagicu languages except for class 16 prefix where Kimeru and Kitharaka

have /a-/; Kiembu and Kikamba have /va-/ while the Kikuyu prefix here is /ha-/.

The only other variation is in class 11 where Kikamba has /o-/ as the class prefix.

while all the other Thagicu languages have / ro -/. Table III below shows the class

prefixes of the Kenyan Thagicu languages.

TABLE III: A COMPARATIVE DATA OF THE NOUN PREFIXES OF

THE THAGICU LANGUAGES.

Class	Kimeru	Kitharaka (see Wa Mberia 1993:47-48)	Kiembu (data from a respondent)	Kikamba (see Kaviti 2004:113)	Kikuyu (see Njagi 1987:30-48
1.	mo-/mu-	mo-/mu-	mo-	mo	mo
2.	a-	a-	a-	a-	a-
3.	mo-	mo-	mo-	mo-	mo-
4.	me-	me-	me-	me-	me-
5.	e-/ri-	e-	e-	e-	e-
6.	ma-	ma-	ma-	ma-	ma-
7.	ke-	ke-	ke-	ke-	ke-
8.	i	i-	i-	i-	i-
9.	N-	N-/Ø-	N-	N-	N-
10.	N-	N-/Ø-	N-	N-	N-
11.	ro-	ro-	ro-	o-	ro-
12.	ka-	ka-	ka-	ka-	ka-
13.	to-	to-	to-	to-	to-
14.	o-	o-	o-	o-	o-
15.	ko-	ko-	ko-	ko-	ko-

16.	a-	a-	va-	va-	ha-
17.	ko-	ko-	ko-	ko-	ko-

The table III above demonstrates the homogeneity of the Thagicu languages as already noted in our discussion.

As is evident from table III. relying on the comparative data on Thagicu languages though useful. may not avail all the necessary evidence. Other Bantu relatives beyond the Thagicu group will thus be considered where necessary to provide comparative evidence. Where such evidence proves insufficient in capturing a given change. we shall resort to the Common Bantu forms to establish the possible historical sound changes. responsible for the Kimeru phenomena.

Some of the common Bantu forms that may be considered in this study are represented in the table IV below. alongside the Kimeru class prefixes. Besides. data on the noun class prefixes from Western Kenya Bantu languages is also represented (as adopted from Heinnebusch 1974:13).

TABLE IV: COMMON BANTU PREFIXES

Class	Bleek (1869)	Meinhof (1932)	Gunthrie (1971)	Western Kenya Bantu (Heinnebusch 1974)	Kimeru
1	mu-	mu-	mu-	mu-	mo
2	βa-	βa-	βa-	βa-	a-
3	mu-	mu-	mu	mu-	mo-

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4	mi-	mi(mį)	mi (mį)	mi-	me-
5	di-	di-	di (dį)	li-	e-
6	ma-	ma-	ma-	ma-	ma-
7	ki-	ki-	ki(kį)	ki-	ke-
8	bi-	βi(bį)	bi(bį)	βi-	i-
9	ɲ-	ni-	nɣ-	n-	n-
10	n-	di/nį -	nɣ-	n-	n-
11	lu-	du-	du-	lu-	ro-
12	ka-	ka -	ka-	ka-	ka-
13	tu-	tu -	tu-	tu-	to-
14	bu-	lu-	bu-	βu-	o-
15	ku-	ku-	ku-	ku-	ko-
16	pa -	pa-	pa-	pa-	a-
17	ku-	ku-	ku-	ku-	ko-
18	mu-	mu-	mu-	mu-	
19	˜ ~	pį-	pį -		

20   -   ɣu-

21   -   ɣi-

22   -   ɣi-

23   -   ɣi-

By observing the behavior of the prefix internally and in comparison to the common Bantu forms besides those of related languages, a great deal of chronological morphological development in the language can be accounted for. In reconstructing such changes I will partly use Meinhof's reconstructions supplemented by Guthrie's Common Bantu forms as well as those of related languages.

Meinhof's reconstructed nominal prefixes are well attested in many Bantu languages including Kimeru and will thus be assumed with only two exceptions. These are the class 5 prefix and the class 11 prefix in which Guthrie reconstructed nominal prefixes will be used in our historical description in Chapter four to account for some synchronic surface realizations including the phenomenon of rule-inversion. Guthrie posits */di/ for the class 5 prefix and */du/ for the class 11 prefix. These forms are chosen because the change of /d/ to /r/ in the language is easy to derive and seems to be well motivated in the language as we shall see later. Positing */li-/ as the proto prefix would lead us through an unmotivated path. We do not seem to have a plausible reason as to why /l/ would change to /r/ before a high front vowel {i} of the nominal prefix. Furthermore, if in line with

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Heinnebusch (1974:16) we take that changes affecting the prefix are wider changes affecting the same segment in other environments. then. we would expect to see only trills. that is. /r/ before the high front vowel but laterals would remain in all the other environments. This is however not the case in Kimeru.

Besides. such an analysis would be contrary to the tenents of the Natural Generative Phonology (NGP) particularly the true generalization condition that requires that a form that is posited as underlying ought to have surface manifestation if it is to be acceptable as a correct underlying form (Hooper 1976:10). Positing /li-/ or /lu-/ as the class 5 and 11prefixes respectively is contrary to NGP since a lateral in Kimeru has no surface manifestation .

Having looked at the Kimeru noun class prefixes and having justified the use of comparative evidence in this study, let us then look at the criteria by which nouns are classified as well as assess the limitations of each classification criteria .

2.3.1 NOUN CLASSSIFICATION IN KIMERU
As already pointed out in the foregoing discussion. Bantu nouns typically fall into classes as reflected in the nominal prefixes that usually occur in singular-plural pairs.

Each prefix form (singular or plural) is assigned a number in order to group together nouns belonging to a given noun class. In other words. nouns belonging to the same class share an identical prefix. The prefix labeled class 11 in Kimeru for instance is /ro-/. Any noun that belongs to this class share this prefix. The data below illustrates this.

[15]

/ ro-kuɲo/	—	[rokuɲo]	nail
/ro-βaru/	—	[roβaru]	rib
/ro-oje/	—	[ro: je]	water
/ro-riɣi/	—	[roriɣi]	thread

There is no single noun in Kimeru assigned to this class that does not have the prefix /ro-/ as the class 11 marker. The uniformity displayed in this class is however deceptive and any attempt to make a generalization about the whole class system based on this observation would lead to wrong conclusions .There are certain major factors that make the prefix system rather obscure. Such factors include: occurrence of allomorphic class prefix , absence of a prefix to mark the class overtly and the presence of homophonous noun prefixes , a feature found even in the common Bantu forms .To clearly grasp the nature of the prefix system of classifying nouns, let us consider each of these factors in Kimeru .

2.3.1.1 Allomorphic Class Prefixes
In the introduction to this chapter, we pointed out that Bantu nouns are made up of a prefix and a stem. When the prefix is attached to the stem to mark singularity or plurality, certain morphophonemic changes take place. In Kimeru a number of formally differing and contextually determined morphemes are found to occur. These prefix variants have developed owing to the shape of the stem to which they are affixed. In some few instances, however, the change is independent of stem shape as we shall see later. The shape of such a prefix morpheme is dependent upon the phonetic environment. The usual environment conditioning this

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alternation is the initial segment of the nominal stem .Typically, most of the prefix alternations arise in vowel-initial environments.

One very common morphophonemic process that is in operation here is the glide formation. These gives rise to allomorphs of noun prefixes in virtually all the classes. In Kimeru the glide forming process affects /e/ and /o/ of the prefix .The vocalic element /e/ appears in class 7 /ke-/.class 4 /me-/ and class 5 /e-/. When this vowel is followed by a non-high stem initial vowel. the /e-/ becomes /y/. Examples 16 a-c below illustrates this:

[16]

a) cl. 4 /me-ato/   →   [myato]   bee hives
b) cl 5. /e-oa/   →   [yoà]   flower
c) cl. 7 /ke-ara/   →   [kyara]   finger

On the other hand. a glide forming /o/ is found in the prefixes /mo/ cl.1. /mo/ cl.3. /ro/ cl.11, /o-/ cl.14./ ko-/ cl.15 and /ko-/ cl .17 .

When this vowel is followed by a non-high stem-initial vowel. the /o/ becomes a /w/. The presence of /w/ in the prefix alter the prefix shape so that forms as the ones below are attested.

[17]

cl. 1   / mo-ana/   →   [mwana]   child

cl3.   /mo-era/   →   [mwɛra]   hen

cl 14   /o-ɛndo/   →   [wɛndo]   love

cl 15.   /ko-ina/   →   [kwina]   to sing

cl 17   /ko-ao/   →   [kwao]   their place

Notice Class 17 [ko] has only one member which does not glide since the stem initial segment is a consonant .The gliding is only attested in other concordial affixes such as the possessive [kwao] above.

Another morphophonemic process that results in allomorphic prefixes is the merging occasioned when vowel of the prefix merges with the stem initial vowel into a single segment or when the prefix vowel is deleted leaving the stem initial vowel. Thus we have:

[18]

cl. 6.   / ma-iɔ̆ɔ/   →   [m ɛ ð̆ɔ]   eyes

cl 6.   /ma-oð̆oku/   →   [mɔð̆oku]   evils

cl 12. /ka-ɔŋgo/   →   [ko: ŋgo]   small head

Other prefix variants are morphologically determined .The occurrence of cl.5 allomorphs /e/,or /ri/ and cl.8/i/, /ji/or /βi/ is dependent upon the stem shape and is limited only to nouns in that respective paradigm .

Besides, as already pointed out, the shape of some prefix morphemes is independent of stem shape. Occurrence of the prefixes /mu-/and /mo-/ as cl.1 markers and class 5 /ri-/ ,/e-/and /re-/ (the former two as variants of class 5 prefix while the later is a concordial morpheme) can only have a historical explanation as we shall see in our later discussions in chapter 4.

Although consonant environments are evidently the most stable occasioning little or no change to the prefix shape, certain alternations are attested in the C-initial environments nonetheless. The change in c-initial environments is assimilatory or

dissimilatory in nature. The class 7 prefix /ke-/ has two possible realizations: /ke-/ or /ɣe-/ depending on whether the following consonant is voiced to voiceless. If the following stem consonant is voiceless, the prefix consonant is realized as /ɣe-/ but as /ke-/ if consonant is voiced.

Assimilative processes give rise to the allomorphic prefixes .The nasal prefixes /N-/ in class 9 and 10 for instance, assimilates to the point of articulation of the stem initial consonant .This process gives us four surface nasal prefixes n, m, ɲ and ŋ. (see discussion in 3.2.1). In view of the foregoing, if is clear that in using prefixes to classify nouns, one needs to be aware of the various allomorphic variants of the class prefixes .

2.3.1.2   Occurrence of a Zero Prefix both at the Underlying and the Phonetic Level.

Using prefixes as the only criterion in classifying nouns is blurred by the absence of an overt prefix in certain cases. In Kimeru, some nouns in class 5 and class 9/10 show no overt prefix. The class prefixes for some reasons (to be discussed later) seem to have been morphologised and reanalyzed and the prefix form perceived as part of the stem. Some of the nouns from class 5 and class 9/10 illustrate this.

[19]

a) Class 5

/Ø-ria/	—	[ria]	weed
/Ø-rioa/	→	[ryoa]	sun
/Ø-ri:ko/	—	[ri:ko]	fireplace/cooker

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b) class 9/10

/Ø - ɲ ɔ mβa/	—	[ɲ ɔ mβa]	house
/Ø - ŋɔmβ ɛ/	—	[ŋɔmβ ɛ]	cow
/Ø - ɲ amo/	—	[ɲ amo]	animal

Other nouns mainly in class 9/10 are basically prefixless. either because of entering the class as loans. or because of losing the prefix historically. Such forms includes:

[20]

Loans

/ Ø-ða:ni/	—	[ða:ni]	plate
/ Ø- cuβuria/	—	[cuβuria]	sufuria

Native words

/ Ø-ɪ ɔ r ɔ /	—	[ɪ ɔ r ɔ]	sleep
/ Ø -ɣa:ro/	—	[ɣa:ro]	oldman's hut
/ Ø-t ɔ: ɣ ɔ/	—	[t ɔ: ɣ ɔ]	smoke

The occurrence of a zero prefix renders the above forms 'classless'. at least. using the prefix as the sole criterion in classifying nouns. One question that needs to be addressed here is how these nouns are assigned to class 5 or class 9/10 in absence of an overt noun class prefix. A closer look at the class 5 data (19) for instance. reveals that the loss of the prefix is mainly as a result of diachronic deletion. Some of the class 5 nouns have the residue prefix /e-/ after deleting the consonantal element /r/ diachronically.

To classify a noun in class five with certainty. internal evidence of the prefix can be sought. Considering the fact that the class prefix and the concordial morphemes are identical, the concordial affix or the secondary prefix can avail this evidence. Below are some class 5 nouns with their modifiers.

[21]

/ Ø -ria # re-rea   #   re- a #   ŋ -ombe/

'the cow's feed (weeds)'

/ Ø -rio-a#   re-u   # ne   # re-aru/

'That sun is hot.'

/ Ø -riːko #   re-u # ne #   re-akwa/

'that cooker is mine'

From the data. it clear that the concordial element is /re/, while the primary prefix

is Ø. What we need to remember as pointed out earlier. is that the class prefix is

inherent only in the head nouns; it is then the prefix of the head noun that is

reflected on the noun modifiers as the concordial affix (secondary prefix). This

then means that initially the class 5 prefix was /re-/, which was later deleted

diachronically leaving its residue form in the secondary concordial affix. Based on

this evidence. we then can posit /re-/ as the class 5 prefix and classify the nouns in

example 21 accordingly.

To classify nouns more effectively, we therefore need to consider not just the noun

prefix but also the corresponding concordial affixes. Specifically, based on the

class 5 phenomena, we cannot regard the presence of a prefix or its absence as the

sole or primary determinant of a Noun class. Our observation is in line with

Welmers (op.cit) and Watkins (1966:22) who see the whole system of

concordance, taken in totally as the ultimate basis for nominal classification.

But even with what Welmers and Watkins see as the 'ultimate' basis of noun classification, certain obstacles in classifying nouns still lingers on. The phenomenon of homophonous prefixes requires other considerations other than the class prefixes and the concordial morphemes.

2.3.2   OCCURRENCE OF HOMOPHONOUS PREFIX

As is clear from table 1. there are several duplications of the class prefix. Such homophonous forms in Kimeru includes. cl.1/mo-/. and cl.3 /mo-/. on one hand and cl.15 /Ko-/ and cl.17 //ko-/ on the other hand.

Nouns in these two homophonous groups do not just share an identical prefix but they also share identical concordial morphemes. The criterion regarded as "the ultimate basis" by Watkins (ibid) is not after all watertight. considering the phenomenon at hand. To clearly understand the predicament we are in. let us consider some members of these four class and their concordial elements.

[22]

a) cl .1 ./mo-/,   cl 3   /mo-/

(i) Cl.1 /mo-ana/   →   [mwana]   'child'

    as in, [mwana   ojo   wakwa   ne   morwaru]

         child   this   mine   is   sick

           'This child of mine is sick'

(ii) Cl .3 . /mo-ɛra /   →   [mwɛra]   'hen'

as in,[mwɛra   oio   wakwa   ne   morwaru]

    hen   this   mine   is   sick

        'My hen is sick'

b) **cl. 15 /ko-/, cl. 17 /ko-/**

i) / ko-rima/ — [korima] 'farming'

    as in [korima   kou   kwaɔ   ne   kw ɛɣa]

        farming   that   theirs   is   good

        'That farming of theirs is good.'

ii) /ko- nto/ → [ɣonto]

    as in ,[ɣonto   kou   kwao   ni   kwɛ ɣa]

        place   that   theirs   is   good

        'That place of theirs is good'

If we were to insist on using the class prefixes and the concordial morphemes in classifying the four nouns above .cl.1 [mwana]and cl. 3 .[mwɛra]would both fall in the same morphological class. Similarly. cl.15. [Korima] and cl.17[ɣonto] would be members of the same class

To classify these four nouns into four distinct classes. we need more than morpho-syntactic considerations. There is need to consider the semantic dimension of the four nouns in question.

Corbett (1991:46) acknowledges the importance of semantic consideration when he says that. "…given the morphological class. the gender normally follow. apparent exceptions being predictable on semantic grounds."

To set apart the noun [mwana] 'child' cl .1. and the noun [mwɛra] 'hen'cl 3. we need to consider the semantic value of these words. In Kimeru like in most Bantu languages. cl. 1 is exclusively a personal class so that only nouns that are

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[+human] belong to this class. The feature [+human] alone separates the noun [mwana] 'Child' which is [+human] from the noun [mwɛra] "hen" which though animate is [-human]

Furthermore to set apart the nouns [korima] 'farming'. cl.15 and [ɣonto] 'place' cl. 17. we also require semantic considerations. Class 15 consists of verb infinitives that function like nouns in the same way English gerunds do. Class 17 on the other hand. which has only one member denoting generalized place. is essentially a locative. Such generalized semantic grid is however unable to classify such nouns as:

[23]

     ko-ɣoro   leg

     ɣo-to   ear

These two nouns are neither verb infinitives nor locatives. They are names of body parts. Classifying them together with the infinitives in cl.15 or with the locative in cl.17 is not semantically plausible. However. going by their class prefixes and the concordial morphemes. the nouns can fit in either class15 or class 17.

The problem of classifying these two nouns is also noted in Kitharaka (Wa Mberia 1993 : 70-72).In summarizing the problem observed here Wa Mberia (ibid) poses the following question' "on what non-arbitrary grounds would one choose to assign the...nouns to class15 instead of class17 or vice versa?" This is a question that remains unanswered for Kitharaka. and still requires an answer in our case.

However, even in Kimeru the answer is not readily obvious. There is only one possibility of offering a plausible criterion by which these nouns are classified: that is, the semantic consideration extended. In this case, we need to consider the possibility of semantic correlations between the singular and plural prefixes.

Many Bantu linguists hold the view that the relationship between the singular-plural pairing is a mere way of labeling classes and that there is nothing else in common. Welmers (1973:161) for instance argues that, "most of the noun prefixes function as members of singular-plural pairs though the pairing is evident only statistically, not on any formal basis; there is nothing at all singular prefixes or plural prefixes have in common with each other."

Evidence from Bantu languages including Kimeru however suggests that the class prefix apart from marking singularity or plurality bears certain semantic value. In line with this, Kaviti (2004:148) notes that in Kikamba, "all the nouns derived by a certain prefix tend to have a shared semantic meaning; namely that which belongs to that prefix." If a certain prefix then has certain semantic value, then, a singular prefix may have some semantic correlation with the corresponding plural prefix at least in some cases if not all.

Our suspicion here is confirmed by Polome (1966:99) who points out the semantic correlation between class 14 / u-/ singular marker and class 6 /ma-/, a plural marker. To him,

> the class 6 proto Bantu {ma-} was originally the class to which mass nouns identifying non-itemizable whole belonged .This is

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especially evident in the semantic contrast between nouns formed
by prefixing {u}and {ma}respectively. to the same nominal.(as in
the swahili examples below):

Ulezi   malezi

Ulimwengu   Malimwengu

In such pairs {u} gives a definite abstract meaning to the word.
whereas {ma} points rather to the concrete objects concerned or the
various processes involved visualizing them as a whole.

According to Polome (ibid). there is clear semantic correlation between the
singular prefix and the plural prefix. Using this cue. that is. semantic correlation
between the singular prefix and the plural prefix. there is need to reconsider the
problematic nouns and see how their singular and plural prefixes correlates.

[24]

a) **Class 15 – singular**   **Class 6 –plural**

   /ko-rima/   -   /ma-rima/   farming

   ko-anda/   -   /ma-anda/   planting

b) **Class 17-plural**   **Singular –cl .16**

   /ko –nto/ → [ɣonto]   /a – nto/   a specific place

c) **Problematic nouns**   **plural – class 6**

   (Singular)

   /ko-ɣoro/ → [koɣoro]   /ma – ɣoro/   leg(s)

   /ko –to/ → [ɣoto]   /ma-to/   ears

From the above data 24 a-c. a number of observations can be made. First of all.
class 15 infinitives take their plural in class 6.The locative in class 17 is already a
plural prefix with its singular counterpart in class 16.The problematic nouns are
singular forms which take their plural forms in class 6.Going by the correlation

between the singular prefix and the corresponding plural counterpart. we can then classify the "problematic nouns" with certainty. Both the problematic nouns and the class 15 infinitives have their plurals in class 6 [ma-]. On the other hand. there is no evident correlation between the singular and plural prefixes of the class 17 locative and the problematic nouns .In fact the class17 /ko-/ is a plural prefix while the /ko-/ prefix of the problematic nouns is a singular marker.

In view of the foregoing. the problematic nouns are assigned to class 15. based on the correlation between the singular prefix /ko-/ and the plural prefix /ma-/. Although the singular /ko-/ may be grammatically exclusive. the fact that it takes the cl.6 /ma-/ prefix as the plural marker. puts the infinitives together with the problematic nouns.

In general. noun classification in Bantu languages seems to require some considerations of the semantic value of the nouns. Such considerations are significantly used in this study.

2.3.3   THE SEMANTIC BASICS OF KIMERU NOUN CLASS SYSTEM.

Although noun classification is mainly based on morphological gender. there is partial semantic correlation between some of the class prefixes. These semantic correlations between the classes indicate the basis of the original system in the proto-language (see Marete 1981:10). Evidently then. the noun prefixes which we said are the overt formal markers of class membership are not purely functional elements as proposed earlier. On the contrary. the prefixes have semantic dimensions of number animacy. shape. size and in some instances emotive sense.

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In this case. when such a prefix is affixed to nouns of other classes. their classes change with accompanying semantic properties the derivative prefixes entail.

It should be noted here that the semantic property of a prefix is infact 'inherent' in the class prefix. This means that even when used non-derivatively. a prefix has some inherent semantic value. The semantic value of a prefix however becomes more 'potent' when the prefix is used with nouns of other classes in a derivative function.

The class 11 prefix in Kimeru for instance is /ro-/. Ordinarily the prefix is a singular marker. and has the inherent meaning of. thin. long. slender etc. when this prefix is used derivatively. with nouns of other classes. other words (nouns) are formed with the corresponding semantic dimension. Thus we have:

[25]

/ro-jara/	long. thin. hand
/ro-muntu/	thin, ugly. uncouth person.
/ro – ŋɔmb ɛ /	thin. malnourished cow.
/ro – ana/	thin. unkept and unplanned (very many) children.

Notice that when the stems or nouns that ordinarily occur in other classes are prefixed with the cl. 11/r o-/. they not only change the class but also acquire the corresponding semantic feature associated with the prefix. The above illustration clearly shows that the semantic basis of Bantu nominal prefixes in relation to the noun class system is quite transparent. To demonstrate this fact. let us look at the semantic dimensions of the various noun classes in Kimeru in relation to the proto-language phenomenon.

CLASS 1 /2   {mu / mo ——————— a}

The proto-Bantu {mo-} consisted of nothing but names of human beings. This class remains so in Kimeru synchronically. Strictly, membership to this class must be [+human], so that the class consists of only nouns denoting human beings. For some reasons however, some nouns that are [+human] belong to other classes (see our subsequent discussions). Nouns in classes 1 have the prefix /mo-/ with only one allomorph the /mu-/ of the word [mu-nto] 'person'. (We shall discuss the occurrence of /mu-/ and /mo-/ in Chapter 4). All the other nouns in this class other than [munto] take the prefix {mo-} in the singular and {a-} in the plural. The prefix shape varies depending on the phonetic environment. The prefix {mo-} does not change when followed by a consonant.

[26]

class 1

/mo-ɾom ɛ/   –   [moɾomɛ]

/mo-ka/   –   [moka]

The singular prefix /mo-/ becomes /mw-/ when followed by a stem-initial vowel.

[27]

/mo-ɛnɛ/   –   [mwɛnɛ]

/mo-arimo/   –   [mwarimo]

/mo-iki/   –   [moiki]

/mo-ini/   –   [mwini]

Notice that /mo + iki/ does not become [mwiki] in Kimeru, but /o/ and /i/ remain

distinct vowel. /mo +ini/ however becomes [mwini] as expected. (We shall revisit

this phenomenon later).

In Kimeru, most of the nouns found in cl. 1 are derived from verbs by affixing a

{mo-} and a final vowel {-i} to the verb root. This usually derives proper names

denoting the person who does the action described by the verb in question.

[28]

    Verb

- ruɣa	'to cook'	/mo-ruɣ-i/	-	[moruɣi]	'cook'
- kia	'grind'	/mo-ki-i/	-	[moki:]	'grinder'
- reðia	'graze'	/mo-reð-i/	-	[moreði]	'shepherd'

When the class 2 prefix {a} is followed by a stem-initial vowel, the quality of the

vowel may be slightly altered depending on the features of the contiguant vowels.

[29]

/a-andi/	→	[a:ndi]	planters
/a-iki/	→	[aiki]	brides
/a-ɛɲ ɟ i/	→	[ɛɲ ɟ i]	barbers
/a-ɛnɛ/	→	[ɛ:nɛ]	owners

It is worth noting that not all nouns denoting human beings belong to class 1/2.

Several [+human] nouns in Kimeru like in most Thagicu languages are

deliberately taken to other classes. Assigning [+ human] nouns to other classes has

a social bearing, which can only be interpreted within the social context of a given

speech-community. This will mainly depend on what the given society views as

the norm, the acceptable or unacceptable social behavior. It also depends on the

social taxonomy on which the world is ordered so that things are believed to be hierarchy ordered according to their social. worth. It is this taxonomic worldview of the Bantu people that give rise to the Noun class system with 'a residue' semantic basis. In this discussion we shall adopt the taxonomy postulated by Leakey (1959) cited in Njagi (1987:32). According to her:

> Human beings are considered to have a higher spirit than all other nouns in the spirit world. Thus. nouns in class 3/4 are associated with a lower category of spirit and those in class 9/10 are considered to have even lower: the members of class 7/8 being mostly inanimate and lifeless objects.

This perception of the spirit world not only explains the occurrence of nouns in certain semantic grid but also clearly accounts for the occurrence of certain humans in 'lower' classes. Such 'lowered' humans in Kimeru include:

[30]

class 5 (sg)		class 6 (plural)	
/e-raya/	–	/ma-raya/	prostitute (s)
/e-kaŋga/	–	/ma-kaŋga/	tout (s)

class 7 (sg)		class 8 (pl)	
/ke- ɤɔ:ta/	–	/i- ɤɔ: ta/	lazy person(s)
/ke-maramari/	–	/i-maramari/	immoral person(s)
/ke-a:/	–	/βi-a:/ or /ji-a:/	fool(s)
/ke-ɔɲʄɛ/	→	/βi-ɔɲʄɛ/ or	disabled(s)

Class 9/10

/N-kea/	→	[ŋkea]	poor person(s)
/N-cɔki/	→	[ɲcɔki]	divorced woman
/N-ð a:ta/	→	[nða:ta]	barren woman

Based on the views of Leakey (ibid) and the empirical evidence above, the occurrence of Kimeru nouns in the non-human classes can have various explanations. Human nouns in class 5/6 in Kimeru, denote those people who are social misfits, of little social worth. To show that the society despises them, they are demoted to class 5/6 as in the word for 'tout' and 'prostitute'.

Some of the nouns in class 7/8 and 9/10 denote people that are despised in society such as the "lazy". Other humans in this class denote people who though despised are pitied to some extent. Traditionally, qualities such as laziness and poverty were despised while the lame, deformed and the chronically sick were seen as a bad omen. Such afflictions were believed to be "a curse" or punishment from gods. This clearly explains why names referring to such beings occur in classes assigned to things of lower or no spirit.

Apart from occurrence of [+human] nouns in other classes, the occurrence of some human nouns in class 1 and their corresponding plurals in cl.10 is quite puzzling.

Such examples include:

[31]

Class 1(sg)		classs 10 (pl)
/mo-ðaka/	–	[nða:ka] 'not' **/a-ðaka/
		'Young man' (circumcised).
/mo-kɛɲɛ/	–	[ŋkɛɲɛ] 'not' **[a-kɛɲɛ]
		'uncircumcised girl'

The classification of these two nouns in class 1 and 10 is quite peculiar. Even with the argument of "demoting" despised humans, we cannot account for the occurrence of the singular forms in class 1, while only the plurals are in class 10. Besides while a [mokɛɲɛ] 'uncircumcised girl' is despised among the Meru, a circumcised young man is honored. For now, we wish to wish to leave this issue pending (we shall comment on it later in the discussion)

Class 3/4 Nouns {mo _____ me}.

This paired class in Bantu is mainly comprised of names of plants, natural phenomena, man-made objects, in animates, body parts and a few abstract nouns.

[32]

Class 3

Plants

/mo-te /	–	[mote]	tree
/mo-ɣumo/	–	[moɣumo]	fig tree
/mo-cuŋkwa/	–	[mocuŋkwa]	orange tree

Body parts

/mo-romo/	–	[moromo]	lip
/mo-ɣoŋgo/	–	[moɣoŋgo]	back bone

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/mo-ere/	–	[mwere]	body

Animals

/mo-ɛra/	–	[myɛra]	hen
/mo-kou/	–	[mokɔu]	lizard
/mo-ɲɔŋgɔrɔ/	–	[moɲɔŋgɔrɔ]	millipede.

Natural phenomena

/mo-aŋki/	–	[mwaŋki]	fire
/mo-uro/	–	[mouro]	river
/mo-ðaŋga/	–	[moðaŋga]	sand

Man-made objects

Most of the nouns here are borrowed words although others are basic forms.

Basic words

/ mo – kimɔ/	–	[mokimɔ]	Pestle
/ mo – ɣue/	–	[moɣwe]	arrow
/ mo – eŋkɔ /	–	[mwiŋkɔ]	cooking stick

Borrowed words

/ mo-toŋgi/	–	[motoŋgi]	jerry can
/ mo-icikiri/	–	[moicikiri]	bicycle
/ mo-raŋgɔ/	–	[moraŋgɔ]	door
/ mo-rɛŋgɛti/		[morɛŋgɛti]	blanket

Abstract Nouns

/ mo – eɔkɔ /		[mweɔkɔ]	hope
/ mo – rimɔ/		[morimɔ]	disease
/ mo – βaŋgɔ/	–	[moβaŋgɔ]	plan

The first form [mweɔkɔ] 'hope' has no plural form. The other two nouns have

their plural forms marked by the class 4. {me - } prefix as follows:

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| /me-rimɔ/ | – | [merimɔ] | diseases |
| /me-βangɔ/ | – | [meβangɔ] | plans |

Class 4

The corresponding plurals of the other class 3 nouns above are as follows:

/me-te/	–	[mete]	trees
/me-ɣumɔ/	–	[meɣumɔ]	fig trees
/me-cuŋkwa/	–	[mecuŋkwa]	orange trees

Body parts

/me-romɔ/	–	[meromɔ]	lips
/me-ɣoŋgɔ/	–	[meɣoŋgɔ]	backs
/me-ere/	–	[me:re]	bodies

Animals

/me-ɛra/	–	[myɛra]	hens
/me-kou/	–	[mekou]	lizards
/me-ɲɔŋgɔrɔ/	–	[meɲɔŋgɔrɔ]	millipedes

Natural phenomena

/me-aŋki/	–	[myaŋki]	fires
/me-uro/	–	[meuro]	rivers
/me-ðaŋga/	–	[meðaŋga]	sands

Basic words

/ me – kimɔ/	–	[mekimɔ]	pestles
/ me – ɣue/	–	[meɣwe]	arrows
/ me – eŋkɔ/	–	[me:ŋkɔ]	cooking sticks

CLASS 5/6   {e/ri —— ma}.

The original function of the proto-Bantu prefix {de -} was to indicate one of a pair

of objects such as parts of the body that come in pair (see Polome 1966: 97)

The plural prefix {ma -} on the other hand was used as a plural marker of the class

5 nouns. As already noted in our earlier discussions. the class 6 plural prefix / ma-

/ was originally used to indicate the whole of a set. This explains why in Kimeru

the class 6 prefix {ma - } is a plural not just to the paired objects as in class 5 but

also to non-itemizable objects such as the mass nouns in class 14. and the

infinitives of class 15. Let us look at each these two classes at a time.

Class 5

The class 5 prefix in Kimeru is / ri- /or / e - /.

Body parts

/ e – ɣɛɣɔ /	–	[e ɣɛɣɔ]	tooth
/ e – ru /	–	[eru]	knee
/ ri – iðɔ /	–	[ri:ðɔ]	eye

Miscellaneous

/ e – tumbe /	–	[etumbe]	egg
/ e – tumɔ/	–	[etumɔ]	spear
/ Ø–ria /	–	[ria]	weed
/ Ø–ri:ko/	–	[ri:ko]	cooker/fire place

The corresponding plurals of the class 5 nouns above are in class 6. Some nouns

however have a zero allomorph. so that they have a zero prefix both at the

underlying and at the phonetic level. As noted in our discussion on secondary prefixes, the zero prefix is as a result of diachronic deletions, while the class prefix /e- / is residually attested in the concordial morphemes.

Furthermore, the class 5 prefix {e-} is also used derivatively to form augmentatives. The class 5 augmentative prefix is appended to the primary prefix of a noun, to derive the augmentative forms. This method of deriving prefixes is reminiscent of the proto-Bantu way, of forming plurals. In line with this, Meinhof (1932:40) avers that, "in all probability the plural was in Ur-Bantu formed by prefixing a plural prefix to a singular prefix. The later subsequently dropped out".

The plural pre-prefix has been retained in Kimeru class 6 pluralizer (see discussion later). The proto-Bantu method of 'pre-prefixing' seems to have extended to derivatives such as augmentatives and diminutives. Thus the augmentative forms in class 5 have a class 5 prefix /e-/, prefixed to the class prefix of the noun in question. The class prefix in augmentatives is re-analyzed as part of the stem. The examples below illustrate this.

[33]

Augmentatives

/ e – mu – nto/   –   [e – munto]   'huge, ugly person'

/ e – mo – ka /   –   [e – moka]   'huge, ugly, or useless woman'

Class 6

The corresponding plurals of the nouns in class 5 above are as listed below:

Body parts

/ ma – ɣɛɣɔ /   –   [maɣɛɣɔ]   teeth

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| / ma – ru / | – | [maru] | knees |
| / ma – iðɔ / | – | [mɛ: ðɔ] | eyes |

Miscellaneous

/ ma – tumbe/	–	[matumbe]	eggs
/ ma-tumɔ /	–	[matumɔ]	spears
/ ma – iɣa /	–	[maiɣa]	stones

Some nouns in class 6 have no singular counterparts. These include mass nouns that though concrete are uncountable. They thus only appear in the class 6 prefix {ma -}, that indicates 'non-itemizable' things. Thus in Kimeru we have:

[34]

Mass nouns

/ ma – ta /	–	[mata]	saliva
/ ma – mira /	–	[mamira]	mucus
/ ma – ra /	–	[mara]	intestines

The prefix {ma -} is however not as productive as the class 7 and 12 derivative prefixes as we shall see later.

Class 7/8 {ke _____ i/βi/ji}

The nouns in these two classes are mainly inanimate objects. and a good proportion of nouns here are also drawn from diverse semantic areas. Such other nouns include: natural phenomena. man-made objects. body parts. human beings who are thought to be social misfits. insects. birds among others. Members of these classes include:

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Class 7

The noun prefix for class 7 in Kimeru is /ke-/ in the underlying form. The prefix

surfaces at the phonetic level either as a /ke-/ or a /ɣe-/, depending on the

prevailing phonetic environment. Thus we have:

[35]

Objects

/ ke – ratɔ /	–	[ke ratɔ]	shoe
/ ke – tamba: /	–	[ɣetamba:]	scarf
/ ke – ɔndɔ /	–	[kyɔndɔ]	basket
/ ke – ati /	–	[ɣe ati]	broom

Natural Phenomena

/ ke – rema /	–	[kerema]	mountain
/ ke – ðima /	–	[keðima]	well
/ ke – rɔtɔ /	–	[kerɔtɔ]	dream

Body parts

/ ke – ara /	–	[kyara]	finger/toe
/ ke – ɔŋgɔ /	–	[kyɔŋgɔ]	head
/ ke – ɛrɔ /	–	[kyɛrɔ]	thigh
/ ke – e /	–	[ke:]	palm

Animates

/ ke – ɣuɲɔ /	–	[keɣuɲɔ]	caterpillar
/ ke – ɔra /	–	[kyɔra]	frog
/ ke – roɣua /	–	[keroɣua]	cobra (snake)

'Demoted' humans beings

/ ke – ɔɲʄɛ/	–	[kyɔɲʄɛ]	cripple
/ke – a:/	–	[kya:]	fool
/ke – ɣɔ:ta/	–	[keɣɔ:ta]	lazy person

The class prefix can also be used derivatively to derive nouns with augmentative or derogatory sense. Thus when the class 7 prefix / ke - / is attached to a noun of another class. that noun changes class as well as acquire an augmentative or derogatory connotation. Thus we have:

[36]

ke - mu – nto	cl 1	–	/ kemunto/	a huge ugly person
ke - mo – te	cl 3	–	/ ke mote/	a huge ugly tree
ke - ɣona	cl 5	–	/ keɣona/	a huge lousy monkey

Other than the augmentative meaning. the class 7 prefix / ke-/ is also used in deriving proper nouns in Kimeru. Although we noted in our earlier discussion that human beings in this class have negative attributes. the derived proper nouns on the contrary have positive attribute. Usually, the prefix / ke- and a final vowel / -i/ are attached to the verb root to derive a name that denotes the attributes of that person. Use of the class 7 / ke -/ prefix gives the derived names a sense of masculinity.   Almost all the nouns derived this way refer to names of male members of the society. They depict the 'tough' social roles associated with men. Where names are simply attributive. they are depicted as being 'rough' and 'dominant'. The few female names derived in this class. are a recent innovation and use the passive form so that a woman is a passive member of society. All that social information is encoded in the derivative prefix /ke-/. In view of the foregoing, we have such names as:

[37]

Verb	Underlying Form		Phonetic Form	
- ðiɲʄa 'skin'	/ ke – ðeɲʄi /	–	[ke ðeɲʄi]	one who skins
- rioŋga 'wander'	/ ke-rioŋgi /	–	[keryoŋgi]	one who wanders
- ɲua 'drink'	/ ke – ɲua /	–	[keɲua]	one who drinks

Attributive names

/ ke – tuma /	–	[ɣetuma]	of the darkness
/ ke – ðaka /	–	[keðaka]	of the bush
/ ke – ruja /	–	[keruja]	name of an age set

Female names

/ ke – ɛndɛ /	–	[kyɛndɛ]	loved one
/ ke – nanu /	–	[kenanu]	pampered one

When the derived nouns in this class are compared to the diminutives of class 12 where most female names fall, the semantic opposition between the two classes (as we shall see) becomes quite apparent. This semantic transparency reflects the social 'definition' of male and female.

[38]

Class 8

The plurals of class 7 singulars are in class 8. The class 8 prefix is realized variously as /i-/,

/βi-/, /ji-/ at the phonetic level as in:

/ i – kɔmbɛ/	–	[ikɔmbɛ]	cups
/ i – canori	–	[icanori]	combs
/ i – cikɔ /	–	[icikɔ]	spoons

/ ji – ara /	→	[ʃyara]	fingers
or			
/βi – ara /	→	[βyara]	fingers
/ ji – ura /	→	[ʃyuɣa]	calabash
or			
/ βi – uɣa /	→	[βyuɣa]	calabash
/ ji – oria /	→	[ʃyorɣa]	questions
or			
/ βi – oria /	→	[βyorɣa]	

Class 9/10   {N -N}

The principal members of this class are nouns denoting animals. Other members to this class includes a variety of in animates. and pitied human beings. Most of the borrowed words are also members of this class.

Worth noting here, is that the singular-plural prefixes are identical. The distinction between the singular and the plural can only be captured by examining the concordial patterns.

Besides, the lack of singular-plural distinction. there is occurrence of zero allomorph of the prefix {N -}. This explains why class 9/10 is highly receptive to borrowed words since no readjustment to the initial syllable is required. to suit the borrowed word to the framework of the Kimeru class system. Thus. words entering the language from the source language undifferentiated for number. are automatically assigned to class 9/10 via concord. Example of class 9 nouns includes:

Animals

/ N – jɔɣu /	–	[ɲɟɔɣu]	elephant
/ N – puria /	–	[mpurya]	rhinoceros
/ Ø–ŋɔndu /	–	[ŋɔndu]	sheep

Others

/ N – tɔma /	–	[ntɔma]	arrow roots
/ N –jira /	–	[ɲɟira]	path

Borrowed Words

/ Ø -carani /	–	[carani]	sewing machine
/ Ø - ðaβuni /	–	[ðaβuni]	soap
/ Ø -ði:mo /	–	[ði:mo]	phone

There are a number of native words in Kimeru that also have a null prefix such words includes:

/ Ø -tɔ:rɔ /	–	[tɔ:rɔ}	sheep
/ Ø– ðiɣiri /	–	[ðiɣiri]	placenta
/ Ø - βɔ:ra /	–	[βɔ:ra]	pus from an infected ear

Worth noting too is the occurrence of Kinship terms in class 9 but taking the concordial agreement of class 2. Thus:

/ Ø- jojo /	–	[jojo]	grandparent
/ Ø– aβuɛ /	–	[aβuɛ]	uncle
/ Ø -ɣina /	–	[ɣina]	mother

Concordially, these Kinship terms belong to class 2. The example below illustrates this:

/βa –	jojo	βa –	εtu/		our grandparents
Agr	N.	Agr	poss.		

Notice the use of the class 2 concordial morpheme / βa-/.

Class 10

Some nouns in class 10 have their corresponding singular forms in class 11.

Class 11

Nouns in this class are semantically associated with things extending over a long duration of space and long or slender objects. They include nouns denoting parts of the body, natural phenomena and objects. Thus we have:

[40]

Parts of the body

/ ro – kuɲo /	-	[rokuɲo]	¡	nail
/ ro – juiri /	-	[rojwere]		hair
/ ro – βue /	-	[roβue]		grey hair

Natural Phenomena

/ ro – koŋgi /	-	[rokoŋgi]	wind
/ o – εni /	-	[rwεni]	Lighting
/ ro – oji /	-	[ro:ji]	water

Objects

/ ro – βetɔ /	-	[roβetɔ]	rafter
/ ro – εγɔ /	-	[rwεγɔ]	fence
/ ro – tambe /	-	[rotambe]	wick

Abstract Nouns

/ ro – riðɔ /	-	[roriðɔ]	jealousy
/ ro – aria /	-	[rwarya]	talk
/ ro – mɛna /	-	[romɛna]	hatred

The class 11 prefix can also be used in derivation of nouns. Derived nouns have the corresponding semantic value of the prefix. The prefix / ro - / is prefixed to nouns of other classes in the derivations below. Thus:

[41]

/ ro – mu-nto /   - [romunto]   tall, thin, uncouth person
     cl 1/2

/ ro – ŋ-ɔmbɛ /   - [roŋɔmbɛ]   slender, malnourished, sickly cow
     cl 9/10

/ ro - ana /   - [rwana]   unplanned, uncouth and malnourished children
     cl 1/2

It is worth noting that the derived forms here are already in their plural form. Thus class 11, though a singular class has some members (derivatives) that are plurals. The singulars of these derived nouns can be members of any class as shown above.

Class 10

Other than the derived nouns, class 11, nouns usually take the class 10 prefix / N - / as the pluralizing morphemes. The corresponding plurals to the listed nouns in class 11 thus include:

[42]

Parts of the body

/ N – kuɲo /   →   [ŋkuɲo]   nails

/ N – juere /   →   [ɲɟwere]   hairs

/ N - βue /   →   [mbue]   grey hairs

/ N - ðɛa /   →   [nðɛa]   jaws

/ N - βaru /   →   [mbaru]   ribs

Natural Phenomena

/ N - koŋgi /   →   [ŋkoŋgi]   winds

/ N – ɛni /	→	[mpɛni]	lightning's
/ N – oji /	→	[ndo:je}	waters

Objects

/ N- βetɔ/	→	[mβetɔ]	rafters
/ N – ɛɣɔ /	→	[ndwɛɣɔ]	fences
/ N – ðariɔ /	→	[nðaryɔ]	rosaries
/ N – ta mbe /	→	[ntambe]	wicks

Abstract Nouns

/ N – riðɔ /	→	[ndiðɔ]	jealousy
/ N – aria /	→	[ndwarya]	talks

Class 12/13 {Ka – tu}

Kimeru employs the class 12/13 prefixes in deriving diminutive forms. The prefixes may also have the semantic sense of cunningness. wit. speed or even endearment.

Although most nouns in this class are used derivatively. there are quite a number of nouns that are basic to this class. owing to their characteristic nature of being small in size.

Borrowed words with a diminutive sense also fall in this class.

[43]

Basic words

/ ka – una /	-	[kauna]	waist
/ ka – raira /	-	[karaira]	smallest finger
/ ka – ɲμa /	-	[kaɲwa]	mouth

Derived Nouns

Whenever the class 12 or 13 prefixes are attached to a noun of any other class, the noun becomes a diminutive, singular or plural. Like in all the other derivatives, the derivative prefix is prefixed to the class prefix. In some cases, the class prefix is dropped leaving the derivative prefix while other times both prefixes occur. Thus we have:

[44]

Class 12

/ ka -mu - nto /	-	[kamunto]	small person
/ ka - mo -arimo /	-	[kamwarimo]	belittled teacher

Borrowed Words

/ Ka – ramu /	-	[karamu]	pen
/ Ka – mɛmɛ/	-	[kamɛmɛ]	radio
/ Ka – roci /	-	[karoci]	crotchet

A good number of proper names also fall in class 12. Interestingly almost all such names are female names derived from verbs or other nouns by affixing / ka - / to denote "smallness" or endearment.

This reflects how the society perceives a woman as being "small", "inferior" and "subordinate" to the male counterpart. The derivative prefix /ka -/ encodes this semantic information in the derived nouns. These proper nouns include:

[45]

/ ka -re:ði /	-	[kare:ði]	a small shepherd

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| / ka-ɲua / | - | [kuɲua] | a small drunkard |
| / ka- nini / | - | [kanini] | small |

Class 13

The plurals of class 12 nouns fall in class 13. These include:

Basic Words

/ to-una /	-	[tu:na]	waists
/ to- araira /	-	[twaraira]	smallest fingers
/ to- ɲua /	-	[toɲua]	mouths

Derived Nouns

/ to - mu -nto	-	[tomʋnto]	small people
/ to - mo -arimo /	-	[tomwarimo]	small teachers (derogatory)
/ to- ɣɛɣɔ /	-	[toɣɛɣɔ]	small teeth

Class 14/6 {o – ma -}

This class typically consist of abstract, uncountable nouns most of which are derived from other lexical categories such as verbs and adjectives. There are however, a few concrete nouns, which are basic to this class. The few nouns in class 14 that denote countable things take the plurals in class 6. Members to class 14 include:

[46]

Abstract Nouns

/ o – to:rɔ /	→	[o to:rɔ]	life
/ o – mɛɲɔ/	→	[o mɛɲɔ]	knowledge
/ o – taku /	→	[otaku]	foolishness
/ o – ɛndɔ /	→	[wɛndɔ]	love
/ o – ɛɣa /	→	[wɛɣa]	goodness

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/ ɔ – aðani /	→	[waðani]	leadership
/ ɔ – etekiɔ /	→	[wetekiɔ]	faith
/ ɔ – ɛro /	→	[wɛro]	light

Concrete Nouns

/ ɔ – rere /	→	[orere]	bed
/ ɔ – ðio /	→	[oðio]	face
/ ɔ – coro /	→	[ocoro]	gruel
/ ɔ –ta /	→	[ota]	bow

All concrete nouns take plurals as well as a good number of abstract nouns as shown below:

Class 6

Concrete Nouns

/ ma – ɔ-rere /	→	[mɔrere]	beds
/ ma – ɔ-ðio /	→	[mɔðio]	faces
/ ma-ɔ-coro /	→	[mɔcoro]	gruels (derogatory)
/ ma – ɔ- ta /	→	[mɔ:ta]	bows

Abstract Nouns

/ ma - ɔ - tuko /	→	[mɔtuko]	nights
/ ma - ɔ - rɔɣi/	→	[mɔroɣi]	witchcrafts
/ ma - ɔ - aðɔ /	→	[mawaðɔ]	laws
/ ma - ɔ - ɛɣa /	→	[mawɛɣa]	good tidings

Notice that the class 6 plural prefix {ma -} is pre-prefixed to the class marker {ɔ -} resulting in duplication of prefixes. This is exactly in line with what Meinhof (1932:40) posited for the Ur-Bantu, that is, a plural prefix attached to the singular prefix in marking the plural.

In forming the plural here. the class 14 prefix {o -} is reanalyzed as part of the stem so that the class 6 prefix {ma-} becomes the pluralizing morpheme.

Class 15/6   **{ko – ma}**

Nouns occurring in class 15 are all verbal infinitives except for the two nouns denoting parts of the body (see discussion in 2.3 1.3)

The verbal infinitives and the two body parts take their plurals by adding the class 6 prefix / ma - /, thus we have:

Class 15

[47]

Parts of the body.

| / ko – ɣoro / | → | [koɣoro] | leg |
| / ko – to / | → | [ɣoto] | ear |

Infinitives

/ ko – anda /	→	[koanda]	planting
/ ko – rera /	→	[korera]	crying
/ ko – teðia /	→	[ɣoteðya]	helping

Class 6

The plurals to the class 15 nouns above are as below:

[50]

Parts of the body

| / ma – ɣoro / | — | [maɣoro] | legs |
| / ma – to / | — | [mato] | ears |

Infinitives

/ ma – anda /	—	[ma:nda]	many times of planting
/ ma – rera /	—	[marera]	many times of crying
/ ma – teðia /	—	[matɛðya]	many times of helping

Class 16 and 17   {a _____ ko }

Typically, Bantu locatives do not appear in the usual singular-plural pairings. The occurrence of this pair of locative in Kimeru is purely innovative as in other Thagicu languages.   Marete, (1981:54) rightly notes, that, "the remnantial locatives in Kimeru have formed a singular-plural pair".

The singular-plural pair is made up of only one member each. Thus the class 16 prefix {a -} is prefixed to the stem {-nto} to mean 'a specific place'. Similarly, the class 17 prefix {ko} is prefixed to the stem {-nto} to mean a generalized location. Inherently, the class prefix {ko} is a locative that is used even in interrogatives to mean "where?"

From the foregoing discussion, it is clear that the semantic information is relevant to the way nouns are classified in Kimeru, like in other Bantu languages. However, relying on semantic criteria solely is untenable because various semantic shifts and innovations have destroyed the original distribution pattern in quite a number of ways. The shift of pairs of body parts from class 5/6 to class 15/6 and the semantic innovation of "demoting" socially unfit human beings from class 1/ 2

just to mention a few. Consequently, the semantic criterion is rather unsystematic as a classification criteria.

Besides, Nouns in most classes except class 1 / 2 do not fall neatly into one given semantic organization whatever the semantic considerations. While we have argued that certain humans are demoted to class 5/6, 7/8 and 9/10 because they are despised, pitied or are derivations, it is not clear why some occur in these classes. [49]

For example the words.

/ mo – kɛɲɛ / cl.1   —   [ŋkɛɲɛ] cl. 9/10.

/ mo – ða:ka/ cl.1   — |nða:ka] cl. 10.

While [ŋkɛɲɛ] 'uncircumcised girls' are despised in the society (traditionally) it is not clear why the otherwise respectable characters [nða:ka] 'circumcised young men' belong together in class 9/10. In this case the major obstacle is that the morphological class of large number of nouns is not predictable from their meanings except a few classes namely, class 1 / 2, 11/10, 12/13 and 16/17.

Clearly then, to classify nouns in Kimeru, one needs a combination of both criteria, that is, the morphological criterion and semantic considerations. It is the combination of these that overcomes all the cited obstacles.

The Morphological criterion would thus assign the nouns to their various gender classes based on the class prefix and the concordial morphemes, while the

semantic considerations would account for the "ambiguity" in class 1/3 and 15/17 as noted in our previous discussions.

However, morphological gender overrides semantic considerations in that "given morphological class, the gender normally follow with a few exceptions being predictable on semantic grounds" Corbett (op.cit).

Thus, nouns in Kimeru, like in other Bantu languages are mainly classified using the morphological criterion. The semantic properties of the prefixes are part of one's acquired competence in Kimeru and given a personal noun for instance the concord follows that of class 1/2, while given an [- human] animate or object the concord follows that of cl. 3 / 4 accordingly. Other [+ human] nouns in other classes, take the prefix and concord of those respective morphological classes.

Clearly then the morphological and syntactic behavior of elements in a construction overrides the semantic component of the nouns. It is the phonetic behaviour of the sounds that is of interest to us in this formal system of the noun class.

2.4   CONCLUSION

This chapter has dealt with morphological issues in an attempt to set a basis for our subsequent analyses of the Kimeru nominal phonology. We have looked at the basic structure of a noun, that is a prefix and a stem and in some cases a suffix. Such an analysis is vital since as we noted most of the phonological processes in the language take place at morpheme boundaries. Besides, the data on the Kimeru prefixes reveal that the prefixes have undergone a number of historical sound

changes that can only be captured through an in-depth study of the Kimeru prefix system vis-à-vis those of the related languages and the reconstructed proto-forms.

In view of the above, this chapter has dealt at length with the primary prefixes and secondary prefixes. We established that indeed, the primary and the secondary set of prefixes have the same derivation and that the various irregularities between the primary prefix and secondary prefix underlie the internal evidence we need to account for the various sound changes with respect to the Kimeru nominal system.

In further discussing the prefix system, we demonstrated that the prefix set is not only a source of internal evidence in our case, but also an integral part of the noun-class system as a whole. The investigation of the class system has revealed that the nouns in Kimeru as in other Bantu languages are ordered on the basis of the primary prefixes and the corresponding concordial morphemes.

The class prefixes however, have been demonstrated not to be mere functional categories, but elements which have semantic dimensions as well. It is such semantic properties that have been shown to explain some class membership where reliance on the prefix and the concordial elements resulted in "homophonous" forms. Conversely, the semantic grid has been shown to be quite unreliable in classifying nouns since nouns in Kimeru do not fall neatly into systematic semantic categories. Consequently, we demonstrated that only an 'overlapping' criteria could be appropriate in classifying nouns in Kimeru, that is, the consideration of both the system of concordance (the primary and secondary prefixes) as well as the semantic configuration of the prefixes.

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The overall classification is however. controlled by the distinct agreement patterns and not the semantic content of the nouns. The pivotal role of the prefixes in classifying nouns has been underscored. Further. the synchronic prefixes in Kimeru have been shown to have developed alternations and variants. These phenomena are the basis of our discussions in chapter 3 and 4 respectively.

CHAPTER THREE

SYNCHRONIC MORPHOPHONEMIC PROCESSES AND CLASS PREFIX ALTERNATIONS

3.0   INTRODUCTION

In highlighting the problem in chapter one (see sec 1.2), we hypothesized that the irregularities in the nominal system of Kimeru have a scientific basis, which could be established through systematic research. This Chapter provides the necessary evidence to validate that claim. Our task here is to demonstrate that the irregularities in the synchronic nominal prefixal system in Kimeru can partly be accounted for by the various morphophonemic processes in the language.

The phonological processes that concern us in this Chapter are those that are synchronically productive – both consonant and vowel processes. Such processes include: homorganic nasal assimilation, continuant hardening, velar consonant dissimilation, nasal devoicing, identical consonant deletion, devocalization, height assimilation (heightening), identical vowel deletion, and compensatory vowel lengthening.

Arguably, all these processes are of a kind that Schance (1969) refers to as "Natural Processes". Such processes are therefore not unique to Kimeru, but are phonological phenomena occurring in languages of diverse types. However, the unique way in which they apply in the Kimeru phonology is what is of interest to us. Besides, in exploring these processes, we will clearly show that the irregularities occasioned in the nominal prefixes are not accidental but can indeed be accounted for systematically through research.

3.1   PHONOLOGICAL SEGMENTS IN KIMERU

In this section. we discuss the underlying sound segments in Kimeru. These

segmental phonemes fall in two broad categories: consonants and vowels.

3.1.1   CONSONANTAL PHONEMES IN KIMERU

[1]

Symbol	Keyword	Gloss
p	ɣapunda	a small donkey
mp	mpandi	grasshopper
ß	ßaßa	father
mb	mbɛmba	maize
ð	mɛða	table
t	tɛnɛ	early /long ago
nt	ntamɛ	handkerchief
r	roriɣi	a thread
nd	ndiɣi	threads
c	cai	tea
ɲc	ŋcaßua	a shoot
j	jojo	grandparent
ɲɟ	ɲɟara	hand
k	kɣara	a finger
ŋk	ŋko	firewood
ɣ	ke- ɣuɲo	caterpillar
ŋg	ŋgoko	chicken
m	makiɲa	footsteps
n	mananaci	pineapples
ɲ	ɲomba	house

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ŋ	ŋɔndu	sheep
y	yakwa	mine
w	wɛnu	yours
ʔ	ŋkɔʔa	armpit
tʃ	motʃoŋko	a man's name / a European

Kimeru has twenty five consonant segments which fall in four major classes: Obstruents, nasals, liquids and glides. The class of obstruents in Kimeru consists of four voiceless stopes, /p, t, c, k/; a voiceless affricate / tʃ/ eight prenasalised stops / mp, mb, nt, nd, ɲc, ɲɟ, ŋk, ŋg/; and four voiced fricatives /β, ð,j,ɣ/. A few segments deserve some further comments here. It should be noted that the prenasalised segments in Kimeru consist of both prenasalised stops and prenasalised continuants. The prenasalised consonant in Kimeru function as syllable on-set so that it is perceived as a single segment and not a consonant cluster.

There are four underlying nasals in the language. These are / m.n. ɲ. ŋ. /. Each of these nasals has one phonetic realization. In other instance the nasal is an arch phoneme at the phonemic level and surfaces as /m. n. ɲ. ŋ. m̥. n̥. ɲ̥. ŋ̥ / depending on the conditioning environment. These phonetic variations result form homorganic nasal assimilation as well as assimilation of voice. The devoiced nasals are not underlying in Kimeru but are as a result of voice assimilation motivated by the contiguant voiceless segment.

The language has only one liquid the alveolar trill /r/.

The underlying segment /r/. surfaces as /r/ or /d/ at the phonetic level. (see discussion in 3.2.2) Another class of sounds in the language are the glides. The semi-vowels /w/ and /y/ in Kimeru are mainly derived from high vowels /u/ or /o/ and /i/ or /e/ respectively. Such obvious instances of derivation are as evidenced in the data in 2a – b below:

[2a]

/e-aku-a/	→	[yakwa]	mine
/e-aɛ /	→	[yaɛ]	his/ hers
/ke -uɣa /	→	[kyuɣa]	big calabash
/ke-oria/	→	[Kyoria]	question

[2b]

/o-ɔɲɟɛ-o/	→	[wɔɲɟɛ]	a kind of disease
/o-aɣanu/	→	[waɣanu]	immorality
/ro-aɣe/	→	[rwaɣe]	mosquito
/ro-ara/	→	[rwara]	rock

What data 2a and 2b suggests is that /w/ and /y/ are mere surface realizations of the respective underlying vowels. These glides are also underlyingly attested in forms such as:

[3]

/e-kwaje /	–	[ekwaje]	potatoes
/mo-ɣwaɲɟa/	–	[moɣwaɲɟa]	seven
/ŋ-kwarɛ/	–	[ŋkwarɛ]	a type of wild bird
/mo-ya/	–	[moya]	sorghum

Another possible glide in the language is the voiced pharyngeal glide /ʕ/ occurring

in Kimeru as it does in Kitharaka (see Wa Mberia 1993: 90-93)

In establishing the presence of this glide /ʕ/ in Kitharaka, Wa Mberia (ibid)

observes the behaviour of the verb <<koa>> 'to give', in which the /o/ does glide

as expected. He further notes the strange morphology of the word that seems to

lack a verb root. In an answer to this phenomenon, Wa Mberia recognizes the

presence of the voiced pharyngeal glide by observing that:

> ...the presence of the glide /ʕ/ answers both questions satisfactorily. What
>
> has been wrongly perceived as**koa/ is infact /koʕa/. In this case /o/ does
>
> not glide because it is not immediately followed by a vowel as required by
>
> the glide formation rule to operate (Wa Mberia 1993:91).

According to Wa Mberia, the glide is a reflex of the proto segment */p/ that has

diachronically weakened to a glide. To him words like Kikuyu [kohe], Kiembu

[Kova] and Kiswahili [Kupa] show the reflexes of the proto morpheme.

In line with Wa Mberia, we will posit the voiced pharyngeal glide as a segment in

the sound inventory of Kimeru. The presence of this segment as proposed by Wa

Mberia is supported by data from the Kichuka dialect of Kimeru, where the reflex

of the proto Bantu /p/ is still retained as /β / as in the forms below:

[4]

[koβa]	to give
[ŋkwɔβa]	armpit
[ŋkuβe]	short

Though glides are an intermediary category between consonants and vowels. we shall treat them as consonants in this study. This is because in Kimeru. like in any other Bantu language. glides function as syllable on-set like consonants do. This is unlike vowels that function as syllable nucleus. They are thus functionally more close to constants than they are to the vowels in the Kimeru phonology.

From the foregoing discussions. a summary of the consonant segments in Kimeru can be drawn as shown below:

[5]

Kimeru Consonant Chart

	bilabial	labio-dental	alveolar	palatal	velar	pharyngeal
plosive	p ^{m}p ^{m}b		t ^{n}t ^{n}d	c ^{ɲ}c ^{ŋ}ɟ	k ^{ŋ}k ^{ŋ}ɡ	
nasal	m		n	ɲ	ŋ	
fricative	β	ð		j	ɣ	
affricate				tʃ		
liquid			r			
glide				y	w	ʔ

3.1.2 KIMERU VOWEL SYSTEMS

Kimeru like many Bantu languages has a seven vowel system that is reminiscent of the Ur-Bantu system reconstructed by Meinhof (1932:23-5). The seven vowels are phonemically short segments but can surface as long vowels depending on the phonetic environment.

In terms of height. frontness or blackness and roundedness the following possibilities are found in the language.

[6]

Front	i	u	Back
Mid	e	o	
	ε	ɔ	
Low		a	

From data 6 above, it is clear that the language has two high vowels /i/, /u/, two

mid- high vowels, /e/, /o/, two mid- low vowels/ε/,/ɔ/ and one low vowel /a/.

The front vowels/i, e, ε/ are all unrounded whereas /u,o,ɔ/ are rounded.

The data below illustrates the occurrence of these vowels in Kimeru.

[7]

Orthography	IPA symbols	Example	Gloss
i	i	[ŋkima]	ugali
ī	e	[eiɣa]	stone
e	ε	[mbεca]	money
o	ɔ	[mbɔcɔ]	beans
ū	o	[orɔɣi]	witchcraft
u	u	[ŋkundi]	fist
a	a	[aka]	women

Most of the vowel processes in the language will involve the vowel acquiring

features of a contiguant vowel in terms of closeness, frontness or backness,

roundness or even a combination of these features.

3.2   SYNCHRONIC PHONOLOGICAL PROCESSES.
The synchronic phonology is partly responsible for the irregularities evidenced in

the nominal prefixal system. In this sub-section we look into the synchronic

phonological processes in an attempt to see how they are indeed partly responsible for the irregularities evidenced in the nominal system. That the prefix shape is altered is expected. since most phonological processes take place at morpheme boundaries. The prefix and the stem juxtaposed together create a conducive environment for various phonological processes as is evidenced in the following discussion.

3.2.1 Homorganic nasal assimilation

Homorganic nasal assimilation involves a morphophonemic nasal acquiring the place feature of the following non-nasal consonant so that it agrees in point of articulation with the following consonant. It is thus a regressive kind of assimilation whereby in anticipation of articulation of the consonant following the nasal. the articulators adjust early so that both the nasal and the following consonant are articulated at the same point.

In Kimeru. homorganicity affects the class 9 singular nominal prefix and the class 10 plural nominal prefix that are apparently identical. The attested prefix in both classes is a homorganic [N]. To clearly grasp how homorganic nasal assimilation occurs in the class 9/10 and 11/10 prefixes. let us consider each phenomenon at a time.

Class 11 singular forms have their plural forms in class 10. I n this case. class 10 has plurals of singular forms found in both class 11 and class 9. As noted in chapter 2, the distinction as to whether a noun belongs to class 9 or 10 can only be captured in the concordial morphemes. The class 11 prefix is however /ro-/. which is replaced by the class 10 prefix /N-/ in forming the plural. The class 10 /N-/ thus assimilates to the point of articulation of the class 11 stem initial consonants. The

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examples below illustrates how homorganic nasal assimilation is occasioned in class 9/10 and 11/10.

[8a]

Class 9/10

/N-pao/	→	[mpao]	guard
/N-bɔri/	→	[mbɔ:ri]	goat
/N - ɣoko/	→	[ŋgo:ko]	chicken
/N -kare/	→	[ŋka:re]	leopard
/ N- jara/	→	[ɲɟa:ra]	hand
/N-tora/	→	[nto:ra]	village

[8b]

Class 11 (sg)		Class 10 (pl)			Gloss
/ro-ðiŋgɔ /	-	/N-ðiŋgɔ/	→	[nd:ŋgɔ]	wall(s)
/ro-bao/	-	/N-bao/	→	[mba:o]	timber (s)
/ro-kuɲo/	-	/N-kuɲo/	→	[ŋku:ɲo]	nail (s)
/ro-ɣɔnɔ/	-	/N-ɣɔnɔ/	→	[ŋgɔ:nɔ]	story(ies)
/ro-tɛrɛ/	-	/N-tɛrɛ/	→	[ntɛ:rɛ]	side(s)
/ro-jara/	-	/N-jara/	→	[ɲɟara]	long. thing hand(s)
/ro-tumɔ/	-	/N-tumɔ/	→	[ntumɔ]	seam(s)

The above examples (8a-b) clearly demonstrates how the class 9/10 nasal prefix [N] assimilates to the place of articulation of the stem-initial consonant.

When the morphophonemic nasal /N/ precedes a stem beginning with a bilabial stop, the nasal surfaces as a bilabial, that is.

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$$/N/ \rightarrow m \ / \ \rule{2em}{0.4pt} \ + \ \begin{bmatrix} p \\ b \end{bmatrix}$$

However, when the morphophonemic nasal /N/ precedes a stem beginning with an alveolar consonant homorganic nasal assimilation rule applies vacuously. In this case, the underlying nasal surfaces as an alveolar nasal. Thus:

$$/N/ \rightarrow n \ / \ \rule{2em}{0.4pt} \ + \ \begin{bmatrix} t \\ r \end{bmatrix}$$

The alveolar nasal is also realized before a stem- initial interdental fricative /ð/. Whereas the /n/ and /ð/ are not homorganically articulated, the alveolar nasal is the only nasal which is articulatorily close to the interdental fricative. Interdental nasals are not attested in human languages. This makes the alveolar nasal the most appropriate corresponding nasal to the interdental fricative. We thus have an /nð/ sequence. The rule here can be formulated (informally) as:

$$/N/ \rightarrow n \ / \ \rule{2em}{0.4pt} \ + \ ð$$

Further, the morphophonemic nasal surfaces as a palatal nasal when it precedes a stem-initial palatal consonant. Thus we have:

$$/N/ \rightarrow ɲ \ / \ \rule{2em}{0.4pt} \ + \ \begin{bmatrix} c \\ j \end{bmatrix}$$

Similarly, the nasal surfaces as a velar segment when it precedes a stem-initial palatal consonant. Hence:

$$
\text{'N'} \rightarrow \eta \ / \ \underline{\hspace{2cm}} + \begin{bmatrix} k \\ \gamma \end{bmatrix}
$$

The motivation for the homorganic nasal assimilation in Kimeru (as in many other Bantu languages) is based on the considerations of articulatory ease. The process reduces the places of articulation from a possible two to one. consequently shortening the articulatory gesture and thus easing articulation. On assimilation. Dressler (1985:49) says. "the assimilation of features of a neighboring segment eases articulatory effort by allowing inertia to prevail and smoothing transition from one segment to another one." Similar views are held by Ambercrombie (1967:135) who more aptly drives the point home when he says. "the result of assimilation is to reduce the number or readjustments which the speech producing organs have to perform". These views clearly explain the phonetic plausibility of homorganic nasal assimilation. Since the process is phonetically motivated. it can be expressed by a p-rule. Thus the rule for homorganic nasal assimilation can be formalized as:

[9]

$$
\begin{bmatrix} + \text{cons} \\ + \text{nas} \end{bmatrix} \longrightarrow \begin{bmatrix} \alpha \ \text{ant} \\ \beta \ \text{Cor} \\ \gamma \text{Back} \end{bmatrix} \ / \ \underline{\hspace{2cm}} \begin{bmatrix} + \text{cons} \\ \alpha \ \text{ant} \\ \beta \ \text{cor} \\ \gamma \ \text{Back} \end{bmatrix}
$$

The rule above stipulates that a nasal ought to agree with the following consonant in terms of the features [ANTERIOR. CORONAL. BACK].

It is worth noting that. the process of homorganic nasal assimilation is not limited to the nominal paradigm – the class 9/10 or 11/10. It pervades the whole grammar including the verbal phonology(this is however outside our scope).

Furthermore, homorganic nasal assimilation is a very natural phonological process that falls under the p-rules proposed by Hooper (1976). Homorganicty is one of the many assimilative rules, all which are natural since they have a physiological explanation. In explaining the functions which natural processes perform. Schame (1969:213) observes that, "assimilation phenomena are a consequence of inherent properties of the articulatory mechanism".

Thus, homorganicity which is a kind of assimitive process is a well attested phenomenon in languages of the world. It is thus not a language specific phenomenon.

3.2.2 Continuant Hardening

Just like homorganic nasal assimilation, continuant hardening is a class 9/10 and 11/10 phenomenon. When the class 9/10 nasal prefix {n} precedes, a stem initial consonant which is [- continuant] the consonant hardens into a stop.

Two types of continuant segments are involved in this process:

i) Liquid /r/

ii) Fricatives / β,ð,j,ɣ /

Liquid strengthening is evidenced when the class 11 singular stems with a stem-initial alveolar trill /r/, attached to the class 10 nasal prefix [n] in forming the plurals. In this case, the alveolar trill /r/ hardens into an alveolar stop /d/. This is as illustrated below:

[10]

Class 11		Class 10			
/ro-riðɔ/	-	/n-riðɔ/	→	[ndiðɔ]	jealousy
/ro-rɛmɛ/	-	/n-rɛmɛ/	→	[ndɛmɛ]	tongues
/ro-rɛŋgɛ/	-	/n-rɛŋgɛ/	→	[ndɛŋgɛ]	pumpkin plants.
/ro-raio/	-	/n-raio/	→	[ndaiyo]	dowries.

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/ro-rerembe / -   /n-rerembe/ → [nde:rembe]   billows of fire

Clearly, liquid strengthening is well attested in Kimeru and is a synchronically productive rule.

Secondly, continuant hardening involves a fricative hardening into a corresponding stop when preceded by the class 9/10 homorganic nasal prefix [N]. The affected segments in this case includes the bilabial fricative / β /, the palatal fricative / j /, the velar fricative /ɣ/ and to some extent the inter-dental fricative /ð/. These segments harden into the corresponding stops /b/ /ɟ/, /g/ and /d/ respectively. The examples below illustrate this phenomenon.

[11a] /β / → [b]

/n-βɔɣa/	→	[mbɔɣa]	cabbage.
/n-βaɣɛ/	→	[mbaɣɛ]	a type of wild fruit.
/n-βura/	→	[mbura]	rain.

[11b]   /j/ → [ɟ]

/n-jao/	→	[ɲɟao]	calf
/n-jɔka/	→	[ɲɟɔka]	snake
/n-jara/	→	[ɲɟara]	hand

[11c] /ɣ/ → [g]

/n- ɣorowɛ/	→	[ŋgorowɛ]	pig
/n-ɣoko/	→	[ŋgoko]	chicken
/n-ɣomba/	→	[ŋgomba]	tick

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[11d] /ð/ → [d]

/n-ðario/ →	[ndaryo]	rosaries
n-ðiŋɔ/ →	[ndiŋɔ]	walls
/n-ðea/ →	[ndea]	jaws.

The data 11a-c illustrates a phenomena. in which a continuant becomes the corresponding [-continuant] segment at the same point of articulation as the continuant from which the stop is derived.

Example 11d. illustrates a phenomenon in which /ð/ hardens into /d/. This phenomenon is however not attested uniformly throughout the dialect of study. The phenomenon is apparently occasioned regularly in "Upper-Mwimbi" sub-dialect where the forms listed in [11d] are clearly attested.

In "Lower-Mwimbi" sub-dialect the change of /ð/ to /d/ after the nasal prefix is sporadic with speakers either hardening the /ð/ to /d/ or pronouncing it as a prenasalised inter-dental fricative. What is worth noting here is the fact that this change is not a mere idiosyncrasy. Out of the five respondents. only one respondent from "Lower-Mwimbi" kept the inter-dental fricative unchanged. The other two respondents (from different parts of Lower-Mwimbi) had a mixture of hardened interdental fricatives and unchanged forms of the interdental fricative.

The two respondents from "Upper-Mwimbi" had all the interdental fricatives hardened into the alveolar stop /d/. Generally. 70% of the responses had the interdental fricative hardened into the alveolar stop /d/ and only 30% had the unchanged form of the fricative.

Example 11d is an instance of an on-going change so that two phonological phenomena are synchronically attested. One where /ð/ becomes /d/ and the other where /ð / remains unaltered.

The phenomenon of continuant hardening can be summarized as in 12 below:

[12]

$$
\begin{bmatrix} \beta \\ r \\ \eth \\ j \\ \gamma \end{bmatrix} \longrightarrow \begin{bmatrix} b \\ d \\ (d) \\ \mathfrak{f} \\ g \end{bmatrix} \bigg/ \begin{bmatrix} N \\ N \\ N \\ N \\ N \end{bmatrix} \underline{\quad\quad}
$$
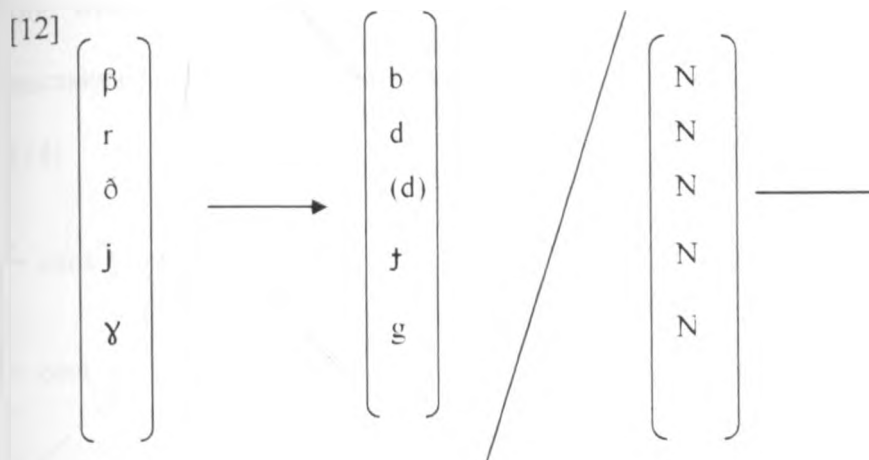
Notice from data (12) that where the interdental fricative hardens into a stop, the result is a phonetic merger between /ð/ and /r/. The hardening of /ð/ to /d/ is due to the fact the languages do not have interdental stop and the only segment corresponding to /ð/ is the alveolar stop /d/ which is closest articulatorily to the interdental. This phenomenon as we have seen is an ongoing change, replacing the earlier case where hardening of /ð/ to /d/was evidently blocked. Where the interdental fricative fails to harden is according to Wa Mberia (1993:135) a strategy to avoid a merger that results in homophony, a situation which violates the Humboldt's principle of one form one meaning.

Some forms in the Kimeru data show adherence to this principle where no merger is attested as in 13 below:

[13] ·

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/n-ɔɔni/	—	[nɔɔni]	shyness
/n-ðaka/	—	[nðaka]	young man
/n-ðiŋɔ/	—	[nðiŋɔ]	walls

For Kimeru though, two phonological processes are clearly in progress. To reflect this transition, we shall formulate two rules to reflect the two different processes: one where a merger is initially blocked and the other, where the merger is occasioned. Thus for the continuant hardening rule in Kimeru we have:

[14]
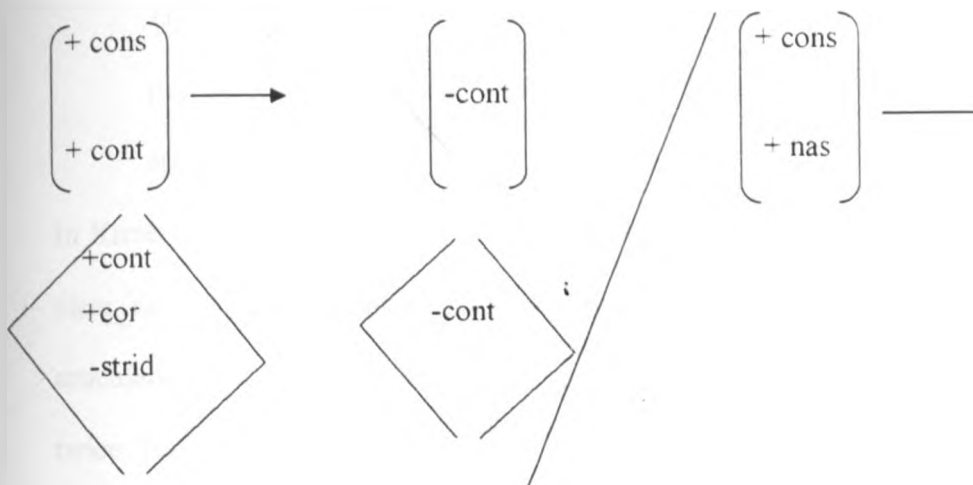
The continuant hardening rule in (14) stipulates that a continuant hardens into a stop, when preceded by a nasal except /ð/ which remains unchanged.

Rule (14), however does not capture the ongoing charge, where /ð/ harden's to /d/ contrary to Humboldt language universal (Wa Mberia ibid).

The process of continuant hardening is a natural assimilatory process that stands in a reciprocal relationship with the Homorganic nasal assimilation. In this case, as the homorganic nasal anticipates the following consonant in terms of the place of articulation (regressive assimilation), the articulators in the production of the nasal consonant is maintained into and during the production of the continuant so that

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the latter is realized as a stop. Thus the [- cont] feature of the nasal is preserved into [+ cont] segment (cf Antilla1977:73; Alrotto 1972:81; Lehmann 1962:160).

This phenomenon is well attested in the Bantu language family. In line with this. Meinhof (1932:33) observes that:

> If {n} comes before the primary fricatives the latter already in Ur-Bantu becomes (sic) plosive. The reason for this is the oral closure of the nasal is extended to the following sound. which becomes a plosive accordingly. The change in this direction may have been facilitated by the slightly plosive tendency already inherent in primary fricative. This law still applies over practically the whole Bantu area.

In Kimeru. the change of (ð) to /d/ as in other cases of continuant hardening is a clear case of an assimilation motivated by the need for simplification. The articulation of an /nð/ sequence involves adjusting the articulatory parameter twice: first. at the points of articulation (alveolar and interdental region) and then secondly, a change in the manner of articulation (from a stop to a fricative). When the interdental /ð/ is hardened to /d/, the resulting sequence [nd] is an obvious case of simplification (articulatorily) since we have economized on the places of articulation (now only the alveolar region is involved) and the manner of articulation (both sounds are stop segments).

The change of rule in Kimeru from one where a merger is blocked to one where a merger is occasioned reflects a situation where the need for phonetic simplification overrides the requirement of one form one meaning.

In this case. the phonetic change from /nð/→[nd] is a natural process that is well motivated. Besides the direction of this change is in compliance with what Bloomfield (1933:370) posits as the general direction for sound change.

He observes that. "The general direction of a great deal of sound change is towards the simplification   of the movements which make up the utterance of any given linguistic form".

This clearly explains why a change from /nð/ to [nd] is now attested in Kimeru. In this case the interdental. hardens into a stop. The general rule that captures continuant hardening in the latter phenomenon can be formalized as below:

[15]

$$
\begin{bmatrix} + \text{Cons} \\ \\ + \text{Cont} \end{bmatrix} \longrightarrow \begin{bmatrix} - \text{Cont} \end{bmatrix} \Big/ \begin{bmatrix} + \text{Cons} \\ \\ + \text{nas} \end{bmatrix} \underline{\qquad}
$$
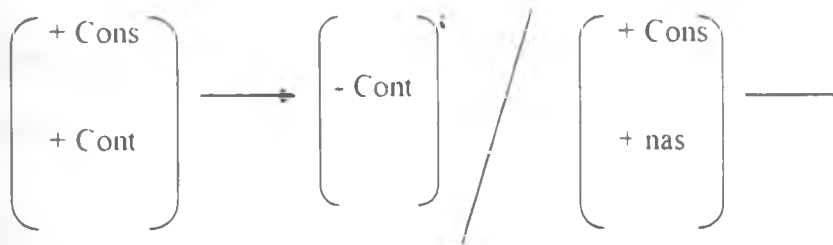
Rule 15. thus stipulates that any continuant is hardened into a stop when preceded by a nasal. Notice. even 'rule-wise'. rule (15) is simpler than the rule posited in (14) where the merger is blocked.

If the noted change progress until the process is complete. then we expect rule [15] to replace rule [14] eventually.

3.2.3   Consonant Dissimilation (Dahl's Law)

Dahl's Law is a phonological process that involves voicing a voiceless segment (consonant) before another voiceless consonant to make them less similar. In

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Kimeru, the Law operates, when the voiceless velar consonant of the class prefixes, precedes a stem whose initial consonant is voiceless. The law thus operates in class 7, 15, 12 and 17, where the voiceless velar consonant / k/ is the prefix consonant.

In these classes, when the class prefix with a velar consonant is attached to a stem with a voiceless consonant, the class prefix /k/ is phonetically realized as a voiced velar fricative/ɣ/.

The data below exemplifies this phenomenon:

[16a]   **Class 7/8**

/ke-ati/	→	[ɣyati]	a broom
/ke-kundi/	→	[ɣekundi]	group
/ke-ampampO/	→	[ɣyaɱ pa ɱ po]	a place name
/ke-umpu/	→	[ɣeumpu]	a heap

[16b]   **Class 12**

/ka-cui/	→	[ɣacui]	a chick
/ka-tamɛ/	→	[ɣatamɛ]	piece of cloth /handkerchief
/ka-kunia/	→	[ɣakunia]	a small sack.
/ka-pende/	→	[ɣapende]	a grain

[16c] **Class 15**

| /ko-tɛma/ | → | [ɣotɛma] | to cut |
| /ko-cɛria/ | → | [ɣocɛrya] | to look for |

/ko-kora/	→	[ɣokora]	to uproot
/ko-mpa/	→	[ɣoɱpa]	to give me.

Class 17

Class 17 has only one member: the Locative /ko-/ which acts as the plural for class 16. when /ko/ is prefixed to the nominal stem [nto]. the locative is phonetically realized as shown below:

[16d]   /ko-nto/ → [ɣo n̥ to] 'aplace' (generalized)

Notice that /k/ dissimilates to /ɣ/ when the following consonant is a nasal. The nasal though inherently voiced is devoiced by the following voiceless alveolar plosive /t/. Thus to indicate that the nasal is devoiced the diacritic mark [o] below the nasal is used.

Dissimilation. like other processes discussed is not restricted to the nominal prefixes. The process pervades the whole grammar. When other pronominal prefixes are attached to the various pronominal roots. dissimilation takes place as well. Thus we have:

[17]

[ɣecanɔri # keu   # ɣɣakwa] (cl. 7.) 'That comb of mine'

[ɣatamɛ # karia   # ɣatunɛ] (cl. 12) 'The red cloth /handkerchief'

[ɣeturo #ɣɣakwa# ne #ɣeɣɔtu:ra](cl.15) 'My shoulder is aching.

[ɣonto   #ɣoko   # ɣwɛtu # ni #kweɣa] (cl.17) 'This place of ours is good'

Consonant dissimilation rule in Kimeru is a well motivated process that is synchronically productive. The rule in the language can be formulated as:

[18]

$$
\begin{bmatrix} - \text{son} \\ - \text{Cont} \\ - \text{ant} \\ - \text{voice} \end{bmatrix} \longrightarrow \begin{bmatrix} + \text{Cont} \\ + \text{voice} \end{bmatrix} \Bigg/ \begin{bmatrix} + \text{son} \\ + \text{voice} \end{bmatrix} + \underline{\hspace{1cm}}
$$
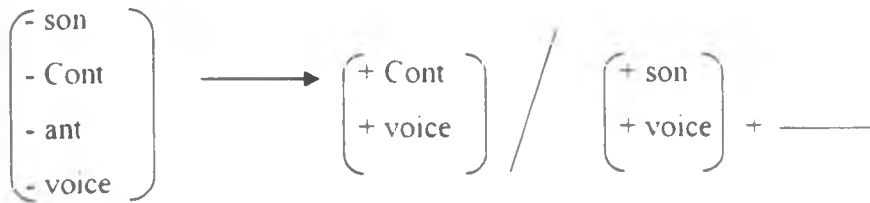
In words, the rule stipulates that a voiceless velar plosive becomes the corresponding voiced velar continuant when followed (non-contiguously) by a voiceless consonant.

Dahl's Law in Kimeru underline allomorphy of prefixal forms in class 7, 12, 15 and 17. This process clearly accounts for some of the irregularities noted in chapter 1 (section 1.2). The illustration below demonstrates this fact:

[19]

Underlying class prefix	Phonetic Form	
cl. 7 {ke}	/ke-/,	/ɣe-/
cl. 12 {ka}	/ka-/,	/ɣa-/
cl. 15 {ko}	/ko-/,	/ɣo-/

In cl. 17 there is only one member, thus only one phonetic form /ɣo-/ from the underlying form {ko}. Allomorphy in prefixes is only evidenced in the concordial system, where /ko/ surfaces as shown in 17 above.

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The process of consonant dissimilation is attested in other languages though the affected segments may differ. It is a natural process that Schane (1969:210-15) categorizes under what he calls "rules of maximum differentiation".

In explaining why this "maximum differentiation" should be maintained Meinhof (1932:15) observes that:

> The Subconscious fear that similar sounds or syllables may not be pronounced correctly or sufficiently distinguished from each other induces the speaker to pay special attention to the articulation of one of them and finally to exaggerate its peculiarities in one direction or another so that the two sounds in question... if they were originally identical begin to differ.

In view of the above view, assimilation is due to neural ease (or ease in perception).

The need for dissimilation may not only be psychological (perceptual) but it may be due to physical factors as well (see Schane 1969:215)

In concurrence with this view, Antilla (1977:74) points out that, "in many areas of human muscular, activity repetition of the same movements is difficult. This is the operative principle of tongue-twister...."

In view of the foregoing, dissimilation then can be associated with both perceptual (psychological) as well as articulatory ease.

3.2.4 Nasal Devoicing

As evidenced in 3.2.3 the voiceless prefix consonant is voiced when it precedes a stem whose, initial consonant is voiceless.

This dissimilation in some cases occurs even when the stem-initial consonant is a nasal. This occurrence is however limited to the nasals that are followed by a voiceless consonant, as in:

[20]

/ko-ɲtɔ/	→	[ɣoŋtɔ]	ill feeling
/ke-ɲto/	→	[ɣento̥]	something
/ke-u mpu/	→	[ɣeu mpu̥]	a huge heap
/ɣe-ampampɔ/	→	[ɣɣampampɔ]	a place name

The fact that the nasal in all the above cases condition the operation of Dahl's Law, is a clear indicator that it is a voiceless segment. This is unlike nasals in Kimeru that are inherently voiced. The data below illustrates the fact:

[21]

/ka-ana/	—	[ka:na]	a small child
/ke-nio/	—	[kenio]	toothless gum
/ke-mao/	—	[kemao]	a kind of caterpillar
/ka-ɲua/	—	[kaɲua]	mouth

The nasal here is free of the conditioning voiceless consonant. It is evidently, voiced inherently. The phenomenon clearly shows that the nasals in 20 are devoiced. The rule for nasal devoicing can be formulated as:

[22]

$$
\begin{bmatrix} +\text{cons} \\ +\text{nas} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{voice} \end{bmatrix} \Big/ - \begin{bmatrix} -\text{syll} \end{bmatrix} + \begin{bmatrix} +\text{cons} \\ -\text{voice} \end{bmatrix}
$$

111
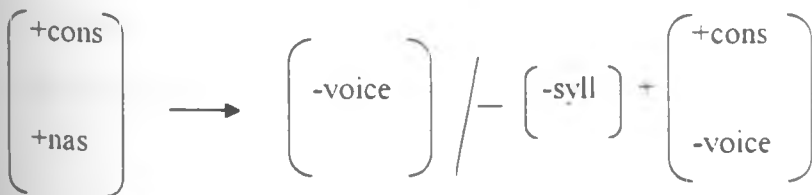
Nasal devoicing is a phonetically motivated process. A nasal consonant usually looses its voice when followed by a voiceless consonant. This a regressive kind of assimilation in which the glottis are set apart in anticipation of the voiceless stem-initial consonant. This phenomenon is attested in other Bantu languages, such a Kitharaka (see Wa Mberia 1993:138-141). Devoiced nasals like other voiceless consonants condition the dissimilation rule that underlie the allomorphy attested in classes 7, 12, 15 and 17.

3.2.5 Identical Consonant Deletion

This is a phonological process, whereby, when two identical prefixes follow each other in a word, the consonant of the first prefix is deleted. According to Mutahi (1977:66) identical consonant deletion is a process of dissimilation in which the consonant of the first prefix (pre-prefix) acts as the conditioning influence. To him, identical consonant deletion is a case of "total or complete dissimilation: the maximum differentiation between the segments". In viewing the first prefix as the "conditioning influence", Mutahi (ibid), sees the phenomenon as the extension of consonant dissimilation and to him, it is the consonant of the second prefix that is deleted so that what is left in place is the preprefix.

We concur with Mutahi that identical consonant deletion is a case of total dissimilation, but we wish to demonstrate that in Kimeru (which is a sister language to Kikuyu), it is the consonant of the pre-prefix (first prefix) that is deleted so that the primary prefix consonant acts as the conditioning environment.

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The process here is reminiscent of the phenomenon highlighted in 2.2.2.1 where we posited the 'duplication hypothesis to account for the nominal prefixes occurring with the adjective stem. It is this duplication that resulted in the identical consonants, usually that of the pre-prefix and that of the primary prefix. We wish to revisit this duplication phenomenon here, because of its probable connection with the class 5 prefix shape where one phonetic variant is realized as a zero {Ø} morph. The phenomenon is also significant in our subsequent discussion on vowel length in the language. Let us therefore consider the process in detail.

Identical consonant deletion occurs when the pre-prefix and the class prefix are attached to the adjective root. Usually the two forms are identical as they are a duplication of the primary prefix. The duplicated prefix form is attached to the adjective stem as the concordial element.

Initially however, it is probable that the two prefixes served distinct functions in the language. The pre-prefix for instance seem to serve 'referential' function while the class (primary) prefix is attached to the adjective stem as the concordial element. Where the obligatory preprefix is preserved, the function of the two prefixes is still distinct.

Thus we have:
[23]

cl. 1	o	-	mo	-	kue	'The short one [+human]'
	reference		class marker (sg)		Adj.stem	

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cl.3	o	-	mo	-	raja	'The tall one [-human]'
	reference		class		Adj.stem	
			marker(sg)			
cl.4	e	-	me	-	raja	'The tall ones [-human]'
	reference		cl.marker(pl)		Adj.stem	
cl.9	e	-	n	-	tunɛ	'The red one'.
	reference		cl.marker(sg)		Adj.stem	
cl.10	i	-	n	-	tunɛ	'The red ones'

Notice, in (23), the first prefix when attached to the adjective does not mark class, but it refer back to the head noun as the subject.

Where the function of the preprefix is assimilated by the class prefix or the concord prefix the functional load of the pre-prefix is reduced to naught so that the preprefix is practically useless as it serves no distinguishing function. To rid the language of this redundancy, the pre-prefix is deleted (optionally) except in classes 1, 3, 4, 9 and 10 where we noted the obligatory occurrence of the residue preprefix.

Identical consonant deletion in Kimeru operates in all the classes. In class 1,3,4,9 and 10 the vowel is retained as the obligatory prefix and the diachronically deleted consonant of the preprefix never surfaces synchronically with the adjective stems. Thus, forms like:

[24]

**cl.1	mo	-	mo	-	kue
**cl.3	mo	-	mo	-	raja
**cl.4	me	-	me	-	raja

are never realized phonetically.

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In all the other classes. the pre-prefix is optionally deleted so that where it is not deleted the realized forms are well formed. In classes 7.12and 15. the consonant is deleted after the application of Ganda Law. Thus the forms in 38 below are attested.

[25]
Cl. 7

/ke-ke-nɛnɛ /   →   [ɣekenɛnɛ]   big one

    →   [ke:nɛnɛ]

cl.12

/ka-ka-rɔaru /   →   [ɣakaroaru]   sick one

    →   [ka:roaru]   sick one

cl.15

/ko-ko-nɔru/   →   [ɣokonɔru]   fat/fertile

    →   [ko:nɔru]   ..

Notice. the consonant of the first prefix is deleted (optionally) when it precedes the class (primary) prefix as the concordial element.

When the identical consonant deletion rule operates in class 5, the following forms are realized:

[26]

/e-tumbe# re-re-ɔru/   →   [etumbe# rereɔru]   a rotten egg

    →   [etumbe# re:ɔ ru]

/Ø-riikɔ# re-re-nɛnɛ/   →   [ri:kɔ# rerenɛnɛ]   a big cooker

    →   [ri:kɔ# re: nɛnɛ]

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/Ø-rietwa #   re-re-jɛro/   →   [rietwa#rerejɛro]   a new name

→   [rietwa# re:jɛro]

In class five, as in other classes, the identical consonant deletion rule deletes the pre-prefix of the adjective form leaving a trace of the deleted segment in the lengthened vowel of the concordial prefix. This rule seem to have analogically extended to the class 5 prefix /re-/ thus deleting the class prefix consonant /r/, when followed by a similar stem-initial consonant. This probably explains the occurrence of a zero-prefix as an allomorph of the class 5 prefix. The stem-initial /r/ is then re-analyzed as the prefix consonant and the earlier prefix consonant /r/ is assumed to be redundant. The class prefix /re/ only surfaces as a concordial morpheme as in data 26 above.

If the present argument is anything to go by, then the process of identical consonant deletion accounts for some of the irregularity in class 5 prefix form. (See more discussion on the class 5 phenomenon in chapter 4).

Evidently, identical consonant deletion is a natural phonological process of a dissimilative nature that maximally differentiates the segment. The motivation for the deletion here is same as that of consonant dissimilation (see 3.2.3). Generally the rule here can be formalized as:

[27]

$$
\begin{bmatrix} +\text{cons} \\ \alpha \text{ voice} \\ \beta \text{ back} \\ \gamma \text{ high} \end{bmatrix} \longrightarrow \emptyset \quad / \underline{\hspace{1cm}} + \begin{bmatrix} +\text{cons} \\ \alpha \text{ voice} \\ \beta \text{ back} \\ \gamma \text{ high} \end{bmatrix} +
$$

116
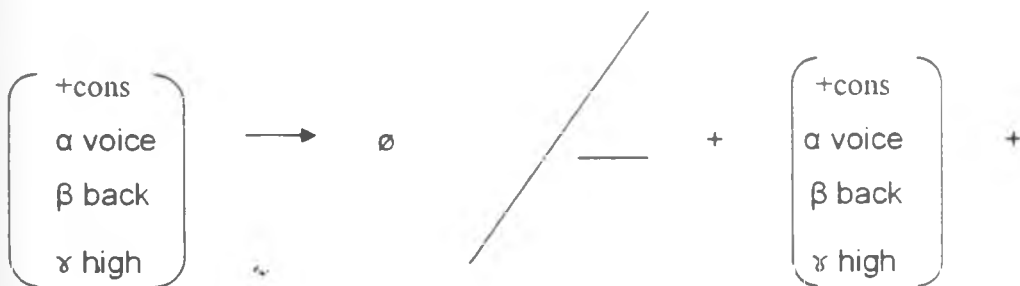
In other words a prefix consonant is deleted when it precedes an identical consonant.

3.2.6   Devocalization

Glide formation (devocalization) is a synchronic phonological process in Kimeru. The glide forming process involves a change in major class features where a vowel usually [+syll] is converted into a [-syll]. The glide forming vowels in the language are /i/, /e/ that derive /y/ on one hand and /u/, /o/ that derive /w/ on the other hand.

The gliding vowels are the prefix vowels while the stem initial vowels condition the process in all prefixes except in class 2, 6, 9, 10, 12 and 16 where the structural descriptions for the operation of the rule are not met.

Gliding process in the language is a complex phenomenon that does not fit a simple generalization. We shall therefore consider each of the four vocalic elements at time in order to grasp how the process takes place. Although the gliding process pervades the whole phonological system, we shall consider the gliding within our scope: the nominal phonology.

The four vowels involved in gliding, that is, /i/, /e/, /o/ and /u/ all occur in the class prefixes and concordial morphemes as shown below:

[28]

Class	Prefix	Concordial morpheme
1	mo	o
3	mo	o
4	me	e
5	e	e

7	ke	ke
8	i	βi
11	ro	ro
13	to	to
14	o	βo
15	ko	ko
17	ko	ko

/i/

The high front vowel /i/ occur in class 8 noun prefix and concordial affix as in (28) above. When /i/ is followed by a root beginning with any other vowel expect itself the vowel glides into [y]. Thus we have forms like:

[29]

/βi – ara /	→	[βyara]	fingers
/βi – ɛrɔ/	→	[βyɛrɔ]	thighs
/βi - uɤa/	→	[βyuɤa]	calabashes

What is worth noting here is that forms in 29 above according to our survey are only attested in the "Lower- Mwimbi" sub-dialect. In the "Upper-Mwimbi" variety, the /β/ is replaced by a voiced palatal fricative /j/. so that forms in 29 are realized as in 30 below.

[30]

/ ji – ara/	→	[jɣara]
/ ji – ɛrɔ /	→	[jyɛrɔ]
/ ji –uɤa/	→	[jyuɤa]

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In both cases however /i/ glides to /y/.

Gliding of /i/ to /y/ is also evidenced when the /i/ of the concordial affix is followed by the stem-initial vowels of the various concordial forms. Thus. when the concordial affix βi or ji is attached to the possessive roots to indicate possession. the following forms are evidenced:

[31]

Possessive stem   **Class 8**

{-akwa}1ˢᵗperson (sg)	-	/ βi – akwa/	→	[βyakwa]	mine

{-akwa}1ˢᵗperson (sg)   -   / βi – akwa/   →   [βyakwa]   mine

{- Ɛto}1st person (pl)   -   / βi – Ɛto/   →   [βyƐto]   ours

{-aku} 2ⁿᵈ person (sg)   -   /βi – aku/   →   [βyaku]   yours

{-Ɛnu}2ⁿᵈ person (P1)   -   / βi – Ɛnu/   →   [βyƐnu]   yours

{-aƐ} 3ʳᵈ person (sg)   -   / βi – aƐ/   →   [βyaƐ]   his hers

{-aɔ} 3ʳᵈ person(P1)   -   / βi – a ɔ/   →   [Byaɔ]   theirs

As in (29) the forms in 31 are only attested in Lower-Mwimbi. In Upper-Mwimbi all the bilabial fricatives /β/ of the concordial affixes are replaced by a /j/. The phenomenon however does not affect the gliding process. In both varieties the process of gliding can be captured by the same generalization. From the examples given. the following information on gliding of /i/ is derived.

[32]

$$/i/ \longrightarrow [y] / \underline{\quad\quad} + \begin{Bmatrix} e \\ Ɛ \\ a \\ ɔ \\ o \\ u \end{Bmatrix}$$

119
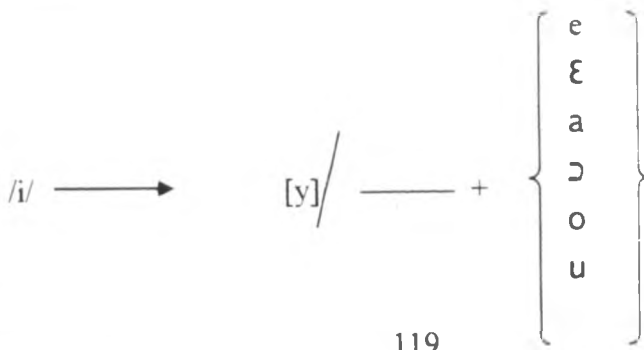
The rule for glide formation can be formalized as:

[33]

$$
\begin{bmatrix} + \text{syll} \\ + \text{high} \\ - \text{back} \end{bmatrix} \longrightarrow [-\text{syll}] / \underline{} \quad [+ \text{syll}]
$$

Rule [33] as stated claims that a high front vowel becomes a /y/ before any stem-initial vowel. This rule however erroneously predicts a situation where the high front vowel glides before another high front vowel.

There is therefore a need to specify the exact conditions under which gliding occurs. The condition here is that the conditioning vowel should not be:

[34]

$$
\begin{bmatrix} + & \text{syll} \\ + & \text{high} \\ - & \text{back} \end{bmatrix}
$$

The information in 33 and 34 can be collapsed using bracket notations. Thus we have:

[35]

$$
\begin{bmatrix} + \text{syll} \\ + \text{high} \\ - \text{back} \end{bmatrix} \longrightarrow [-\text{syll}] / \underline{} + \left\{ \begin{bmatrix} + \text{syll} \\ + \text{back} \end{bmatrix} \\ \begin{bmatrix} + \text{syll} \\ - \text{high} \\ - \text{back} \end{bmatrix} \right\}
$$

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The rule in (35) excludes /i/ which is

$$
\begin{bmatrix}
+ & \text{syl} \\
+ & \text{high} \\
- & \text{back}
\end{bmatrix}
$$

/u/

The high back vowel /u/ is another vowel that glides in Kimeru. The occurrence of /u/ in class prefixes is however limited to one lexical item {Munto}. The gliding of /u/ into /w/ is however attested in nominal roots when the /u/ is followed by any vowel-initial word. Like in the case of /i/, /u/ does not glide when followed by another /u/. Thus we have:

[36]

/ mo – runŋgu # o – mwɛ/	→ [moruŋgwomwɛ]	one God
/ mu – ntu # o – akwa /	→ [mu:ntwakwa]	my person
/mu – ntu # a – ɛto /	→ [muntwɛto]	our person
/n – tuku # e-mwɛ /	→ [ntukwemwɛ]	one day
/mu- ntu # ɔ- ɔndɛ/	→ [muntwɔ:ndɛ]	each person
/m-βuku # i - nɔ	→ [mbukwinɔ	these books

Thus from (36) we can say that.

[37]

$$
/u/ \longrightarrow [w] / \rule{1cm}{0.4pt} \# \begin{Bmatrix} i \\ e \\ \varepsilon \\ a \\ \mathrm{ɔ} \\ o \end{Bmatrix}
$$
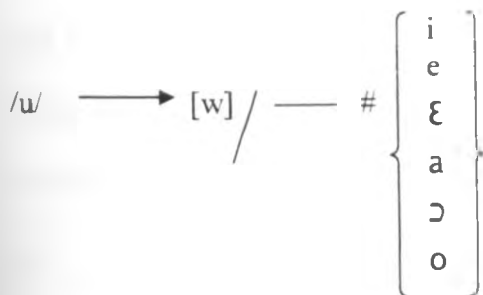
In form of a rule, the information in (37) can be formalized as:

[38]

$$\begin{bmatrix} + \text{syll} \\ + \text{high} \\ + \text{back} \end{bmatrix} \longrightarrow [- \text{syll}] \quad / \underline{\hspace{2cm}} \# \quad [+ \text{syll}]$$
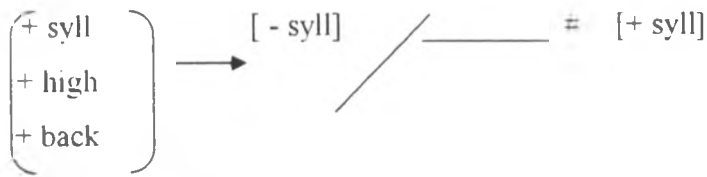
The gliding of /u/ to /w/ does not however occur where the conditioning vowel is:

[39]

$$\begin{bmatrix} + \text{syll} \\ + \text{high} \\ + \text{back} \end{bmatrix}$$
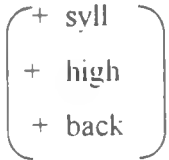
Rule 38 and 39 can also be collapsed as we did in 35 to capture information summarized in 40. Thus we have:

[40]

$$\begin{bmatrix} + \text{syll} \\ + \text{high} \\ + \text{back} \end{bmatrix} \longrightarrow [- \text{syll}] \quad / \underline{\hspace{2cm}} \# \left\{ \begin{bmatrix} +\text{syll} \\ - \text{back} \end{bmatrix} \\ \begin{bmatrix} + \text{syll} \\ - \text{high} \\ + \text{back} \end{bmatrix} \right\}$$
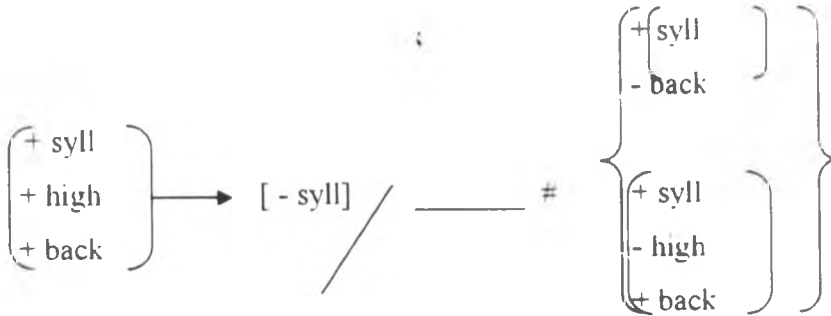
The rule in 40, clearly stipulates that a high back vowel glides into the corresponding glide /w/ when preceded by any word-initial vowel except itself, that is, /u/.

Other vowels that devocalize in Kimeru are /e/ and /o/ of the class prefixes and concordial affixes.

/e/

When the /e/ of the class prefix is followed by any other vowel except /i/ and /e/ the prefix /e/ glides into /y/ as in:

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[41]

cl. 4	/me- ari/	→	[myari]	lines
	/me – ɛra/	→	[myɛra]	hens
cl. 5	/ e-oa/	→	[yoa]	flower
	/ e – ɛndɛ/	→	[yɛndɛ]	charm
cl. 7	/ ke – ama/	→	[kyama]	miracle
	/ke-aa/	→	[kya:]	fool
	/ ke -ɔ ndɔ/	→	[kyɔndɔ]	basket

Thus:

[42]

$$/e/ \longrightarrow [y] / \underline{\hspace{2cm}} \left\{ \begin{array}{c} \varepsilon \\ a \\ o \\ ɔ \\ u \end{array} \right\}$$
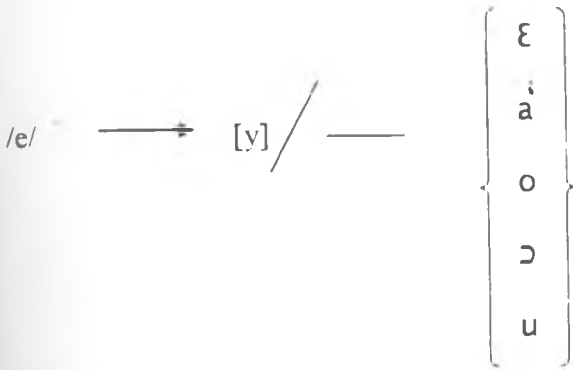
The rule in 42 can be formalised as:

[43]

$$\left(\begin{array}{c} + \text{syll} \\ - \text{high} \\ - \text{back} \\ + \text{tense} \end{array} \right) \longrightarrow [- \text{syll}] \Big/ \underline{\hspace{2cm}} [+ \text{syll}]$$
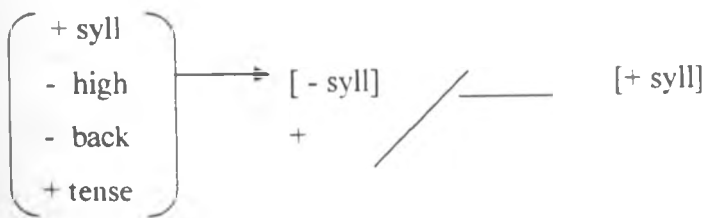
The rule in 43 does not apply where the conditioning vowel is a /i/ or /e/

To capture the conditioning environment. the rule in 43 can be rewritten as:

$$
\begin{bmatrix} + \text{syll} \\ - \text{high} \\ - \text{back} \\ + \text{tense} \end{bmatrix} \longrightarrow [\,-\text{syll}] \; / \underline{\hspace{1.5cm}} + \left\{ \begin{bmatrix} + \text{syll} \\ + \text{back} \end{bmatrix} \begin{bmatrix} + \text{syll} \\ \_\ \text{back} \\ - \text{tense} \end{bmatrix} \right\}
$$

/o/
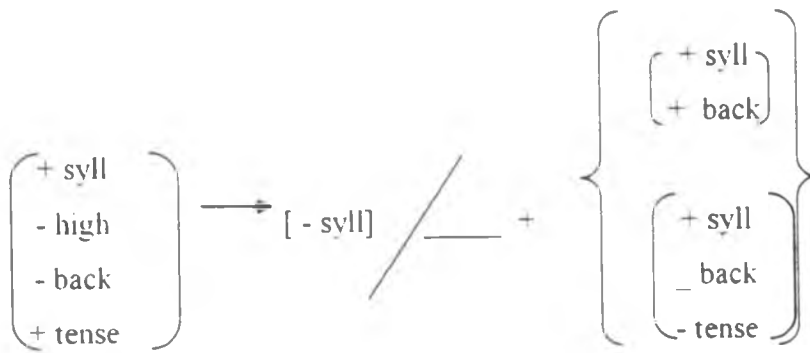
When the mid-high back vowel /o/ is followed by any other vowel except /o/ and

itself, the /o/ glides into /w/ as in:

[45]

cl. 1	/ mo – amba/	→	[mwamba]	thief
	/ mo - ɔnɔkia/	→	[mwɔnɔ̀kia]	saviour
cl. 3	/ mo- erirɔ /	→	[mwerirɔ]	regret
	/ mo – ɛri /	→	[mwɛri]	moon/ mouth
cl. 11	/ ro- aɣe/	→	[rwaɣe]	mosquito
	/ ro - ɛɣɔ /	→	[rweɣɔ]	fence
cl. 14	/ o – eia/	→	[weγia]	sin
	/ o- ɛndɔ /	→	[wɛndo]	love
cl. 15	/ ko –aria/	→	[kwaria]	to talk
	/ ko-ina/	→	[kwina]	to sing
cl. 17	/ ko- aku/	→	[ɣwaku]	yours
	/ ko- aɛ/	→	[kwaɛ]	his/hers

Apparently, in some cases /o/ does not glide even when the structural description

for the gliding process is met. Such cases include:

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[46]

cl. 1	/ mo – indi/	→	**[mwindi]	an Indian
cl. 1	/mo- iki/	→	** [mwiki]	bride
	/mo-andi/	→	** [mwandi]	planter
	/ mo-ira/	→	** [mwira]	witness
cl. 3	/ mo- ɛmbɛ /	→	** [mwembe]	mango tree
	/mo-ende/	→	** [mwende]	bone
cl. 14	/ o- iki/	→	** [wiki]	wedding

What we first suspect is the existence of what Whitley and Muli (1962:10) calls
mutable and immutable vowels in Kikamba. To them.

> … immutable vowels can be said to have historically come from a
> C V syllable or syllable. Due to this fact. the immutable vowels
> block particular phonological processes. thus creating a vowel
> cluster whereas the mutable vowels. which do not result from any
> consonant loss. allow a glide formation which avoids a vowel
> cluster.

Going by Whitley's and Muli's views. we can argue that the phenomenon in 46.
where gliding is blocked is a case of the immutable vowels. This hypothesis is
however weakened by the fact that some of the words in (46) are not native words
in the language and so we cannot talk of a history of CV syllable structure. We are
then tempted to argue that the gliding process is blocked in all borrowed words.
But given that we lack of an in depth knowledge of the etymology of all the words
in which the rule is blocked. we cannot argue with certainty that loanwords are an
impendént.

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The only safe assumption to make here is that the gliding process is blocked by an inaudible voiced pharyngeal glide /ʔ/. Wa Mberia (1993:91) for instance notes that in Kitharaka **/Koa/ 'to give' does not glide because /o/ "is not immediately followed by a vowel as required by the glide formation rule to operate". In this case. the form is not **/koa/ but [Koʔa]. The same form. [Koʔa] occurs in Kimeru. Other such forms that can be contrasted to clearly demonstrate the occurrence of the glide /ʔ/ are:

[47]

a) / n – koa / →   [ŋkwa]   thunder

b) **/n- koa/ →   [ŋkoa]   armpit

In both words there is a sequence of /o/ + /a/. In 47a the /o/ glides into /w/ but in 47(b) no gliding takes place. Going by the example cited in Wa Mberia (ibid) we posit that 47b is not a sequence of vowels but there is an inaudible glide that blocks the gliding process. so that [ŋkoa] is correctly written as [ŋkɔʔa]. Based on this evidence. we thus argue that the gliding in 46 is blocked by this inaudible glide. The presence of the glide breaks the vowel sequence so that the structural descriptions for gliding are not met. This argument is further supported by the fact that in Ki-Muthambi (a variety of Kimeru). the stem-initial positions of the forms corresponding to those in 46. is occupied by a voiced bilabial fricative. Thus in Ki-Muthambi we have:

[48]

cl. 1	/mo-βiki/	→	[moβiki]	bride
	/mo-βandi/	→	[moβandi]	planter
cl. 3	/mo-βende/	→	moβende]	bone
cl. 14	/o-βiki/	→	[oβiki]	wedding

The bilabial fricative attested in Ki-Muthambi must have weakened to an inaudible glide in the Mwimbi and most of other Kimeru varieties. Our suspicion here is confirmed by Heine and MŎhlig (1980:44) who observes that:

> The latter is hardly audible but clearly present. in so far as it prevents two vowels merging according to a morphophonological rule otherwise operative in these dialects.

Clearly then. it is the presence of the pharyngeal glide /ʔ/ and not the immutability of the vowel. that blocks the glide formation process. Forms in 46 are then after all not some exceptions since they do not meet the structural descriptions for the operation of the rule. Glide formation rule is thus a phonetically plausible process that operates irrespective of syllable or word boundaries.

From data 45. therefore we deduce that:

[49]

$$
/o/ \longrightarrow [w] \Big/ \underline{\qquad} + \left\{ \begin{array}{c} i \\ \varepsilon \\ e \\ \mathupsilon \\ \mathopen{\mathopen{}} \\ a \end{array} \right\}
$$
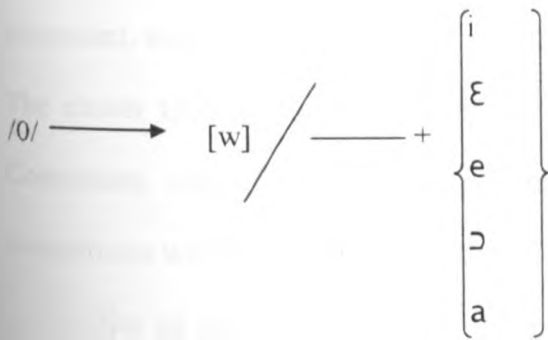
Put in a rule formally. we have:

[50]

$$\begin{pmatrix} + \text{syll} \\ - \text{high} \\ + \text{back} \\ + \text{tense} \end{pmatrix} \rightarrow [\text{- syll}] \Big/ \underline{\hspace{1cm}} + \quad [+ \text{syll}]$$

Rule 50 however does not occur where the conditioning vowels are /o/ and /u/

To include the conditioning environment in rule 50, the rule can be re-written as:
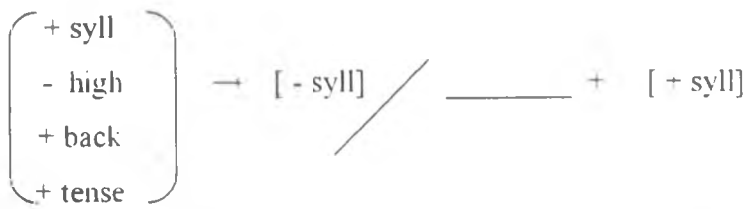
[51]

$$\begin{pmatrix} + \text{syll} \\ - \text{high} \\ + \text{back} \\ + \text{tense} \end{pmatrix} \rightarrow [\text{- syll}] \Big/ \underline{\hspace{1cm}} + \begin{Bmatrix} \begin{pmatrix} + \text{syll} \\ - \text{back} \end{pmatrix} \\ \begin{pmatrix} + \text{syll} \\ + \text{back} \\ - \text{tense} \end{pmatrix} \end{Bmatrix}$$
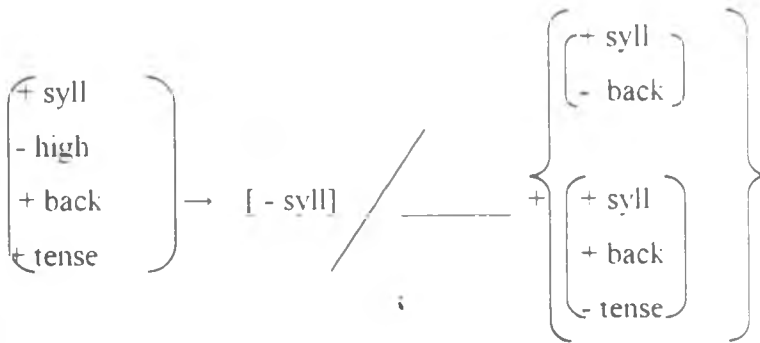
Rule 51, clearly stipulates that a mid-high back vowel /o/ glides into/w/ when followed by a stem-initial vowel excerpt when such a vowel is /o/ or /u/

Clearly, the glide formation rule is motivated by the Syllable Structure Constrain (see Hooper 1976). The gliding process in Kimeru, though a natural process does not yield the optimal syllable structure (CV) but results into a cluster of a consonant, followed by a glide then the vowel, that is CGV.

The cluster CGV is however a tolerable sequence within the Syllable Structure Constraints, although it is not the optimal structure. This phenomenon is in concurrence with Schance (1969: 208-9) who observes that:

> Not all the natural rules for preferred syllable structure necessarily yield the optimal structure with consonant-vowel alternation. For example, if we

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have the sequence: consonant. glide. vowel. that is. the structure CVV is converted into CCV. the latter of course not being of the optimal syllable structure. This shows that if there must be clusters. consonant clusters will be more tolerable than vowel clusters. Hence there is some kind of hierarchy of preferred syllable structure.

Clearly then. devocalization in Kimeru is a natural process of the syllable structure type. It is not only pervasive in the whole phonological system. but is also well attested in Bantu languages.

3.2.7 Height assimilation

Vowel assimilation occurs when clusters of vowels become more alike in articulation. Usually. the feature of the prefix vowel is assimilated by the stem-initial vowel.In Kimeru. vowel assimilation involves the prefix vowel assimilating in height to the corresponding high vowel when immediately followed by a high vowel with the same value for the feature [BACK]. In this case when the class prefix /e/ is followed by a stem-initial /i/. it is phonetically realized as a sequence of two high vowel /ii/ transcribed as a single long vowel [i:]. This is the kind of assimilation that Polome (1967:59) calls "regressive assimilation with only one mora... resulting from the assimilation process ...." According to Polome. a sequence of two 'moras' results in one 'mora' after the assimilation process. so that one 'mora' is lost.

This kind of assimilation in Kimeru involves the nominal prefixes of class 3. 5. 7. 11, 13. 14 and 15. The examples in 52 below illustrate this:

[52]

Cl. 3   /mo-uma/   →   [mu:ma]   oath
         /mo-uru/   →   [mu:ru]   oak

Cl. 5	/re-iðɔ/	→	[ri:ðɔ]	eye
Cl. 7	/ke-imba/	→	[ki:mba]	corpse
Cl. 11	/ro-uɤia/	→	[ru:ɣva]	some kind of fermented drink
Cl. 13	/to-uɤa/	→	[tu:ɤa]	small calabashes
Cl. 14	/o-uru/	→	[u:ru]	freedom
Cl. 15	/ko-una/	→	[ku:na]	abort

In a number of cases. vowel heightening does not take place even where the structural descriptions are met. The below illustrate this:

[53]

Cl. 1	/mo-uɲʄya/	→	** [mu:ɲʄya]	preacher
Cl. 3	/mo-uro/	→	** [mu:ro]	river
Cl. 5	/e-iɤa/	→	** [i:ɤa]	stone
Cl.13	/to:-urɔ/	→	** [tu:rɔ]	small rivers
Cl. 4	/o-uɲʄya/	→	** [u:ɲʄya]	preaching talent

The phenomenon in 53 is clearly remiscent of what we have just observed in 46. The same argument posited in 46 accounts for the data in 53 above. In other words a voiced pharyngeal glide occupies the word initial position so that the conditions for gliding are not met. The Ki-Muthambi data in 54 clearly affirms this possibility.
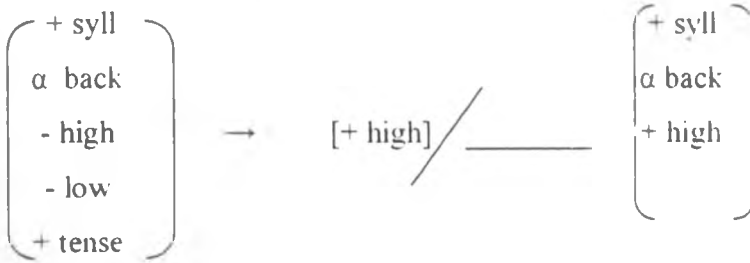
[54]

Cl. 1	/mo-βuɲʄya/	—	[moβuɲʄya]	preacher
Cl. 3	/mo-βurɔ/	—	[muβurɔ]	river
Cl. 5	/e-βiɤa/	—	[eβiɤa]	stone
Cl.13	/to-βurɔ/	—	[toβurɔ]	small rivers

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Cl. 4   /o-βuɲɟya/   —   [oβuɲɟya]   preaching talent

Evidently, vowel heightening is a phonetically motivated process. The rule governing the heightening process can be formulated as:

[55]

$$
\begin{bmatrix} + \text{syll} \\ \alpha \ \text{back} \\ - \text{high} \\ - \text{low} \\ + \text{tense} \end{bmatrix} \longrightarrow [+ \text{high}] \Bigg/ \underline{\hspace{2cm}} \begin{bmatrix} + \text{syll} \\ \alpha \ \text{back} \\ + \text{high} \end{bmatrix}
$$

Like in other assimilatory process. height assimilation is necessitated by the need to create ease of articulation. The mid-high vowels /e/ and /o/ are raised to /i/ and /u/ respectively. In this case the tongue does not move between the two positions in articulating the given segments.

Besides. the loss of one 'mora' in the process of height assimilation yields the desired optimal syllable structure 'CV'.

3.2.8   Identical Vowel Deletion

When the prefix vowel is followed by an identical stem-initial vowel the prefix vowel is deleted to surface as a single long vowel. Evidently. the deleted vowel is absorbed by the succeeding vowel occasioning the lengthening of the remaining vowel. In fact. in Kiswahili. Polome (1967:57) describes such a phenomenon as a case 'total assimilation with loss of one 'mora'. In Kimeru this phenomenon is attested in virtually all prefixes except class 9 and 10 where the prefix vowel has been diachronically deleted. The data below illustrate this:

[56]

Cl. 1	/mo-ondo/	→	[mo:ndo]	enemy
Cl. 2	/a-ana/	→	[a:na]	children
Cl.3	/mo-ore/	→	[mo:re]	valley
Cl. 4	/me-ere/	→	[me:re]	bodies
Cl. 6	/ma-aða/	→	[ma:ða]	twins
Cl. 7	/ke-eɣua/	→	[ke:ɣua]	thorn
Cl. 8	/βi-imba/	→	[βi:mba]	corpses
Cl. 11	/ro-oje/	→	[ro:je]	water
Cl. 12	/ka-ara/	→	[ka:ra]	finger
Cl. 13	/to-onto/	→	[to:nto]	small things
Cl. 14	/o-oɣe/	→	[o:ɣe]	knowledge
Cl. 15	/ko-oma/	→	[ko:ma]	to dry
Cl. 16	/ a – a /	→	[a:]	here

What the data in 56 above shows is, a case where the prefixed vowel is absorbed by the stem-initial vowel so that the prefix vowel is eventually deleted. The trace of the deleted vowel is seen in the lengthened stem-initial vowel.

Writing about vowel deletion, Hooper (1976:239) says that:

> Deleted vowels are phonologically predictable on the basis of universal principles.... Only the identical or minimal vowel may be deleted. This is because deletion of a minimal or identical vowel represents a minimal loss of non redundant features.

The total assimilation in this phenomenon is a prelude to deletion. The rule capturing this process of assimilation and eventual deletion can be formalized as:

[57]

$$\left(\begin{array}{l} + \text{syll} \\ \alpha \ \text{back} \\ \beta \ \text{low} \\ \gamma \ \text{high} \end{array}\right) \rightarrow \emptyset \ / \ \# \ [+ \text{cons}] \underline{\quad\quad} + \left(\begin{array}{l} + \text{syll} \\ \alpha \ \text{back} \\ \beta \ \text{low} \\ \gamma \ \text{high} \end{array}\right)$$
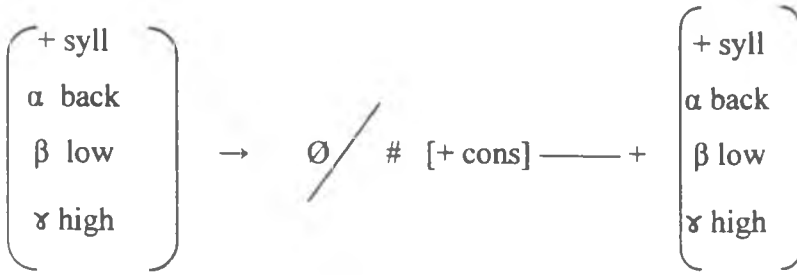
3.2.9   Compensatory Vowel Lengthening

Compensatory lengthening is a case of lag, whereby a segment anticipating deletion causes the lengthening of a neighbouring segment. In Kimeru, compensatory lengthening affects vowels so that the language has seven long vowels corresponding to the seven ordinary vowels.

Length, according to Lass (1984:92) is "a durational feature [±long] segment ... is simply longer in the relative duration than a [-long] one". Vowel length in Kimeru is contrastive as illustrated in the examples below:

[58]

Vowel	Example	Gloss
a	amba	hang/crucify
a:	a:mba	thieves
o	ota	bow
o:	o:ta	be hungry
ɔ	ɔra	be rotten
ɔ:	ɔ:ra	untie

Vowel length is however not phonemic in Kimeru. It is an innovation of the various phonological processes that result in vowel lengthening. The possibility that vowel lengthening is derived is echoed by Chene (1985:1) who notes that,

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> ... there are several ways by which a language may add to an already existing stock of long vowels and correspondingly several ways in which we might expect... a language without length contrast to innovate one.
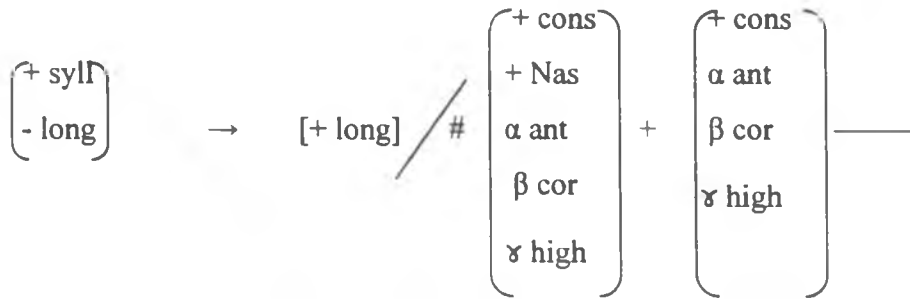
What Chene (ibid) seems to suggest is that contrastive vowel length in languages is usually derived.

In Kimeru, there are several ways in which vowel lengthening arises. As the word compensatory suggests, vowel length arise when some phonological process deletes segments (vowels or consonants) which leave their trace in the lengthened vowels of the following syllable. This compensatory lengthening in Kimeru, occurs after homorganic nasal assimilation. The lengthening here must have been influenced by the class 9/10 prefix *[i] that has deleted diachronically. To compensate the loss of *[i], prenasalised consonants in Kimeru are followed by vowels that sound durationally longer than ordinary vowels. Thus we have vowel lengthening after prenasalised consonant as in:

[59]

/n-βake/	→	[mba:ke]	tobacco
/n-puru/	→	[mpu:ru]	some kind of fruit
/n-ðɛkɔ/	→	[nðɛ:kɔ]	laughter
/ n - jɔka/	→	[ɲɟɔ:ka]	snake
/n- cɔna/	→	[ɲc ɔ:na]	pepper
/n - ɣɔnɔ/	→	[ŋgɔ:nɔ]	stories
/n- ko/	→	[ŋko:]	firewood

The rule for compensatory vowel lengthening can be formulated as:

[60]

$$\begin{bmatrix} + \text{ syll} \\ - \text{ long} \end{bmatrix} \rightarrow [+ \text{ long}] \Bigg/ \# \begin{bmatrix} + \text{ cons} \\ + \text{ Nas} \\ \alpha \text{ ant} \\ \beta \text{ cor} \\ \gamma \text{ high} \end{bmatrix} + \begin{bmatrix} + \text{ cons} \\ \alpha \text{ ant} \\ \beta \text{ cor} \\ \gamma \text{ high} \end{bmatrix} \text{_____}$$

The rule states that a short vowel becomes long when preceded by a homorganic

NC cluster or simply a prenasalised consonant.

Compensatory lengthening in Kimeru also occurs after the process of identical

consonant deletion (See 3.2.5). The examples below illustrate this:

[61]

/ke-ke-nɛnɛ/	→	[ke:nɛnɛ]	big one
/ka-ka-tunɛ/	→	[ɣa:tuɲɛ]	borrowed one
/ko-ko-kue/	→	[ɣo:kue]	short one
/ka-ka-nɔru/	→	[ka:nɔru]	fat one
/ma-ma-ɣundu/	→	[ma:ɣundu]	ripe ones.

What the data 61 above suggests, is that after the identical constant is deleted to

yield maximum differentiation, the vowel which is part of the pre-prefix consonant

as a syllabic unit is absorbed by the vowel of the following syllable to compensate

the loss of pre-prefix. This results in the loss of the whole syllable except for the

trace in the long vowel of the concordial prefix. This phenomenon is attested in the

concordial affixes of the adjective in Kimeru. The rule for compensatory

lengthening here can be formulated as:

[62]

$$\begin{bmatrix} + \text{ syll} \\ - \text{ long} \end{bmatrix} \rightarrow [+ \text{ long}] \Bigg/ \# \emptyset + \text{_____} + \#$$

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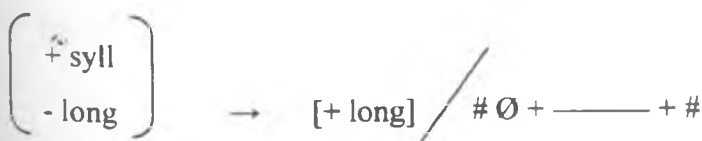
In other words, a concordial prefix vowel is lengthened when the preceding syllable is deleted.

Compensatory lengthening also takes place when a vowel is deleted to get rid of an undesirable vowel sequence. Such vowel sequences arise after diachronic deletion of inter-vocalic consonants. The following vowel sequences yield the lengthened vowels in Kimeru after the various phonological processes have applied.

[63]

    a. Height assimilation: $/e/ + /i/ \rightarrow [i:]$
        cl. 7

    b. Identical vowel deletion : $/a/ + /a/ \rightarrow [a:]$
        cl. 2.16

    c. Vowel fusion: $/a/ + /ɔ/ \rightarrow [ɔ:]$
        cl. 2.6.12.

In all the three instances a $/V_1/ + /V_2/ \rightarrow [V_2:]$. Even in (b) where the vowels are identical the first vowel is deleted leaving the second vowel longer than the two underlying segments.

[64]

a. Height assimilation

/mo-uma/ $\rightarrow$ [mu:ma]   oath

/ke-imba/ $\rightarrow$ [ki:mba]   corpse

b. Identical vowel deletion

/a-ana/ $\rightarrow$ [a:na]   children

/a-a/ $\rightarrow$ [a:]   here

c. Vowel fusion

Vowel fusion occurs when the low vowel /a/ is followed by a lax mid-low vowel /ɛ/ or /ɔ/. A sequence of /a+ɛ/ surfaces as long [ɛ:] on one hand and a sequence of /a+ɔ/ surfaces as a long [ɔ:] on the other hand. The feature [+long] is evidence that a preceding vowel has been deleted.

/a-ɛnɛ/   →   [ɛ:nɛ]   owners

/ka-ɔŋgɔ/   →   kɔ:ŋgɔ]   small head

In all the instances in 64a-c. a vowel is lost to yield a CV syllable structure. To compensate the loss. the following vowel is lengthened. To capture this phenomenon. we can formulate the rule as shown below:

[65]

$$
\begin{bmatrix} + \text{syll} \\ - \text{long} \end{bmatrix} \longrightarrow \begin{bmatrix} + \text{long} \end{bmatrix} \Big/ \# \quad \left\{ \begin{matrix} \text{o} \\ +\text{cons} \end{matrix} \right\} + \underline{\quad\quad}
$$

In view of the foregoing. compensatory lengthening is a phonological process that operates to yield the desired syllable structure. It is also an innovative way in which deleted segments leave traces before disappearing. It is therefore an important indicator of an earlier phonological change so that occurrence of [+length] in a form can be used to trace a change.

3.3   CONCLUSION

Our goal in this Chapter was to demonstrate that synchronic phonological processes are in part responsible for the irregularities in the nominal phonology.

We have in our various discussions. shown how the various phonological processes affect the prefixal elements.

We have seen that most of the phonological processes involve the class prefixes and the nominal stems. Furthermore. we pointed out that most of these processes are not limited to the nominal category but are pervasive in the whole phonological system. Our analysis has however been limited to the nominals which are within out scope.

Apparently, all the phonological processes discussed alter the prefix shapes so that the synchronic prefix series do not correspond to Common Bantu reconstructions. The process of homorganic nasal assimilation for instance yields m. n. ɲ and ŋ as variants of the underlying /N/. the class 9/10 prefix. Dahl's law on the other hand operates on prefixes of class 7. 12. 15. and 17 to yield an alternation of /k/ and /ɣ/at the phonetic level.

Other consonant processes variously alter the nominal as demonstrated in our discussions. Phonological processes involving vowels operate on the prefixes and stems further amplifying the irregularities. The gliding process that devocalize vowels for instance. pervades the whole system yielding CG (consonant and a glide) clusters as the prefix segments. Thus for instance in class 1. 3 and 4 [mw] is attested as the prefix. Other vowel processes modifies the nominals in different ways. rendering the nominal system more inconsistent with the otherwise regular system posited for Common Bantu.

This chapter therefore, clearly demonstrates that the synchronic nominal phonology is by far a product of productive phonological processes that are synchronically attested. The fact that they are all motivated natural processes has been highlighted. These processes have not however adequately accounted for the phenomenon of V. C prefix shapes instead of the optimal CV (as highlighted in the research problem). How diachronic processes partly account for the irregularity in the synchronic nominal phonology. is what remains to be seen in chapter 4.

CHAPTER FOUR

THE DIACHRONIC IMPLICATIONS OF THE KIMERU NOMINAL PHONOLOGY

4.0   INTRODUCTION

Certain phenomena in the synchronic nominal phonology can only be accounted for diachronically. The occurrence of a consonant or a vowel only as the class prefix for instance cannot be explained by the various synchronic phonological processes discussed in chapter three. The synchronic alternation of prefix shape in all classes is predictable on the basis of a comparatively or internally reconstructed C V prefix form (as clearly demonstrated in the correspondences set up in chapter II table II, III and IV).

In view of the above, this chapter attempts to establish the diachronic implications of the Kimeru nominal phonology. We will attempt to specify, reconstruct and order the changes that underlie the correspondence sets, which relate reconstructed series of proto-nominal prefixes with the synchronically attested nominal prefixes.

In our endeavor to reconstruct these changes, we will observe the behavior of the prefixes internally in order to capture any changes underlying the correspondence between the primary prefixes and the secondary prefix series (see a summary of primary and secondary prefixes in chapter II table II).

This will avail to us internal evidence to some of the diachronic changes. Similarly, comparative evidence obtained from the diachronic correspondences will be used to complement the internally available evidence. Besides, the various changes which occur in Bantu languages in general will be used as part of the

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comparative evidence to offer us the general direction of change and confirm our various suspicions.

Our focus is not however limited to the prefix shape. but to the nominal in general. Nevertheless. the prefix form is used for ease of analysis since correspondences are easily set-up using prefix forms. Just as we noted in Chapter 3. the phonological changes affecting the prefix pervades the whole grammar. In this case. where data is available. such pervasive diachronic changes will be illustrated for the nominal phonology.

Our analysis will assume a sequential order so that our discussion will begin from changes affecting class one through to class seventeen progressively. To start with. diachronic correspondences will be set up for individual class prefixes. In instances where some related set of changes appear to be responsible for the correspondences. we will discuss the prefixes in question together. In such cases the proposed sequential order will be overlooked.

4.1   NASAL DELETION

The surface synchronic shape of the primary prefixes with an initial nasal. that is. class 1. 3. 4. 6 . 9 and 10 have undergone no change diachronically. They are identical to the reconstructed shape (ignoring the quality of the prefix vowel).

The data below illustrates this:

[1]

Class	Primary prefix	P. B
1	mo	*mu
3	mo	*mu

4	me	*mi
6	ma	*ma
9	n-	*ni
10	n-	*ni

Data 1, seems to suggest that the nasals with the primary set of prefix are quite stable with no evidenced deletion. We however noted (in chapter 2) that the class 9 and 10 prefix {N} alternates with a zero morph prefix at the surface level. Given this fact, we need to consider whether the null prefixes both at the underlying and the surface levels are as a result of diachronic deletions. Some of the words exhibiting the null prefix include:

[2]

/Ø – carani/	→	[carani]	sewing machine
/ Ø - ðaβuni/	→	[ða βuni]	soap
/ Ø – ðimo/	→	[ðimo]	phone
/ Ø – taa/	→	[ta:]	lamp

Our first suspicion on looking at the data in 2 is that the zero morph is occasioned with the words of foreign origin that have been absorbed in class 9/10 via concord awaiting full nativization. This kind of phenomenon is widely attested in Bantu languages. Giving the example of a Lonkundo language, Welmers (1973: 181- 2) notes:

> … there are … a number of adopted words in 9 and 10 …which actually have no prefix …. But in indigenous words the initial nasal is obvious. … In Bantu in general, foreign words are commonly taken into class 9 and 10.

A similar phenomenon in attested in Kitharaka (see Mberia 1993) where most loan words are absorbed in class 9 and 10.

While it is true that most foreign words absorbed in class 9 and 10 lack an overt prefix, there are a number of native words that lack the expected class 9 and 10 prefix {N}. A number of these words are kinship terms and other vocabularies of common usage, so that the probability that these words are loans is quite remote. Data 41 in section 2.3.2 illustrate this phenomenon. For illustration here we will reproduce part of the data in 41 as 3 below:

[3]

/Ø – t ɔ rɔ/	→ [rɔ:tɔ]	sleep
/Ø – t ɔɔ ɤɔ/	→ [kɔ:tɔ]	smoke
/Ø – taaða /	→ [ta:ða]	contents of a goat's intestines
/Ø – tɛrɛrɛ /	→ [tɛrɛrɛ]	kind of traditional vegetable

If we take that the words in 3 are native words, then we hypothesize that the class prefix {N} has been diachronically deleted. The motivation for the deletion here seems quite obvious. The homorganic nasal succeeded by a voiceless consonant /t/ or /c/ becomes devoiced, so that the nasal is eventually deleted. This is in agreement with Meinhof (1932:38) who notes that, "In many Bantu languages the nasal is dropped off before voiceless sounds".

The generalization based on data 3 is however misleading as it predicts the deletion of a nasal before any voiceless consonant which is not the case. The rule

is not productive in the language. Besides, further data suggests that the nasal is deleted even before voiced consonants as in:

[4]

/ Ø-ðiina	→	[ði:na]	poverty
/ø-ðiɣiri/	→	[ðiɣiri]	placenta
/ø-βɔɔra/	→	[βɔ:ra]	pus from infected ear (s)
/ø-ɣina/	→	[ɣina]	mother

The deletions attested in data 4 do not seem phonetically motivated. It is not disputable however that the words are native words in the language. The word for mother in Kimeru is [ɣina] meaning someone's mother. In Kitharaka, the word someone's mother is [ŋina] phonetically, after the deletion of the stem initial /ɣ/ through Ganda law. The /ɣ/ in Kitharaka is evidenced as in [Kaɣina] (See Wa Mberia 1993:95). The fact that Kimeru does not have the initial nasal [ŋ] attested in Kitharaka suggests that the nasal in Kimeru has been lost diachronically.

The nasal before the voiced consonants must have been deleted on analogy with the deletion of the devoiced nasals. This rule must have lost the motivation or was blocked by some other mechanisms of change so that the deletion of the nasal did not spread to all the words in that paradigm.

The process of Nasal deletion also affects the secondary prefix series. This affects concordial prefixes of class 1, 3, 4, 9 and 10. To grasp the phenomenon here, let us refer to our earlier discussions in chapter 2. We pointed out that diachronically,

both the primary and the secondary set of prefixes have the same derivation: with the secondary prefix being a 'copy' of the primary prefix found inherently in the head-noun. Based on the correspondences between the primary and secondary prefix series established in 2.2.3, the following is the proportional relationship of the proto-secondary and proto-primary prefix series for the nasal commencing classes.

[5]

Class	P. B Primary prefix	P. B. Secondary prefix
1	* mu	*mu
3	*mu	*mu
4	*mi	*mi
6	*ma	*ma
9	*ni	*ni
10	*ni	*ni

Given the fact that the secondary prefix is a reflection of the primary prefix, it is no wonder that the two series are diachronically identical. The synchronic manifestation of the secondary series however, falls short of this expectation. Thus, synchronically the proportional relationship between the primary and the secondary series via–a–vis the reconstructed form is as illustrated below:

[6]

Class	P.B	Primary	Secondary
1	*mu	mo	o
3	*mu	mo	o
4	*mi	me	e

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6	*ma	ma	ma (ja)
9	*ni	n	e
10	*ni	n	i (ji)

From data 6 above. class 6 prefix {ma} is evidently the most stable nasal prefix being retained intact in both the primary and secondary prefix forms.

This stability is however limited to the dialect of study (i.e. Mwimbi) and several other Kimeru dialects. but it is not a generalization of the whole language continuum. In the standard Imenti dialect for instance. the class 6 nasal has not only been deleted but has been replaced by an innovative /j/ in all the concordial forms. The demonstrative form in Ki-Mwimbi for instance is |mama| while in Ki-Imenti it is [jaja] meaning 'these'. Thùs. the class 6 prefix for some of the Kimeru dialects is [ja] and not the *P.B {ma}. In this case even the seemingly stable class 6 prefix {ma} is undergoing a change that has not be completed. The secondary prefix series in data 6 can therefore be derived from both the proto and the synchronic primary prefixes by a nasal deletion rule. To capture this change. the following rule can be formulated:

[7]

$$\begin{bmatrix} +\text{Cons} \\ +\text{Nas} \end{bmatrix} > \emptyset \,/\, \# \underline{\quad} \begin{bmatrix} +\text{syll} \end{bmatrix} +$$

Rule 7 operated on the primary prefixes *[mu, mu, mi, ni, ni] to yield the synchronic [o, e, e, e, and i] of classes 1, 3, 4, 9 and 10 respectively. (We have ignored the quality of the prefix vowels here).

The motivation for the nasal deletion here is not very clear. It is however probable that these deletions rest on the feature identity of both the prefix elements (consonant and the vowel) as proposed by Heinnesbusch (1974: 94) who points out that:

> Where there is... agreement in the elements of the Bantu prefix system the tendency for one of these elements to delete or be observed by the other is greater than when there is no agreement .... If two segments agree feature-wise in respect to certain major features it. is often the case that one of the redundant segments will be assimilated and undergo reduction.

The nasal element in Kimeru does not assimilate to the vocalic element prior to its deletion. It is however evidently deleted leaving the vocalic element as the concordial affix. This could be because the /m/ and /u/ of class 1, and 3 prefixes share the cover feature [+ liability] as proposed by Heinnebusch (for Kiswahili). Since the /u/ of class 1 and 3 is [+ labiality], /mu/ is deleted being interpreted as a redundant segment. The deietion of other nasals of class 4, 9 and 10 must have been as a result of analogical leveling since {e}Cl. 4 and {i}Cl. 9 and 10 are [- labiality]. The phenomenon of class 6 in Ki-Imenti is based on pure innovation as the change from /m/ > /j/ has no phonological justification.

4.2   β – LOSS

The loss of the voiced bilabial fricative /β/ in non- nasal environments is evidenced in classes 2, 8 and 14.

The class 2 synchronic prefixal shape /a-/ derive from P.B */βa-/. The class 8 synchronic prefix shape on the other hand derives from the P.B form */βi-/ while class 14 /o-/ derive from the P.B*/βu-/. Based on this information. the following diachronic correspondence can be drawn:

[8]

Class	P.B	Synchronic prefix
2	βa	a
8	βi	βi/i/ji
14	βu	o

Data 8. clearly shows that the /β/ has been deleted as a prefix consonant except in class 8 where the /β/ is attested residually.

Available internal evidence further supports this deletion hypothesis. The /β/ of the secondary prefix series has resisted this historical deletion. Using the demonstrative forms. this fact can be demonstrated. Remember in chapter 2. we claimed the historical duplication of primary class prefixes in order to form demonstratives. In this case. the primary prefix is not just reflected on the various noun modifiers as the concordial morpheme but it is even duplicated. The synchronic correspondence in the data below illustrates this fact.

[9]

Class	Primary prefix	Demonstrative	Gloss
2	a	βaβa	these
8	βi/i/ji	βiβi/ino	these

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The gradation of changes affecting individual classes needs some attention here. In class 2, the /β/ of the primary prefix is completely deleted and it only surfaces in concordial morphemes as in:

[10]

/a-ana # βa-βa #βa-kwa/   →   [aːna # βaβa# βakwa]   These children of mine

Class 8

Class 8 had the P.B */βi/ as its prefix. The process of β-loss applied variously in the members of this class. The bilabial fricative /β/ was lost before all consonant initial stems so that only /i/ remained as the class prefix element as attested synchronically. The data below illustrates this:

[11]

*/βi – KɔmbƐ/	>	[iKɔ mbɛ]	cups
*/βi – turɔ/	>	[i turɔ]	shoulders
*/ βi – tore /	>	[itore]	holes
*/βi - ɤuɲɔ /	>	[iɤuɲɔ]	caterpillars

Based on data [11] we can posit a diachronic rule where /β/ is deleted before a consonant- initial stem. Informally, the rule can be stated as:

[12]

$$*/β/ > \emptyset / \underline{\hspace{2cm}} \text{C-initial stem}$$

Before vowel-initial stems. the rule applied differently. In lower-Mwimbi the /β/ is retained before Vowel-initial stems as in:

[13]

*/βi-ara/	>	[βy-ara]	fingers
* /β i-ɔra/	>	[βyɔra]	frogs
*/βi-uɣa	>	[βyuɣa]	calabashes
*βi-uɣɔ/	>	[βyuɣɔ]	words

In Upper-Mwimbi a competing rule seem to have changed all the /β/s before vowel – initial stems into /j/. In this case data [13] above is evidenced as below in Upper-Mwimbi.

[14]

*/βi-ara/	>	[jyara]	fingers
* /β i-ɔra/	>	[jyɔra]	frogs
*/βi-uɣa	>	[jyuɣa]	calabashes
*βi-uɣɔ/	>	[jyuɣɔ]	words

Informally we can formulate a rule like:

[15]

$$/β/ \quad > \quad [j] / \underline{\qquad} \quad \text{V-initial stem}$$
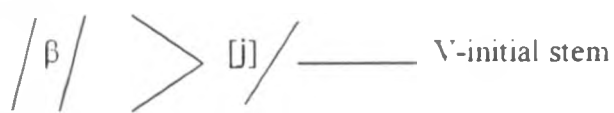
What the data in 11,13, 14, suggest is that. the process of /β/ loss did not apply uniformly in class 8. The process of β-loss was interrupted by another competing

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change resulting in the irregularities evidenced in class 8. In writing about such competing changes Wang (1978: 236) observes that:

> Phonological change may be implemented in a manner that is phonetically abrupt but lexically gradual. As the change diffuses across the lexicon it may not reach all the morphemes to which it is applicable. If there is another change competing for part of the lexicon, residue may result.

In line with Wang, we can argue that /β/ loss did not diffuse through all the /β/ as phonetically predicted. The process applied regularly only on C-initial stems but was halted on meeting a competing change. The rule changing /β/ > /j/ must have operated before all the rule of /β/ - loss deleted all the /β/s. In this case, the /β/ deletion was halted altogether in Lower- Mwimbi while in Upper-Mwimbi the new rule operated changing all the /β/s to /j/s before V-initial stems.

The effects of these competing changes are more persuasive in the class 8 concordial system. In forming demonstratives, class 8 prefix *βi was reduplicated into */βiβi/. After the operation of the two competing changes, class 8 demonstrative developed a number of surface forms. The lower Mwimbi sub-dialect retained the reduplicated form */βiβi/ as the demonstrative with all class 8 nouns. The innovative rule operated to yield [ji] as the class 8 prefix in Upper-Mwimbi, and [eno] as the demonstrative instead of the diachronic * /βiβi/. Other concordial morphemes were affected variously. The possessive prefix became

[ji-] < * /βi/, as in:

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[16]

/ βi -kɔmbɛ #βi-akwa /   >   [ikɔmbɛ # jɣakwa]   my cups

/βi-ara # βi-akwa /   >   [jiara # jɣakwa]   my fingers

The prefix on the adjective became /i/ as in:

[17]

*/βi-ara # βi-nɛnɛ/   >   [jɣara # inɛnɛ]   big fingers / toes

*/βi – kɔmbɛ # βi-tunɛ/   >   [ikɔmbɛ # itunɛ]   red cups

*/βi-uɣa # βi- kuo   >   [jɣura # ikuo]   broken calabashes

*/βi-ana # βi-βi-ɛɣa/   >   [jɣana# ijɣɛɣa]   good (robust) children

The innovative /j/ introduced in class 8 is attested in demonstratives of most

classes. This is the /j/ noted in class 6 prefix of the Imenti dialect in section 4.1.

This /j/ surfaces in the demonstrative paradigm as follows:

[18]

Class	Mwimbi	Imenti
Cl. 1	ojo / oo	ojo
Cl. 3	ojo /oo	ojo
Cl. 4	enɔ	eje
Cl. 6	mama	jaja
Cl. 8	inɔ	iji

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Cl 9	enɔ	eje
Cl 14	βoβo/ojo/oo	ojo
Cl. 16	aa	aja

Examples in 18 are obtained from both Mwimbi and Imenti dialects of Kimeru to demonstrate the motivation for this kind of innovative change.

Data (18) clearly illustrates a phenomenon where the innovative /j/ is not restricted to the class 8 nouns but is pervasive in almost the whole demonstrative paradigm. Mutahi (1977:59) see this kind of change as one that is motivated by the need to reduce allomorphy within a given paradigm.

The Kimeru class 8 phenomenon in which * /β/ > /j/parallels the phenomenon in *"The Dialects of Southern Mt. Kenya"* where * β > ts or š (see Mutahi ibid). Mutahi, commenting about the phenomenon rightly notes that "the force of paradigmatic regularity motivates this rule. It is not a regular sound change that one finds in many languages" (Mutahi 1977:60-1)

It is this kind of change (described by Mutahi) that blocked the process of /β/ deletion in class 8.

Class 14

The synchronic class 14 prefix /o/ is derived from the P. B prefix * /βo/. The /β/ deletion rule applied yielding the synchronic /o/. Thus:

[19]

* βo > o.

The above change shows the loss of the voiced bilabial fricative. In forming demonstratives, the prefix * /βo/ was reduplicated to * βoβo 'these'. The normal rule of /β/ deletion applied yielding a sequence of {o-o} as the demonstrative. At the same time the 'crazy rule' seem to have applied the same time yielding [ojo] as the demonstrative. Synchronically, the two form [o:] and [ojo] alternate in Lower-Mwimbi as demonstratives. In Upper-Mwimbi where /j/ replaced /β/ in class eight, the /j/ has undergone deletion intevocallically. In this case the phenomenon can be summarized as:

Cl. 14. *β > βoβo   > ojo > oo

The change in * /β/ > /j/ in cl.14 has the same motivation as in cl. 8 phenomenon. The loss of */β/ diachronically is not idiosyncratic to the prefix series alone; it is a phenomenon that is well attested in the grammar. Data 20 below gives some reconstructed forms of the proto language and the corresponding synchronic forms in Kimeru.
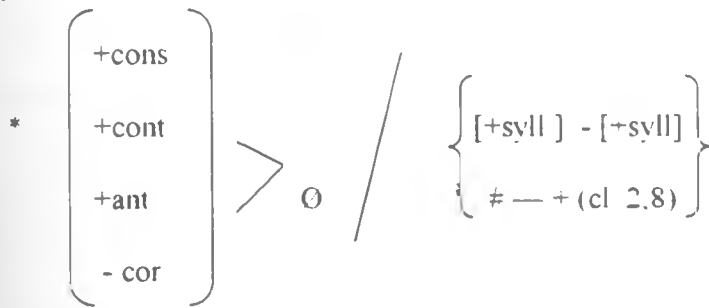
[20]

P. B Reconstruction (Guthrie 1970/71)	Ki-Mwimbi	Gloss
*βola	-ɔra	rot
*βona	-ɔna	see
*βula	mbura	rain

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*ßumba	-omba	mould/form
*-gußu	ŋguo	hippopotamus
* -ßoli	mbori	goat

The synchronic Kimeru forms in (20) are derived from the P.B forms by the /ß/ - deletion rule that deletes all the /ß/ except where the /ß/ is preceded by a Nasal.

Based on data (20), we can generally state that a bilabial fricative is diachronically deleted in the initial and intervocalic positions.

[21]

$$* \begin{bmatrix} +\text{cons} \\ +\text{cont} \\ +\text{ant} \\ -\text{cor} \end{bmatrix} > \emptyset \; / \; \begin{Bmatrix} [+\text{syll}] - [+\text{syll}] \\ \neq \underline{\quad} + (\text{cl } 2.8) \end{Bmatrix}$$

Rule 21 stipulates that /ß/ is deleted intervocalically and at the prefix position in class 2 and 8. What this suggests is that the /ß/ - deletion rule was a phonetically motivated rule that applied regularly. Hyman (1975:165) says that "a consonant is subject to...weakening processes relative to its position within syllables or words". He further cites intervocalic weakening as a natural process that consonants undergo. He thus posits that. "as the form progresses from left to right. the intervocalic sonorant becomes more and more weaker until it finally drops out".
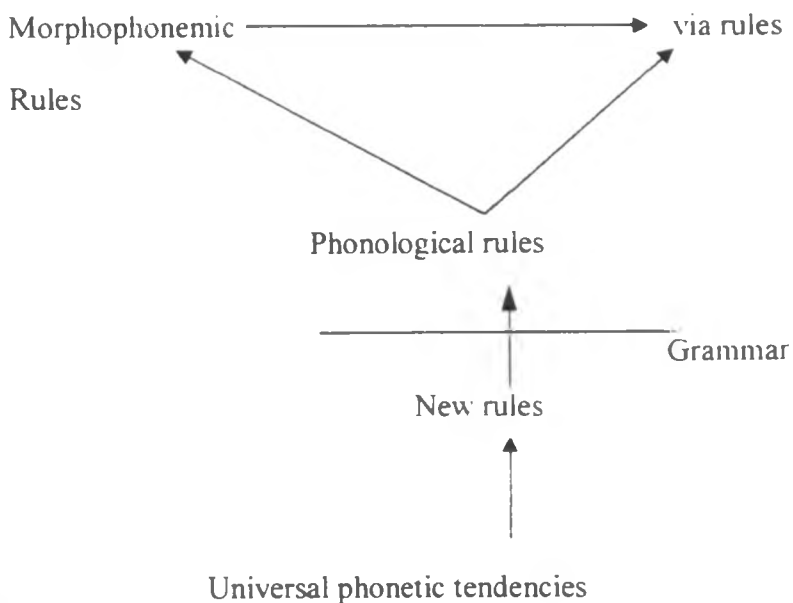
The ß-loss started as a phonetically motivated rule but was in the process denaturalized to become a morphophonemic rule. This explains the various prefix

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alternations evidenced in class 8. The [i] only occur as a prefix before consonant-initial stems while [βi] in Lower-Mwimbi occurs before vowel-initial stems. The [βi] in Upper-Mwimbi as already noted has been replaced by [ji]. Nonetheless. it is clear that the occurrence of [β] in class 8 is morphologically conditioned so that /β alternates with / i/ as class 8 marker.

This kind of morphologization according to Hyman (1975:173) is one of the mechanisms by which rules tend to become denaturalized. In other words. the phonetically plausible rule is modified and reinterpreted as a morphological rule. This phenomenon is however not arbitrary. but has its own non-phonetic motivation. The motivation for morphologization is aptly explained by Hopper (1976). She observes:

> After a phonetic alternation appears in the language. the tendency is for this alternation to work its way up towards the meaning end of grammar moving from a purely phonetic function to a semantic function. Schematically

Morphophonemic ──────────────────► via rules
Rules

Phonological rules

Grammar

New rules

Universal phonetic tendencies

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.... The reason for this seems to be a desire on the part of the speaker to interpret alternations as meaningful where possible (1976: 86)

It is thus probably due to this semantic function that alternations were created in class 8 paradigm in Kimeru. This explains the phenomenon in other classes where alternations are attested. for instance in class 5 and 9/10.

4.3   p-LENITION

The process of β-loss and that of p-lenition are somehow intertwined. We will therefore overlook the sequential order proposed earlier and consider the changes affecting class 16 { pa} here.

The synchronic class 16 prefix [a] derive from the proto-Bantu *{pa}. Class 16 /p/ like /β/ weakened diachronically until the /p/ finally dropped out in the primary prefix to yield the synchronic class 16 [a]. The /p/ of the prefix also dropped out in all concordial morphemes. Thus synchronically we have forms like:

[22]

[antu # a: # ne # ɛɣa#]   This place is good.

[antu# au# aɔ# te # ɛɣa#]   That place of theirs is not good.

Data 22 is diachronically derived from historical forms that possibly looked like 23 below:

[23]

*/pantu #.papa # ne # pa # ɛɣa/   >   [antu# a¨#ne#ɛɣa]

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*/ pantu # pau # paɔ # te # pa # ɛɣa/   >   [antu‡ au‡ aɔ #te‡ ɛɣa]

The starred forms in 23 are reminiscent of forms in standard Kiswahili as in 24 below:

[24]

/ pa-hali # ha-pa # ni # pa-zuri /

/ pa-hali # ha-po # pa-o # si # pa - zuri /

Clearly, a /p/ surfaces as the class 16 prefix marker / pa-/ as in [pahali]. The same /p/ is clearly evident in western Bantu languages where the prefix series have undergone minimal changes. The class 16 prefix in western Kenya Bantu languages is /pa/ (see Heinnebusch 1974:13)

Unlike in Kiswahili and the Western Kenya Bantu languages, Kimeru prefixal forms do not have any surface / p/ s that can be posited as underlying forms. Since we noted that, changes occurring on prefixal forms are general changes that pervade the lexicon, it is probable that p-lenition has remnantial occurrence in the lexicon.

Like in / β/ loss, p- lenition evidently deleted all / p/s word initially and intevocalically except in nasal environments. Remnantial /p/ s attested in nasal environments includes:

[25]

/N-piɣɔ/	→	[mpiɣɔ]	kidney
*/N- piti/	→	[mbiti]	hyena
/N-pɛni/	→	[mpɛni]	lightening
/N-pukɔ/	→	[mpukɔ]	mole

In data 25, some */p/s weakens to /b/ as in the word [mbiti]. Here the /p/ is weakened to /b/ thus merging with / β / in nasal environments as in [mbura] and [mbori] in data 20.

In Ki-Chuka (a dialect of Kimeru) all the /p/s have weakened to /β/ or /b/. The weakened /p/ is even attested in the class 16 prefix and concordial morphemes. The word 'here' in Ki-Chuka for instance is [βaβa] as in the expression below:

[26]

    [nco # βaβa]   come here

    [βantu # βau]   that place

The above data clearly demonstrates that the change from /p/ was gradual passing through various weakening stages. The following gradations of change are suggested for p-lenition process in Kimeru.

[27]

    *P > p/m-
    *p>b/m-
    *p>β/ v-v
    *p>Ø/# #

Mutahi (1977:107) rightly observes that the first change was probably the voicing of /p/ into /b/ then the change of a stop to a fricative i.e. p > b > /β/.

The / β / deletion rule might have applied earlier than the p-lenition rule deleting all /β /s so that the synchronic /β/s are reflexes of the proto-Bantu /p/ except in nasal environments where the two processes merged. Most /p/s in Kimeru weakened to ø. It is this complete loss of /p/ that is responsible for the class 16 phenomenon. Complete loss of /p/ is not limited to the prefix series: it is widespread in the lexicon. The data below illustrates this:

[28]

P.B		Kimeru		Gloss
*papa	>	[a:] Cl. 16		here
* - tapik -	>	[taeka]	;	vomit
* - pak -	>	[-aka-]		build
* - pand -	>	[anda]		plant

The Kimeru /p/ - lenition progressed in the following order:

[29]

*/p/ > */b/ > */ β/ > Ø.

Evidently, /p/ is the weakest stop in Kimeru contrary to Foley's consonant strength scale (Foley 1977:8-9). The consonant strength hierarchy is arranged from left to right so that the bilabials are arguably the strongest. Such strong segments are according to Foley (ibid) resistant to weakening processes.

Given the fact that /t/ and /k/ do not weaken suggest that they are stronger than /p/ in Kimeru. The concept of universal strength hierarchies is not supported by the Kimeru data, both in /p/ - lenition and / β/ - loss. Such consonant strength hierarchies are not universal phonological properties of languages but are language and environment specific as suggested by Katamba (1980:36) and Hyman (1975:168).

4.4 DIACHRONIC LOSS OF /j/ AND /ɣ/ STEM-INITIALLY

The typical syllable structure in Bantu languages is a CV structure. This in line with Meinhof's observations:

> Every syllable in Bantu consists of a consonant followed by a vowel. It is improbable that the initial vowels occurred originality. The original initial consonant may have so completely disappeared.... that it is now impossible to discover what its nature was (1932: 33).

This clearly suggests that the stem with initial vowels in Kimeru and other Bantu languages are as a result of some diachronic deletion of the stem-initial consonants. Other than /p/ and /β/ that we have already noted to have weakened and deleted (not completely) diachronically, some /ɣ/s and /j/s also seem to have been lost historically. Data from Kimeru below show instances where vowel initial stems alternate with consonant-initial stems.

The data in [30] below illustrate the possibility of /j/ deletion. (~ used below means 'alternates with').

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[30]

a) /o-mo-jero/ ⌣ /ɲ-ʄɛro/ ⌣ /o-ɛro/ → [wɛro]

   cl. 3   cl. 9   cl. 14

   (adj) – 'new'   'man's name'   'light'

b) /o-mo-jiro/ ⌣ /ɲ-ʄiro/ ⌣ /o-iro/ → [wiro]

cl. 3   cl. 9   cl.14

(adj) – 'black'   'man's names   cl. 14

                                  'blackness'

c) /mo-ʊ/ ⌣ /mo-ju/ ⌣ 'ashes'

cl. 3   cl. 3

'ki-Mwimbi'   'ki-Imenti'

The above data (30) clearly show that /j/ does not surface in class 14 forms. The

alternating consonant-initial stem is however attested in class 9 names and the

class 3 adjectives. The class 3 noun [mou] 'ash' in Ki-Mwimbi alternate with

[moju] in Ki-Imenti. This clearly suggests that /j/ has diachronically deleted in

some stem-initial positions. The reconstructed C.B forms below confirms our

suspicions.

[31]

C.B	Kimeru		
*-j á dá	/ke-ara/ →	[kyara]	finger
*jimbo	/ro-embɔ/ →	[rwembo]	song
*jèdù	/o-ɛro/ →	[wɛro]	light(from C.B. white)
*j ídù	/o-iro/ →	[wiro]	'blackness' (C.B. black)

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The incomplete diachronic loss of /j/ is certainly responsible for the two surface

alternant demonstratives in class 1. 3 and 14. That is:

[32]

cl. 1   ojo / oo

cl. 3   ojo / oo

cl. 14   ojo / oo

The innovative /j/ in the demonstrative paradigm has been lost completely in

Upper- Mwimbi so that only [o:] is attested as a demonstrative in class 1. 3 and 14.

In Lower-Mwimbi /j/ alternate with /Ø/ as the demonstrative in cl. 1. 3 and 14

(See 2.2.2.2). The rule for /j/ deletion can be informally formulated as:

[33]

* /j/ >   ∅ / #   + _____

ɣ-deletion.

/ɣ/ is also gradually undergoing deletion in the language. /ɣ/ alternate with Ø'

allophonically in some forms as shown below:

[34]

mo - ɣonda   ∼   mo-anda

mo-ɣɛkoro   ∼   mo-ɛkoro [mwɛkoro]

e-ɣɛɣɔ   ∼   e-ɛɣɔ

This phenomenon is not so prevalent in Mwimbi though. In Tigania and Igembe

dialects of Kimeru. the /ɣ/ has been deleted in almost all environments. To the

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speakers of these two dialects. their respective tribal names are /tiania/ and /eɛmbɛ/; with the /ɤ/ clearly deleted.

The rule for /ɣ/ deletion can (informally) be formulated as:

[35]

$$* \; /ɣ/ \; > \; 0 \; / \; \# \qquad + \; \underline{\hspace{2cm}}$$

All the deletions. that is. / n /. /β/. /j/ and /ɣ/ are not complete. In Kimeru they are evidently on-going diachronic processes.

Apparently. these kind of deletions juxtapose the stem-initial vowel to the prefix vowels. triggering various synchronic morphophonemic processes: especially the vowel processes.

4.5   d- SONORIZATION AND CLASS 5 PREFIX REDUCTION

Class 5 and 11 prefixes have a correspondence relationship and have the same historical derivation. Guthrie posits C.B. * {di} for class 5 prefix and * {du} for class 11 prefix. while Meinhof reconstructs P.B. * /li-/ cl. 5 and * /lu/ class 11. In Kimeru. the corresponding class 5 prefix alternants are /e/. /Ø/ and /re/. while class 11 prefix is /ro/.

Given that the primary prefix and secondary prefix series are identical we can draw the following proportional relationship between the proto-secondary and proto-primary series for class 5 and 11.

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[36]

Class	Primary	Secondary
5	e.Ø.re	re
11	ro	ro

Based on the internal evidence availed in (36), we are easily tempted to conclude that the class 5 prefix is /re/ while class 11 is ro. In this case, we can argue that cl. 5 prefix variants derive from an underlying /re/ in the language.

Kimeru is not however an isolated language but has developed (though not directly) from an ancestor language whose proto-forms have been reconstructed. If we try to relate the synchronic Kimeru prefixes to the proto-forms; the following correspondence is obtained:

[37]

Class	Meinhof	Guthrie	Kimeru
5	li	Di	e. Ø.re
11	lu	du	ro.

If we posit Meinhof's proto-forms as the historical forms from which synchronic Kimeru Cl. 5 and 11 prefixes derive, our task is to explain the process by which /l/ changes to /r/. Our first suspicion is that there must have been a delateralization rule that operated in the language changing all /l/s into /r/s, thus yielding a diachronic rule like:

[38]

$$* \begin{bmatrix} +cons \\ +lat \end{bmatrix} > \begin{bmatrix} -lat \end{bmatrix} \Big/ \# \underline{\quad} +$$

Cl. 5 & 11 prefix

This kind of rule seem to be partly supported by some cases from coastal languages where the synchronic /r/ is traced from the proto-Bantu */l/ before high vowels (see Heinnebusch et al 1981: 142). In this case. the following diachronic rules derived from Heinnebusch 1981:144 accounts for the occurrence of /r/ in the coastal varieties.

[39]

$$* \, l \; / \underline{\quad\quad} i \; > \; r_1$$

$$* \, l \; / \underline{\quad\quad} ɥ \; > \; r_2$$

Although positing a delateralization rule seems attractive here. it is not a plausible rule in Kimeru. Unlike in Chaga where reflexes of */l/ occur before non-high vowels. while /r/ occur before high-vowels. Kimeru does not display such contrast. In this case. positing */l/ as the underlying would be an abstraction since the form has no surface manifestation in the synchronic grammar. Such an analysis is unacceptable in NGP as earlier pointed out in 2.3.

The only other option available to us. is to consider the plausibility of Guthrie's C.B. forms. In both class 5 and 11. Guthrie posits */d/ as the prefix consonant. The occurrence of /d/ in Kimeru is only limited to a certain morphological class 10. The /d/ here is synchronically derived from /r/ through a continuant hardening process. when the stem-initial /r/ of class 11 is preceded by the class 10 nasal prefix. This means that /d/ is not phonemic in the language.

This explains why */d/ deceitfully looks like the most unsuitable segment to posit as an underlying for our case.

As pointed out earlier, the sound changes evidenced in the prefixes are not idiosyncratic to the prefix series but pervades the whole grammar. A closer look at some synchronic forms in the language reveals an undeniable correspondence relationship with some of the forms reconstructed for the proto-language. Although Kimeru is not a direct daughter language to the proto-Bantu, it must have inherited from the intermediate mother language, many forms that must have come from the proto-language.

The correspondences set up in data [40] show how the proto-Bantu /d/ is related to the /r/ of the synchronic Kimeru.

[40]

P.B	Kimeru		Gloss
*-jĭdà	/ɲ- ɟera/	cl. 91/10	path
*jédù	/ɲ-ɟero/	cl. 9/10	white
*gŏdo	/e-ɣɔrɔ/	cl.5	yesterday
*gùdù	/ko-ɣoro/	Cl 15	leg
*juidi	/ɲ-ɟuere/	cl. 9/10	hair
*dédù	/i-reru/	cl. 8	beard
*dúmè	/mo-romɛ/	cl. 3	male/husband
*dùmì	/ro-reme/	cl. 11	tongue
*dà	/ma-ra/	cl. 6	intestines
*dèŋgè	/ro-rɛŋgɛ/	cl. 11	pumpkins plant
*dímà	/ke-rema/	cl. 7	hill/mountain

NB: (The * P. B. data is obtained from Guthrie 1970/71)

Notice that in data (40) all the diachronic * /d/s change to /r/s in the synchronic Kimeru. The data clearly demonstrates that the synchronic /r/ is a derivation of the proto-Bantu * /d/. If we in this case posit /d/ as the underlying class 5 and 11 prefix consonant, based on the evidence in (40), we must counter abstractness by ensuring that the /d/ has some surface manifestation in the synchronic grammar. In this case, the synchronic Kimeru /r/ must be related to /d/ not just as an underlying segment (with no surface occurrence) but as a surface form.

According to Hooper (1976), the rules formulated by speakers must relate one surface form to another surface form. The only surface manifestation of /d/ in Kimeru as mentioned earlier is in class 10, when the class 11 stem-initial /r/ is attached to the class 10 Nasal prefix as in:

[41]

Class 11		Class 10	Gloss
/ ro – riɣi/	→	[ndiɣi]	threads
/ ro - riðɔ/	→	[ndiðɔ]	jealousies
/ro-reme/	→	[ndeme]	tongues.

The alternation of /r/ and /d/ in class 11 and 10 is quite obvious in 41 above. Clearly then the diachronic */d/ posited by Guthrie as the class 5 and 11 prefix consonant has synchronic surface manifestation in Kimeru. Guthrie's C.B. prefixes */di/ cl.5 and */du/ cl. 11 are used in this study as the underlying prefix segments.

To derive the /r/s in Kimeru from the diachronic */d/s in data (40) a sonorization rule must have applied in the whole lexicon. changing all the /d/s into /r/s. The general sonorization rule that applied then must have operated on the prefixal

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series deriving the synchronic class 5 /re/ and cl. 11 / ro/. The diachronic rule here

can be formulated as:

[42]

$$
* \begin{Bmatrix} +son \\ -cont \\ + cor \\ +ant \\ +voice \end{Bmatrix} > [+son] \Big/ \#\underline{\quad}+ \\ Cl.\ 5\ \&\ 11\ prefix
$$

We can simply state that a diachronic */d/ became an /r/ as in

[43]

     * d ˃ r / # —— #

4.5.1 Class 5 Prefix Reduction

Class 5 prefix /re/, derived from */di/ via d- sonorization rule, has undergone

considerable reduction. The /re/ has been reduced to /e/ in all environments except

in the word [ri:ðɔ] 'eye'. In other instances, the /re/ has further deleted to Zero (Ø).

Data (44) below illustrates this:

[44a]

/e-tumbe /	→	[etumbe]	egg
/e-βaβae /	→	[eβaβae]	pawpaw
/e-ɣɛɣɔ/	→	[eɣɛɣɔ]	tooth

[44b]

/e-ɔra/	→	[yɔra]	hunger
/e-ɔru/	→	[yɔru]	loniliness
/e-ɛmbɛ/	→	[eɛmbɛ]	mango
/e-iɣa/	→	[eiɣa]	stone

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[44 c]

/re-iɔ̌/   →   [ri:ɔ̌]   eye

[44d]

/ Ø - riikɔ/   →   [ri:kɔ]   hearth/cooker

/ Ø – rietwa/ →   [ryetwa]   name

/ Ø - riɔa/   →   [ryɔa]   sun

Data 44a and 44b clearly shows that the class prefix is /e/ whether the root begins

with a consonant or a vowel. Data 44c has only one member. [ri:ɔ̌] 'eye'.

Looking at the surface form. 44c one is tempted to argue that the prefix here is /ri./

with a high vowel reminiscent of the C.B. form */di/. If /ri/ then is assumed to be

derived from the C.B */di/. we can treat it as a residue form that for some reason

retained the original prefix vowel */i/; a case that parallels the [munto] in class 1.

The form [ri:ɔ̌] however (as noted in chapter 3) is possibly /re-iɔ̌/ with the

intermediate prefix /re/. When the prefix vowel /e/ is followed by the high front

vowel / i / of stem. the prefix vowel /e/ is heightened to /i/ through the height

assimilation process (see ch. 3). In data 44d. the d-sonorization process must have

triggered the deletion of the class prefix. When this rule operated. the diachronic

prefix */di/ changed into */ri/. When the the class 5 prefix/ ri/ was prefixed to

items with {ri} as the stem initial syllable. a kind of reduplication occurred as in:

[45]

* / ri - riikɔ/

* / ri-rietwa/

*./ri-riɔa/

The phenomenon in 45 was perceived (erroneously) to be a case of reduplication of the class 5 prefix */ri/. For maximal differentiation, the class prefix seen as a preprefix was deleted as it was taken to be functionally redundant.

The resultant forms were seemingly analogically leveled with to [ri:ðɔ] in 44c.

The fact that the prefix consonant was deleted is evidenced in the lengthened vowel of the first syllable of the stem when the vowel is followed by a consonant as in the word: [ri:ko]. The prefix vowel was thus absorbed into the vowel of the following syllable, occasioning the lengthening. The apparent latent presence of what used to be the class prefix blocks the prefixation of /e/ to the forms in 44d.

In view of the foregoing, the diachronic weakening process responsible for the reduced prefixal variants must have followed the following order.

[46]

* di > ri (Ø) > re > e.

Synchronically the allomorphic variants of class 5 prefix have been morphologized so that /e/ is the prefix with consonant and vowel-initial stems except where {ri} is the stem-initial syllable. In such cases, the alternant morph is Ø. Where the class prefix /e/ is followed by a non-high vowel, the /e/ becomes /y/ after gliding or /i/after height assimilation before a high stem-initial vowel. /re/ is only attested as the class prefix in /re-iðɔ/and as the concordial affix with the class 5 noun modifiers.

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4.5.2   Class   11 {ro}

As already noted, class 11/ro-/ derives from the C.B prefix */du/. After the

d-sonorization rule applied, the */du/ became /ru/. Other vowel process must have

applied to /ru/ altering the vowel quality.

The class 11 prefix has not undergone any further modification so that both the

class prefix and the concordial affix are identical. The synchronic /ro/ can thus be

derived from the C.B */du/ by a simple sequence as shown in 47 below

[47]

*du > ru > ro

4.6   VIA-RULES AND RULE-INVERSION

The interrelatedness of lexical items of the various morphological classes deserves

our comment in this study. It was evident in our noun classification (see chapter 2)

that a number of nouns have dual or more membership to the classificatory

nominal system. Besides, noun that are members of other classes have an affinity

to those in class 9/10. Furthermore, various nouns of different classes are related

intricately in a way that cannot be generated through phonological rules.

Two types of relationships here are of interest to us in this study. First of all, the

relationship between those items that are differentiated on the surface structure, so

that they have different entries in the lexicon. This kind of relationship in NGP is

handled by via-rules. Secondly, we will consider the relationship between those

segments that are synchronically relic forms of some earlier diachronic stage. This

kind relationship on the otherhand is handled by rule-inversion. Let us consider

each phenomenon at a time.

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4.6.1 Via-Rules

Via-rules are the means by which lexical relations are expressed in NGP. According to Lass, (1984:226) via-rules are rules of etymological relations. To him, they are:

> ... unproductive, unsystematic and often involve specialized or learned vocabulary since by definition they are due to borrowing; whether from related languages... or form the earlier history....

The relationship between items related by via-rules cannot be generated using phonological rules. The unproductive relationship can only be captured by means of via-rules. They in this case express phonological relationship between two forms where none of the forms can be said to be the underlying and the other derived from it. The relationship between such forms is unknown to speakers without outside information. Nevertheless, the semantic relationship is obvious.

The Kimeru data below illustrate such phenomenon in the language.

[48a]

Class 3

/mo-aɣɛ/	[mwaɣɛ]	a type of tree
/mo-uru/	[muːru]	oak
/mo-ura/	[muːra]	type of tree
/mo-ɛmpa/	[mwɛmpa]	dry maize plant
/mo-areki/	[mwareki]	caster oil plant

[48b]

Class 9/10 (fruits from plants in 48a)

/N - βaɣɛ/	[mβaɣɛ]
/ N – puru/	[mpuru]
/ N – pura/	[mpura]
/N- pɛmpa/	[mpɛmpa]
/N- βareki/	[mbareki]

[49a] **class 14**

/o-keal/	[okya]	poverty
/ o – okel/	[o:ke]	honey
/ o-taku/	[otaku]	folishness

[49b] **class 9/10**

/N-kea/	[ŋkya]	poor person (s)
/N-joke/	[ɲɟoke]	bee
/N- taka/	[ntaka]	mud / foolish person (derogatory)

Items in 48a are related to the corresponding items in 48b. Similarly items in 49a are related to those in 49b respectively. It is however not possible to derive forms in 48b and 49b from those in 48a and 49a respectively, using a phonological rule. Conversely, the forms in 48a and 49a cannot be derived for the corresponding forms in 48b and 49b.

Considering the meaning and the shape of the words certain correspondences can be set up. In 48a all the forms belong to morphological class 3 and are all names of

plants. The corresponding forms in 48b. are names of fruits obtained from the corresponding plants in 48a. This clearly demonstrates the semantic correlation.

A closer look at the shape of the words also reveals that the words have some far-fetched phonological relation. If in data 48a-b. we ignore the class markers. the following correspondence can be established.

[50]

Class 3

/-aɣɛ/	~	/-βaɣɛ/
/-uru/	~	/-puru/
/-ura/	~	/-pura/
/-ɛmpa/	~	/-pɛmpa/
/-areki/	~	/-βareki/

Except for the stem-initial consonants in the stems of class 9/10. the stem in class 3 are identical to those in class 9/10. The stem-initial consonants must have been diachronically deleted to yield the forms in class 3 as in 48a. Such consonants are however retained in class 9/10 as attested in 48b.

Except for the stem-initial consonants in the stems of class 9/10. the stem in class 3 are identical to those in class 9/10. The stem- initial consonant must have been diachronically deleted to yield the forms in class 3 as in 48a. Such consonants are however retained in class 9/10 as evidenced in 48b.

In data 49a and b. the relationship can be explained in a similar way. The word [okya] 'poverty' and a [ŋkya] 'a poor person' are related semantically. Their stem shapes are also identical. so that only the different prefixes separate the words. The

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word [oːke] 'honey' and [ɲɟɔke] ' bee' can also be shown to have the same derivation diachronically. The name 'honey' must have been derived from that of 'bee' by attaching the stem [joke] to the class 14 prefix /o/. Thus we had a form like * [o -joke] to mean 'honey'. The stem initial /j/ diachronically deleted to give us the synchronic form / o- oke/.

The words [otaku] 'foolishness' and [ntaka] 'mud' are related metaphorically. Both must have been derived from the word [taka] which means 'become foolish.' Then the class 14 prefix /o/ was prefixed to the stem {taka} to form the word [otaku] 'foolishness'. The class 9/10 prefix was also prefixed to the stem to give us the form [ntaka] which means 'mud' or is used derogatively to refer to a foolish person (s)   ι

To relate the lexical items in above data, one requires not just the phonological input but the learned etymology of the words as well. Heinnebusch (1984:56) rightly observes that:

> The lexical feature matrices for the items would be interpreted by the phonological rules of the language plus the relevant morphological, syntactic and semantic information....

In view of this, class 3 and class 14 items in data 48and 49 would be handled by via -rules in the lexicon as being related to the items in morphological class 9/10.

4.6.2   Rule-inversion

Some synchronic segments are relic forms of earlier diachronic rules. Rule-inversion according to Hyman (1975:173) is one of the mechanisms by which phonetically plausible rules tend to become denaturalized. It is Vennemann (1972:379) who offers a more apt definition of this phenomenon. He thus says:

> ... rule inversion takes place where a historical change $*A > B / x - y$ is reflected by a synchronic rule $B \rightarrow A / X - y$. This will typically be the case when the environment conditioning the change $* A > B$ appears in a lexically basic form.... The etymologically original A will alternate with the derived B.

Considering both Hyman's and Vennemann's definitions. the situation described here is reminiscent of the Kimeru phenomenon where various segments weakened diachronically but are synchronically evidenced as fortified segments in a given morphological class.

The diachronic rules operated on / p /. / β / and / d/ weakening the three segments as shown below:

[51]

* /p/	>	Ø / v — v
* / p/	>	β / v — v
*/β/	>	Ø / v — v
*/d/	>	r / v — v

Data 51 represents the approximate historical rules. The various weakening rules illustrated in data (51) operated diachronically as phonetically motivated rules. The p- lenition rule weakened the /p/s to / β/s or deleted to Ø. The β - deletion rule

saw the /β/s drop out while d-sonorization rule weakened the /d/s to /r/s. The diachronically weakened segments /p/, /β/ and /d/ are derived synchronically in class 9/10 through the continuant hardening process. In this case the continuant hardening rule is the inverted rule of diachronic weakening process.

The relatedness of segments in class 11 to those in class 9/10 can best be explained using rule inversion. The data in 52 below illustrates this:

[52]

Cl. 11   Cl. 9/10

/ro-ɛni/   ~   [mpɛni]   lightening

/ro-ɛŋgo/   ~   [ndwɛŋgo]   pancreases

/ro-ara/   ~   [ndwara]   ;   rocks

/ro-aɣe/   ~   [ndwaɣe]   mosquitoes.

Data (52) clearly shows that there is a phonological relationship between the class 11words and their synchronic manifestations which are restricted to a particular phonological class. In this case, the synchronic /p/ and /d/ are relics of the historical forms diachronically deleted in the class 11 forms. Before such deletions. the following forms must have been attested then:

[53]

       */ro-pɛni/

       */ro-rɛŋgo/

       * / ro –rara/

       */ro-raɣe/

The /d/s and /p/s in class 9/10 alternate with Ø in class 11. Similarly, /r/s that were diachronically derived from weakened /d/s alternate with the synchronic /d/ derived by a continuant hardening process as in:

[54]

P.B.	Class 11 (d-sonorization)		Class (r-strengthening
*duìmi ~	/ro-reme/	→	[ndeme]
*dè ŋg è ~	/ro-rɛŋgɛ/	→	[ndɛŋgɛ]

The synchronic /β/s are relics of the diachronic /p/ and /β/. In other instances, both elements deleted to zero. Their occurrence is only limited to class 9/10.

The alternation between /d/ and /r/ in the above data can be captured by the following rules.

[55 a]   * d > r / # - #

[55 b]   l → d / n——

Notice that 55a is the approximate historical rule, while 55b is the inverted rule. Rule 55a takes /d/ as the underlying and derives /r/ while rule 55d takes /r/ as the underlying and derives /d/ after {n}.

Evidently, rule 55a (the historical rule) has become unnatural since there is no phonetic motivation for /d/ to become /r/ word initially or even intervocalically. This is why according to Hyman (1975) rule-inversion is considered a mechanism by which phonetically plausible rules become denaturalized.

The historical rule (d-sonorization) started as a phonetically motivated rule. As the rule diffused through the lexicon, it run into established morphonological process in the language. The phenomenon in Kimeru is aptly captured by Hooper in saying:

> ...the new rule runs head-log into the established morphonological processes in the language and a conflict sometimes results particularly if the output of the new rule obscures some morphological distinctions, or violates some other phonological constraints active in the grammar (Hooper: 1974:120)

The requirements of phonological rules lead to the application of the historical rule but the morphological structure of the language requires that class 11 singular take their plurals in class 10 as does the class 9 singulars. This conflict consequently denaturalizes the historical rule; a rule that had started as a phonetically motivated rule.

Apparently, it is the inverted rule that is synchronically natural, since [+cont] segment such as /r/ can assimilate to the [-cont] specification of a preceding homorganic nasal to become a [-cont] i.e. [d].

Denaturalization of rules is not an arbitrary phenomenon; it is a mechanism by which a language preserve morphological distinctions from being wiped out in the grammar. This is in line with Kiparsky (1972:196) who avers that:

> ...phonological processes... can be subject to conditioning according to morphological categories. But such morphological conditioning seems to be limited in an interesting way by functional conditions. It

characteristically originates as a blocking of rules in environments in which their free application would wipe out morphological distinctions on the surface.... Especially notable is the fact that some specific kinds of morphological categories are, in many languages and at many points of time, consistently stable than others, in that they both put up a stronger "resistance" to morphological rules which eliminate their distinctive surface characteristic, and are more frequently restored by morphological change.

The preserved morphological distinctions evidenced in class 9/10, enables us to relate items in class 11 to those in class 9/10.

4.7   GANDA LAW

The class 9/10 prefix [N] is a morphophonemic nasal that has various surface realizations depending on the place of articulation of the following consonant. Let us consider the data below.   ᵢ

[56a]

/N-bori /	→	[mbori]	goat
/N-toma/	→	[ntoma]	arrowroot.
/N-cona/	→	[ɲcona]	pepper
/N-jɔka/	→	[ɲjɔka]	shake
/N-kiŋgɔ/	→	[ɲkiŋgɔ]	neck.

[56b]

| /N-ɔmbɛ/ | → | [ŋɔmbɛ] |
| /N-ɔndu/ | → | [ŋɔndu] |

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[56c]

/N-ɛɲɟɛ/	→	/ɲɛɲɟɛ]	cockroach
/N-ama/	→	/ɲama]	meat
/N-oŋgo/	→	/ɲoŋgo]	pot
/N-ɔmba/	→	/ɲɔmba]	house
/N-ɔnta/	→	/ɲɔnta]	thirst

The morphophonemic nasal in data 56a-c has various surface realizations. In 56a, the phonetic plausibility of the surface alternations is obvious. The nasal here has assimilated to the place of articulation of the succeeding stem-initial consonant. What seems puzzling however is the phenomenon in 56 b-c.

If the morphophonemic nasal is a "dummy" whose place of articulation we don't know, the question we then seek to answer is, "what gives the morphophonemic nasal its place features?" in data 56b and c

To answer this questions there are two possibilities that we need consider. First of all, we can hypothesize that there is a certain rule that operates on data 56b and c changing the shape of the nasal before the stem-initial vowels. Our other option is to hypothesize that initially, a consonant occupied the stem-initial position giving the preceding nasal it place features before the latter eventually deleted. Let us explore each of the two options to establish which of the two is more phonetically plausible in accounting for the data in question.

The first possibility requires us to formulate a rule that changes an underling nasal to a velar /ŋ/ and a palatal /ɲ/ respectively. Based on data 56b the first rule would state that a nasal become 'velarized" before a back non-high vowel /ɔ/. On the other hand. based on data 56c. one would state that a nasal is palatalized before a vowel. In this case two rules like in 57 below would be formulated to account for data 56b and c respectively.

[57]

a)   N   →   ŋ/ - ɔ

b)   N   →   ɲ/ -V

Rule 57a suggests that the underlying nasal becomes a velar nasal when succeeded by a back non-high vowel. Here one is tempted to argue that the morphophonemic nasal assimilates to the backness of the back vowel / ɔ / to surface as a velar nasal which is [+back]. Such a phenomenon is however not attested in any languages I know. Option I thus seems unworkable for data 56b.

Rule 57b on the other hand suggests that a nasal is ˙palatalized˙ before a vowel as in data 56c. The problem we are faced with here is that of demonstrating why an underlying ˙dummy˙ nasal surfaces as a palatal nasal before any vowel.

Despite this obvious obstacle (of nasal palatalization before even non-high vowels) the option here seems very attractive as the phenomenon of 'nasal palatalization' is well attested in Bantu languages. The phenomenon in 56c is therefore not limited to Kimeru. Many other languages of the Bantu language family display a similar

occurrence of a palatal nasal before a stem-initial vowel. Various Bantu linguists have treated the phenomenon as nasal palatalization.

Responding to a similar phenomenon in Kiswahili, Polome (1967:70) makes the following observation:

> /n/ → /ɲ/ before a noun or adjective stem with initial vowel. E.g. in nyama 'meat', nyota 'star', nyuki ' bee' , nyeupe, 'white' and nyingi 'much', many' applying to nouns of the {n} class.

According to Polome, the underlying nasal simply surfaces as a palatal nasal before a vowel-initial stem. He does not offer an explanation as to why in njema 'good' the underlying nasal does not become a palatal nasal. He simply states "an exception which cannot be accounted for is njema 'good' instead of *nyema."

Welmers (1973:170) also offers the same treatment for the class 9/10 phenomenon in Kiswahili. Like Polome, he simply states that:

> The alternant of N - before a vowel initial stem is /ny/.... ny is prefixed to this as if it were a stem-initial vowel .
> e.g.   ny-umba
>   ny-uki
>   ny-imbo
>   ny-embe.

Simply stating that   n →ɲ / - v does not seem to be a satisfactory explanation whatsoever. A case where a nasal is palatalized before even low vowels is not phonetically motivated. If the phenomenon was limited to where the nasal

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palatalize before a high vowel, we would argue that the nasal is assimilating to the "palatalness" of the high vowel.

This puzzling phenomenon where a nasal is palatalized before non-high vowels has caught the attention of many Bantu linguists. To account for this palatal nasal in Bantu languages many Bantuists have argued that the class 9 /10 nasal prefix was palatalized by the *{i} of the P.B prefix, before the {i} diachronically dropped out. According to Mberia (1993:128):

> /n/ is palatalized by the following /i/ before the later is eventually deleted.... At stage B two processes namely palatalization of the nasal consonant and gliding of the high front vowel take place.

To Mberia (ibid), the two intrinsically ordered processes yield the /ny/ attested in class 9/10 in Kitharaka. Similar views are held by Heinnebusch (1974:87-8). In explaining the phenomenon of 'nasal palatalization' in Kiswahili; he posits that:

> ... synchronic prefix shape of the prefix before v-initial noun and adjective stems... is almost always /ny/ such as Swahili ny-ama 9 / 10 'meat' , ny-eupe 9/10 'white' , ny-eusi 9/10 'black'. That /i/ becomes a palatal glide before another vowel is a widely attested change throughout Bantu languages.

An analysis similar to that by Heinnebusch and Mberia is offered by Bakari (1985:76) in his study of Swahili dialects.

Use of what we called the 'first possibility' in accounting for the phenomenon in data 56c (i.e. palatal nasal) seem to be a well trodden path in Bantu linguistics. The fact that the tendency of nasals to palatalize before high vowels is a natural tendency in languages, makes this option very tempting.

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A closer look at more data in the language however, leaves us in doubt as to whether indeed the phenomenon widely acclaimed as nasal palatalization is 'palatalization' after all or something else.

Kimeru data reveals that, the occurrence of the palatal nasal is not limited to the vowel- initial stems. The morphophonemic nasal surfaces as a palatal nasal even before a consonant initial stem as in:

[58a]

/N-coɣa/	→	[ɲcoɣa]	hoof (ves)
/N-camba/	→	[ɲcamba]	cockerel (s)
/N-cɛɣɛ/	→	[ɲcɛɣɛ̀]	porcupine (s)
/N-cɔβi/	→	[ɲcɔβi]	beer (s)

[58b]

/N-jera/	→	[ɲɟera]	path (s)
/N-juere/	→	[ɲɟwere]	hair (s)
/N-jiro/	→	[ɲɟiro]	a man's name / black
/N-jɛro/	→	[ɲɟɛro]	a man's name / white

The nasal is evidently realized as a palatal nasal before palatal segments such as [c] and [ɟ]. If the underlying nasal is palatalized before the high vowel {i} of the prefix, it means that the class 9/10 nasal is palatalized by this {i} so that it surfaces as a palatal nasal. The palatal nasal therefore should not be limited to segments where the stem-initial consonant is a palatal segment. It is unlikely that if such a

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rule ever existed, all evidence of the pervasive palatalization was wiped out except in stems with an initial vowel or palatal consonant. We would expect to see some palatal nasal before non-palatal consonants or fossilized evidence of some kind.

Amore stronger evidence against the "palatalization" hypothesis is the fact that the analysis is far too abstract for an NGP theory. The diachronic vowel *{i} of class 9/10 C.B prefix *{ni} has no surface manifestation in the kimeru synchronic grammar. Positing the prefix {ni} as an underlying segment; a segment without surface manifestation is contrary to the true generalization condition in NGP. In this case, arguing for a palatalization rule to account for the phenomenon in 56c is not tenable. In other words, what we are saying is that the palatal nasal of class 9/10 [ɲ] is not as a result of a nasal palatalization rule but something else.

Mberia (1993:130) in his analysis of the Kitharaka phenomenon express his reservations about the 'palatalization hypothesis' albeit indirectly. He thus says that:

> It is not yet clear how the change of /n/ into [ɲ]before various vowels is to be handled. However, one thing is certain, it is unjustifiable to lump the change together with that falling under homorganic nasal assimilation. There is nothing "homorganic" about an alveolar nasal becoming palatal when followed by for example a low back vowel. Given the outcome of the process we propose to call it "nasal palatalization" for indeed, that is what it is.... Whatever the actual formulation of the rule, it is necessary to incorporate into it, in one way or the other some role of /i/ or * /i/

What is apparent here is that using palatalization to account for the palatal nasal prefix in class 9/10 is not a convincing analysis even for Mberia (ibid). Clearly, our first possibility can neither account for data 56b nor 56c. In this case to account for the class 9/10 / ŋ / and / ɲ /   before vowel-initial stems, we need to weigh the second possibility.

Here, we hypothesized that initially a consonant to which the nasal assimilated to acquire its place features, occupied the stem-initial position before the latter eventually deleted. What our second possibility suggests is that the homorganic nasal assimilation rule applied before the stem-initial consonant dropped out.

A rule that deletes a stem-initial consonant, as proposed in our second possibility is called Meinhof's rule or Ganda Law. The law stipulates that a stem initial consonant is deleted when preceded by a nasal and followed by a sequence of a vowel and a nasal consonant. In other words:

[59]

$$C \rightarrow O / N + \underline{} VN$$

Our suspicion is that this kind of rule that deletes this stem-initial consonant must be responsible for the phenomenon in 56b and c. To claim that Ganda law is responsible for the data in 56b and c, we need to show that indeed in both cases the stem-initial consonant is deleted. To do this, we need to consider the shape of other allomorphs of the stem where the structural descriptions for the rule are not met. Towards this end, let us consider the data below:

[60a]

ŋ-ɔmbɛ cl. 9/10   ŋ-ɔndu   cl. 9/10

Ka-ŋɔmbɛ cl 12   Ka-ŋɔndu cl. 12

Ke- ŋɔmbɛ   Ke-ŋɔndu   cl. 7

[60b]

ɲ-ɛɲɟɛ cl. 9/10   ɲ-oŋgo cl 9/10

i-ɲɛɲɟɛ cl. 8   Ka-ŋɔŋgo cl. 12

Ke-ɲɛɲɟɛ cl. 7   to-ŋɔŋgo cl. 7

The data in 60a and b does not prove helpful to us. In all the cases the class prefix has been reanalyzed as part of the stem:so that the prefix is Ø. Nevertheless, the occurrence of the stem- initial consonant can be ascertained in both cases if we take into account the genetic relations and history of Kimeru. For this purpose let us first compare the stems in the two classes to the corresponding stems in other Bantu languages and then secondly to the C.B. forms where data is available.

The words [ŋɔmbɛ] ˙cattle˙ and [ŋɔndu] 'sheep' in Kitharaka are the same as in Kimeru. The stem [-ɔmbɛ] and [-ɔndu] in kitharaka has allomorphic variants as shown in the data below (data obtained from Mberia (1993:95-6).

[61a]

/ŋɔmbɛ/

/ka-ɣɔmbɛ/

[61b]

/ŋ-ɔndu/

/ka-ɣɔndu/

For [ŋɔmbɛ], the allomorphs of the stem are:

-ɔmbɛ

-ɣɔmbɛ

On the other hand, the allomorphs of the stem in [ŋɔndu] are:

-ɔndu

-ɣɔndu

Considering the Kitharaka data in 61a and 61b, Ø and ɣ alternate at the stem-intial

consonant position. Diachronically, the Kimeru word /ŋ-ɔmbɛ/ derive from the

C.B stem * gòmbè (cl. 9/10).

That the C.B. form has a consonant /g/ as the stem-initial segment is evidence that

a consonant historically occupied the stem-initial position and not a vowel.

On the other hand, we need to avail evidence indicating that a consonant occupied

the stem-initial position in class 9/10 words, where the palatal nasal is the prefix

segment.

As noted in data 60b, the prefix / ɲ / has been reanalyzed as part of the stem. The

following allomorphs of the word [ɲama] illustrate this.

[62]

/Ø-ɲama/   cl. 9/10   meat

/ka-ɲama/	cl. 12	small meat
/to-ɲama/	cl. 13	small meats

The phenomenon in 62 is not limited to Kimeru, but is attested in other Bantu languages, occasioning the treatment of the nasal as a case of nasal palatalization.

We may argue here that there are other words in which the structural descriptions for the application of Ganda Law are not met. These words can be posited as evidence to show that the stem-initial position preceded by a palatal nasal is occupied by a consonant. Such an argument would obtain the following data:

[63]

/N-jara/	→	[ɲ ɟara]ⁱ	hands
/N-joke/	→	[ɲ ɟoke]	bee
/N-cɛɣɛ/	→	[ɲ cɛɣɛ]	porcupine
/N-cɔɣa/	→	[ɲ cɔɣa]	hooves

It is obvious that data 63 does not meet the structural descriptions for the Ganda Law since the stem-initial consonant though preceded by a nasal is not followed by a sequence of a vowel and a nasal consonant. The data is however ambiguous; it is not easy to tell which stem-initial consonant was deleted to obtain the data in 56c. As is evident in 63, the palatal nasal [ɲ] is a prefix and can occur before the voiceless palatal stop /c/ or before the voiced palatal stop/ɟ /. What this means is that it is either [c] or [ɟ] may have been deleted.

To verify with certainty the consonant that my have been deleted in this case, let us consider which consonant surfaces when the structural descriptions for Ganda law are met.

[64a]

/ɲ-cana/	→	[ɲcana]	monitor lizard
/ɲ-camba/	→	[ɲcamba]	cockerel
/ɲ-cɔna/	→	[ɲcɔna]	pepper
/ɲ-cinɔ/	→	[ɲcinɔ]	flywhisk

Data 64. clearly show that /c/ is not deleted even when the structural descriptions for Ganda rule are met. There is however no evidence of /ɟ / surfacing when the structural descriptions for Ganda law are met. The palatal stop only surfaces when the class 9/10 prefix is not followed by a vowel and a nasal as stipulated by Ganda law. Thus we have:

[65]

/ɲ-jata/	→	[ɲɟata]	stars
/ɲ-jɔka /	→	[ɲɟɔka]	snake
/ɲ-jara/	→	[ɲɟara]	hand
/ɲ-jera/	→	[ɲɟera]	path
/ɲ-juere/	→	[ɲɟuere]	hair

The data in [65] parallels the Kiswahili phenomenon where Ganda law having deleted the / ɟ /. analogical leveling followed. deleting all the /ɟ/s except in a few

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words as in [ɲʄia] and [ɲʄɛma] . The Kiswahili data corresponding to the Kimeru data in (65) reveals this fact.

[66]

Kimeru		Kiswahili	
[ɲʄata]	~	[ɲɔta]	stars
[ɲʄɔka]	~	[ɲɔka]	snake
[ɲʄera]	~	[ɲʄia]	path
[ɲʄuere]	~	[ɲwɛrɛ]	hair

The fact that the palatal stop attested in Kimeru is lacking in most Swahili word is clear evidence that the processes affected the stem-initial consonant when preceded by the palatal nasal.

In kikuyu where Ganda law has a wider scope, / ʄ / is one of the affected segments. Implicitly referring to the operation of the rule in Kikuyu, Armstrong (1967:42) observes:

> If the initial vowel of a stem is followed by any consonant other than mb, nd, nj or a nasal the first person singular of the perfect is shown by prefixing the sound nj:
>
> e.g.
>
> | njokeete | from | ok-a | 'come' |
> |---|---|---|---|
> | njaɣeetɛ | " | aɣ-a | 'miss' |
> | njoreetiɛ | " | or-ia | 'ask' |
>
> If the initial vowel of the stem is followed by mb, nd, nj or by a nasal consonant the first person singular of the perfect is shown by prefixing the sound ɲ:
>
> | ɲambateetɛ | from | ambat-a | 'come up' / 'go up' |

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ɲandekeetɛ	"	andika-a	'write'
ɲɔnɛɛtɛ	"	ɔn-a	'see'
ɲineetɛ	"	in-a	'sing'
ɲamoreetɛ	"	amor-a	'separate'

The data from the kikuyu verbal morphophonology clearly indicates that / ɟ / is deleted when preceded by a nasal and followed by as sequence of a vowel and a nasal as stipulated by Ganda law.

Although Armstrong's data is on the verbal phonology, we suspect that Ganda law that deletes the / ɟ / in the Kikuyu verbal forms is responsible for the palatal nasal prefixes of cl. 9/10 in the Kimeru grammar.

A closer look at more data, similar to 56c in Kimeru reveals that some of the Kimeru forms derive from the C.B stems posited by Guthrie (1971). The following correspondences can be drawn:

[67]

*C.B		Kimeru	Gloss
*juŋgu	~	ɲ-oŋgo	pot
*jota	~	ɲ-ɔnta	thirst
*juni	~	ɲ-oni	bird
*jenje (kind of cricket)	~	ɲ-ɛɲɟɛ	cockroach
*jundo	~	ɲ-ɔndo	hammer

(~ used here means 'corresponds to')

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Data 67 clearly shows that the C.B forms that correspond to the Kimeru forms with a palatal nasal followed by a vowel, had a stem-initial consonant */ ɟ /. It is clear that, the class 9/10 palatal nasal cannot be treated as a case of nasal palatalization in kimeru and in many other Bantu languages. The phenomenon must be accounted for by other phonological processes.

The evidence adduced in the foregoing discussion indicates that / ɣ / and / j / as stem initial consonants have diachronically deleted to yield a phenomenon where a nasal prefix follow a vowel in cl 9/10. What this suggests is that prior to such deletion, the data in 56b and c looked like 68a and b below:

[68a]

*/N - ɣɔmbɛ/

*/N-ɣɔndu/

[68b]

*/N-jɛɲɟɛ/

*/N-jama/

*/N-joŋgo/

To derive the surface forms from data 68 a-b above, certain rules seem to apply in a given order. Before Ganda Law can apply, Homorganic nasal assimilation applies to give the underlying nasal its place features. The morphophonemic nasal in 68a assimilates to the place of articulation of / ɣ / to surface as [ŋ] while the same underlying nasal assimilates to the place of articulation of / j / to surface as / ɲ /.

If it is only the homorganic nasal assimilation rule that applied here, the rule

would yield a sequence of /ŋɤ/ and /ɲj/ respectively. The phonology of Kimeru

does not allow a sequence of /ŋɤ/ or /ɲj/. To avoid such a cluster, the continuant

hardening rule applies simultaneously with the homorganic nasal assimilation rule.

The palatal and the velar continuants consequently assimilates reciprocally to the

stoppness of the preceding nasal consonant, so that the [+cont] segments surfaces

as [-cont]. The simultaneous application of homorganic nasal assimilation rule and

continuant hardening rule yields forms like:

[69a]

*[ŋgɔmbƐ]   cattle

*[ŋgɔndu]   sheep

[69 b]

*[ɲɟƐɲɟƐ]   cockroach

*[ɲɟama]   meat

*[ɲɟoŋgo   pot

*[ɲɟɔmba]   house

*[ɲɟɔnta]   thirst

It is at this point that Ganda law applies so that the stem-initial consonant /ɤ/ and

/ɟ / respectively are deleted occasioning the surface forms attested in the language

synchronically. The data below illustrates the operation of Ganda law.

[70a]

*/ŋgɔmbɛ/ > [ŋɔmbɛ]

*/ŋgɔndu/ > [ŋɔndu]

[70b]

*/ɲɟɛɲɟɛ / > [ɲɛɲɟɛ]

*/ɲɟama/ > [ɲama]

*/ɲɟoŋgo / > [ɲoŋgo]

*/ɲɟɔmba/ > [ɲɔmba]

*/ɲɟɔnta/ > [ɲɔnta].

The deletion of the consonants in 70a and b may be informally stated as in 71a and 71b.

[71a]

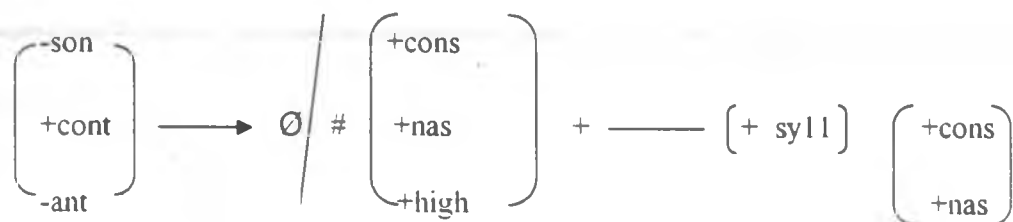$$\gamma \longrightarrow \emptyset \quad n + —V \ N$$

71b]

$$j \longrightarrow \emptyset \quad n + — V \ N$$

The two rules can be collapsed and restated more formally as 72

[72]

$$C \longrightarrow \emptyset \ / \ C + — \ V \quad C$$
[-nas]   [+nas]   [+nas]

In features, the rule 72 above is reformulated as 73 below.

[73]

$$
\begin{bmatrix} -son \\ +cont \\ -ant \end{bmatrix} \longrightarrow \emptyset \Bigg/ \# \begin{bmatrix} +cons \\ +nas \\ +high \end{bmatrix} + \underline{\quad\quad} \begin{bmatrix} +syll \end{bmatrix} \begin{bmatrix} +cons \\ +nas \end{bmatrix}
$$

The description in 73 explicitly state that /ɤ/ and /j/ are deleted when preceded by

the corresponding [+high] nasal consonant and followed by a sequence of a vowel

and a nasal consonant.

The exact order in which rules apply in the above derivation appears significant.

Two different types of orders are involved: the simultaneous and sequential

ordering. Postal (1968:142) defines these processes as follows:

> In simultaneous application, all rules apply to the original input
> structure and there is no intermediate stage. A derivation
> therefore consists of exactly two structures, the input and output.

The simultaneous rule application is evidenced in our data when homorganic nasal

assimilation rules applies the same time the continuant hardening rule apply to

yield the forms in 64a-b. On the other hand, Homorganic nasal assimilation and

Ganda law applies in a sequential order. This kind of order is defined by Postal

(1968:41) as follows:

> In sequential application, some rules will apply to an input structure A and
> convert it to a distinct structure B. Another rule will apply to B and convert
> it to new structure C: a third rule will convert C to D etc. This continues
> until the derivation terminates according to some specified condition.

This kind of sequential order clearly explain how homorganic nasal assimilation

and continuant hardening rule apply simultaneously to yield the /ŋg/ and /ɲɟ/

sequence on which Ganda law applies giving us the synchronic form as 70a-b.

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The rules are intrinsically ordered so that they apply each and every time their structural descriptions are met. This kind of order according to Kiparsky (1978: 129) is guided by a principle in which feeding order is maximized while the bleeding order is minimized. He thus observes, "rules tend to swift into the order which allows their fullest utilization in the grammar.... The order in which rules gravitate is...linguistically simpler than its opposite".

In a rejoinder, Kiparsky (ibid) maintains that the principle governing rule ordering is one where "rules tend to be ordered so as to become maximally transparent" (p-229). Conversely, such a principle presupposes a situation where opacity is brought to the minimum. In this case, rules are ordered in the direction that maximizes a feeding order but minimizes a bleeding order. This argument is well supported by our data where application of one rule yields an output that is the input for another rule.

If our rules were to move toward the opposite direction, a bleeding order would result. Such a bleeding order would be occasioned if Ganda law were to apply before Homorganic nasal assimilation. In such a situation, Ganda law would delete the consonants that we need, to give the morphophonemic nasal the respective place of articulation.

The deletion of /ɤ/ and /j/ after the operation of Ganda law is phonetically predictable on the bases of universal principle. According to Hooper (1976:240) "the insertion and deletion of consonant and vowel are never random or arbitrary, but are always governed by strict principles".

In expounding on these kind of deletions, Hooper (ibid) observe that the assimilation process is a prelude to deletion. In her view:

> There are two respects, in which assimilation can be considered a weakening,
>
> i) The acquisition of feature values from surrounding segments reduces the distinctive function of the assimilated consonant and
>
> ii) Assimilation is always the precursor of deletion.

In lines with Hooper, we can argue that Ganda law deleted /ɤ/and /j / after some weakening process had taken place. The homorganic nasal assimilation process saw the morphonemic nasal assimilate to the place of articulation of /ɤ / and /j/ respectively. The [-cont] consonants reciprocally assimilated to the stoppness of the nasal hardening to stops /g/ and /ɟ/ respectively.

A sequence of /ŋg/ and /ɲɟ/ resulted. The hardened stops /g/ and /ɟ/ are in Hooper's view 'weak' in that their only non-redundant feature is [- nasality]. The reciprocal kind of assimilation reduces the distinctive function of the /g/ and /ɟ/. The resulting clusters are therefore "difficult" both articulatorily and perceptually. To maximally differentiate the consonants in the NC sequence, Ganda law deletes the two consonants respectively. Indeed, Mberia (1993: 145) rightly notes that:

> Ganda law in Kitharaka and other languages such as Kikuyu and Kiswahili demonstrates a process of dissimilation in so far as it changes a sequence of NCVN into a new sequence of NVN.... Deletion... is a case of "absolute dissimilation" whereby a segment deletes to Ø.

Synchronically there is no evidence in the Kimeru grammar to suggest that Ganda law is still productive. The reflexes evidenced in class 9/10 only point to an earlier stage in the language when the rule was still productive. It is evident (as we have already indicated) that the rule had started as a phonetically motivated process. The process however halted after it had diffused across the lexicon in varying degrees.

In the deletion of /ɣ/, the rule did not reach all the intended morphemes. It only affected a few morphemes in the grammar. The rule is thus residually attested in:

[74]

[ŋ ɔ mbɛ]	cow
[ŋ ɔ ndu]	sheep
[ŋƐ ntu]	man's name/ 'be fierce'
[כŋ ɔ ŋɔ]	back (especially when referring to the carrying of a baby)

The rule was blocked from effecting changes in the following morphemes.

[75]

/N - ɣ ɔŋkɔ/	→	[ŋgɔ ŋkɔ]	a type of weed
/ N - ɣɔ n ɔ/	→	[ŋgɔ nɔ]	stories
/ N- ɣomba/	→	[ŋgomba]	tick
/ N- ɣɛndo/	→	[ŋgɛndo]	journey
/N- ɣondo/	→	[ŋgondo]	furrow land

In the deletion of /j/ on the other hand, the rule applied regularly deleting all the /j/s stem-initially where the structural descriptions for the rule were met. It is however not clear how the occurrence of forms like [ŋaki] and [ɲioro] can be accounted for in the grammar. One possibility is that the stem-initial /j/ was deleted on analogy with the forms where Ganda, law had applied. Thus:

[76]

*/N- jaki/	>	[ɲaki]	grass
*/N-jioro/	>	[ɲioro]	nose

Alternatively, the words can be treated as borrowings from Kiswahili whereby after Ganda law deleted the /j/s that were positively marked for the rule, analogical leveling took over deleting all the stem-initial /j/s in that paradigm, leaving only one or two exceptions. We cannot easily establish whether the words in 76 are borrowings from Kiswahili given the close genetic affinity between Kiswahili and Kimeru. We will therefore treat the two words in 76 above as a case of analogical leveling.

Since Ganda law is no longer operational, subsequent generations of Kimeru speakers learn the words, where Ganda law once applied as a whole. This explains why over the years, the nasal prefix / ŋ / and /ɲ / preceding a stem-initial vowel have been reanalyzed as part of the stem. This phenomenon explains some of the Zero allomorphs attested in class 9/10 as in:

[77a]

/Ø – ŋ ɔ mbɛ/   →   [ŋ ɔ mbɛ]

/Ø – ŋ ɔ ndu/   →   [ŋ ɔ ndu]

/Ø – ŋɛntu/   →   [ŋɛ ntu

/Ø – ŋɔŋɔ/   →   [ŋ ɔ ŋ

[77b]

/Ø – ɲɛɲɫɛ/   →   [ɲɛ ɲɫɛ]

/Ø – ɲoŋgo/   →   [ɲoŋgo]

/Ø - ɲɔmba/   →   [ɲɔmba]

/Ø- ɲama/   →   ; [ɲama]

/Ø - ɲ ɔ nta/   →   [ɲɔ nta]

In view of the above, we have treated Ganda law as a diachronic phonological process.

4.8 VOWEL LOWERING

In chapter two, we established that the primary prefix series and the secondary prefix series have the same derivation. We also pointed out that the class prefix is inherent in the head-noun and that the noun modifiers simply 'acquire' the prefix (from the head noun) as a concordial morpheme. To illustrate this fact, let us recapitulate part of table II as 78 below

[78]

Class	Underlying prefix	Surface Primary prefix	Surface Secondary prefix
1	mo	mo/mu	mo

2	a	a	βa
3	mo	mo	mo
4	me	me	me
5	e,	Ø, e, re,	re
6	ma	ma	ma
7	ke	ke	ke
8	i	i/βi /ji	βi /ji
9	N	N	e
10	N	N	i
11	ro	ro	ro
12	ka	ka	ka
13	to	to	to
14	o	o	βo/o
15	ko	ko	ko
16	a	a	a
17	ko	ko	ko

Considering the vocalic element of the prefix. (See 78 above), the following

observations can be made:

[79]

    i)   The primary prefix vowel in 2,3,4,5,6,7,8,11,12,13,14,15,16,and 1)
identical to that of the secondary prefix.

    ii)   Class 1 vocalic segment has two surface alternants: [o] and [u]
Notice,the corresponding concordial morpheme for class 1 is {mo }

    iii)   The Ø vocalic alternant of class 9 and 10 prefix corresponds to /e/μ
/i/ of the secondary prefix series.

The observation in 79 (i) validates our earlier claim that the primary prefix anμ/π

secondary prefix series have the same derivation and are identical.

Data 79 (i) and (ii) however contradicts the fore-mentioned claim. Based onμ/π

same derivation" hypothesis, we can safely argue that, the class marker is inμ/μ

in the head-noun so that the head-noun gives the concordial affix its shape as is the case in 79 (ii). Given this fact, we expect that the primary prefix in class 1 and 9/10 have the following correspondence.

[80]

Class	Primary prefix	Secondary prefix
1	mu	mu
	mo	mo
9	ne	ne
10	ni	ni

The correspondence set-up for class 1 suggests that class 1 has two underlying prefix forms: {mu} and {mo} so that some nouns have /mu/ as the primary and secondary prefix while other nouns have /mo/ as the corresponding primary and secondary prefixes. On the contrary, the occurrence of {mu} is limited only to one lexical item [munto]. Interestingly, the class prefix /mu- / of {munto} corresponds to the concordial affix [mo]. This shows that [mu] and [mo] are allomorphic variants of a single underlying prefix form. The question we are grappling with here is: if the concordial affix {mo} derive from the primary prefix form {mo} or {mu} accordingly, what rule can we posit to account for the apparent lack of correspondence?

The same question obtains for class 9/10 where phonetically the vocalic element of the primary prefix is Ø while the secondary prefix is /e/ and /i/ respectively.

Two possible processes can be posited to account for class 1 and 9/10 phenomenon respectively. If we assume that the class one concordial affix [mo] is copied from the class prefix [mo], then a raising rule accounts for [mu] in munto].

If on the other hand we take that concordial affix [mo] is a reflection of the class prefix [mu] a vowel lowering rule is to account for the alternant {mo} of class 1 prefix.

In class 9/10, it is possible that some rule deleted the vocalic elements of the prefixes to yield the attested synchronic phenomenon. Let us consider each of these possibilities at a time.

4.8.1   Vowel-Raising or Lowering Rule.

Generally, the primary prefix ought to give shape to the concordial affix. The class 1 concordial morpheme is /mo-/ and ought to derive from an identical class one prefix. We therefore, based on the above fact, argue that /mo-/ the concordial affix corresponds underlyingly to a /mo/ of the class prefix. Thus:

[81]

	Primary Prefix	Secondary Prefix
cl. 1	/mo-/.	/mo-/.

Given the correspondence in 81, we hypothesize that class 1 {mo} is the underlying prefix. The [mu] in [munto] is thus arguably derived from {mo} by a rule that diachronically raised the vowel in * [monto] occasioning the observed allomorphy. The rule capturing this change can be formulated informally as:

[82]

$$* \quad o \quad > u / \quad \# \quad C \text{ ---- } +$$

$$* \text{ [monto]}$$
$$\text{cl. 1}$$

We may argue here that the raising of */o/ to /u/ is a strategy to keep /o/ maximally differentiated from /ɔ/ a vowel phoneme in the language. Such a rule that raises */o/ to /u/ and possibly */e/ > /i/ parallels a Russian phenomenon as illustrated in Schane (1969:210). He thus postulates:

> Instances of neutralization, which are not due to assimilation, are characterized by rules of maximum differentiation. Thus in Russian there are 5 vowels in stressed position. i, e, a, o, u. In unstressed position there is neutralization in the mid-vowels: e merges with i, while o merges with a. The result is a maximally opposed three-vowel system i, a, u.

If we adduce more data to establish that /e/ is raised to /i/ then the Kimeru phenomenon like the Russian, would have maximal differentiation of /e, o/ from /ɛ ɔ/ so that /e/ merges with /i/ and /o/ merges with /u/ respectively. The result would be a five-vowel system reminiscent of the Kiswahili 5-vowel system.

Apparently, the proposed raising rule seems to have affected only one morpheme, the prefix {mu} of [munto]. Making a generalization parallel to the Russian, would be too far-fetched and unempirical. To ascertain whether a raising-rule ever operated in Kimeru, we need to consider the genetic history of the language.

The prefix series in Kimeru and other Thagicu languages have undergone similar changes (See Chapter 2). We therefore need to compare Kimeru prefixal forms with the C.B. reconstructions. All the C B reconstructions have reconstructed similar vowels in the respective prefix forms. The same vowels are synchronically

attested in Kiswahili and Western Kenya Bantu languages. Let us therefore compare Kimeru prefix series to C.B. forms using Guthrie's reconstructed forms.

[83]

Class	C.B. reconstructions (Guthrie 1970/71)	Kimeru
1	mu	mo/mu
2	ba	a
3	mu	mo
4	mi	me
5	di	ø,e,ɾe
6	ma	ma
7	ki	ke
8	bi	i/βi/ji
9	ni	n
10	ni	n
11	du	ɾo
12	ka	ka
13	tu	to
14	bu	βo
15	ku	ko
15	pa	a
17	ku	ko

Guthrie and other C.B. reconstructions do not have mid-vowels that are synchronically attested in Kimeru. Where the C.B. prefix vowel is /i/ or /u/, Kimeru has the corresponding mid-vowels /e/ and /o/ respectively, except in class 1 [munto], class 8 and 10 (Concordial affix).

The raising rule proposed to account for the {mu} in class 1 seems invalidated by our comparative data. The fact that Kimeru is a daughter language to the proto-Bantu implies that the Kimeru prefix forms derive from the C.B. forms albeit indirectly. If we posit a raising rule, we presuppose that mid-vowels existed in the C.B. so that a raising rule can raise the mid-vowels to add to the inventory of high vowels in Kimeru and other Thagicu languages. Such a rule is evidently not valid, in view of the available comparative evidence.

The second possibility for class 1 is to treat [mu] of [munto] as the underlying prefix form, so that the alternant [mo] is treated as a result of a vowel lowering rule, that diffused to all concordial affixes in class 1 and the homophonous class 3. There is indisputable evidence suggesting that Kimeru class prefixes derive from the C.B. forms by a diachronic vowel lowering rule. This rule has lowered the high back vowel */u/ of class 1, 3, 10 (concordial affix), 11, 14, 15 and 17 to /0/. On the other hand, the high front vowel * /i/ of class 4, 5, 7 and 9 (concordial affix) have been lowered to the corresponding mid-high front vowel /e/. The lowering process did not however diffuse through all the target prefix forms. In this case, some high vowels are synchronically attested in the prefix series.

The incomplete lowering is responsible for the [mu] of [munto] in class 1, /i/, /βi/ of class 8 and the concordial affix /i/ of class 10. The Kimeru vowel lowering process is identical to the Kitharaka phenomenon (see Mberia 1993:186-7; 223-4).

Unlike what Mberia (ibid) seem to imply for Kitharaka, the vowel lowering process in Kimeru was not limited to the prefix series. It was a general rule that

pervaded the lexicon. Comparing Kimeru data to Kiswahili (which did not undergo the lowering) reveals the pervasiveness of the vowel lowering process in Kimeru.

[84]

Kimeru	Kiswahili	
[moromɛ]	[mu:me]	husband
[mbori]	[mbuzi]	goat
[mote]	[mti]	tree
[kerema]	[mlima]	mountain
[kererɔ]	[kilio]	cry

Data 84 clearly shows that most high vowels were lowered to mid-high vowels. It is however not clear what blocked the lowering of some of the high vowels. Whatever blocked this lowering process is responsible for the [mu] of [munto] in class 1 and the high front vowels in class 8 and 10 (concordial affixes). It is this lowering that differentiated class 9 and 10 morphological classes, since class 9 concordial affix was lowered to /e/ while class 10 concordial affix remained a /i/. The lowering of the vowels of the prefix can be accounted for by an informal rule like 79 below:

[85]

$$\begin{Bmatrix} * /i/ \\ * /u/ \end{Bmatrix} > \begin{Bmatrix} /e/ \\ /o/ \end{Bmatrix} / C \underline{\hspace{2cm}} + \text{cl. Prefix.}$$
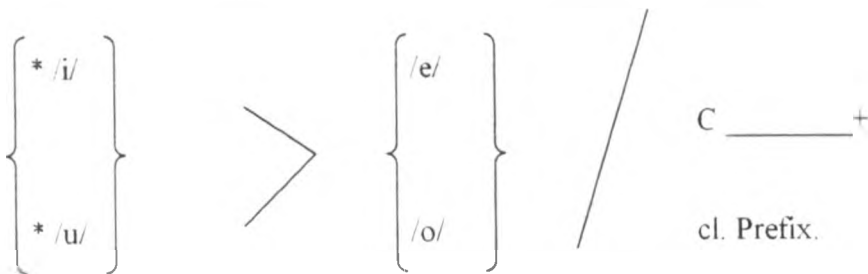
Rule 85 above can be formally written as:

[86]

$$\begin{bmatrix} +\text{syll} \\ +\text{high} \\ \alpha\ \text{back} \end{bmatrix} > \begin{bmatrix} -\text{high} \\ -\text{low} \\ +\text{tense} \\ \alpha\ \text{back} \end{bmatrix} / \begin{bmatrix} +\text{cons} \end{bmatrix}\ \rule{1.5cm}{0.4pt}\ +$$
cl. Prefix
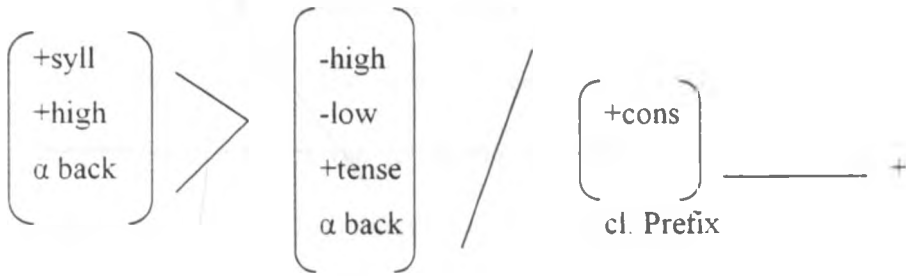
4.8.2 Diachronic Vowel Deletion

To account for the phenoneon in 79 iii we hypothesized that a certain rule diachronically deleted the vocalic elements of cl. 9/10 prefixes, occasioning Ø as the prefix vowel and /e/, /i/ as the corresponding concordial morphemes respectively.

In all the C.B. reconstructions */i/ is reconstructed as the prefix vowel for class 9 and 10. To derive the synchronic {NØ} sequence from the C.B. * / Ni/, a vowel deletion rule applied. Thus:

[87]

* i, > O / N ___ +
cl 9/10
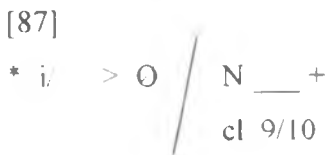
The deletion in 87 above is a well motivated phenomenon. In writing about nasal compounds Meinhof (1932:33) observes that:

> If the first of two syllables losses its vowels, the consonant is juxtaposed and come in contact. In Bantu this occurs when the first syllable consists of a nasal and a vowel. It is obvious that a nasal which is itself so near to being a vowel would be the most likely to lose its vowel. The oldest occurrence of this kind is the dropping of i in the syllable ni.

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What Meinhof consider as 'obvious' is the fact that the /i/ assimilates to the preceding nasal, occasioning the deletion. Such deletion rests on the feature identity of both elements. The vowel /i/ and the nasal consonant agree in terms of the feature [+son]. The vowel is consequently deleted leaving a trace in the lengthened vowel of the following syllable. This explains why the vowels are lengthened after an NC cluster in Bantu languages.

The vowel deletion process only affected the class 9/10 prefix vowel. What seem probable is that this deletion process took place after the diachronic vowel reduction. This clearly explains the synchronic occurrence of /e/ and /i/ as class 9/10 concordial affixes respectively, deriving historically from an identical class 9/10 prefix * {ni}

4.9 CONCLUSION

Our main goal in this chapter was to establish the extent to which diachronic processes are responsible for the irregularities evidenced in the synchronic nominal phonology.

Considering the consonant in the prefix, we have identified and discussed the following diachronic processes: nasal deletion, affecting class 1,3,4, 6, 9 and 10; β-loss evidenced in class 2, 8, and 14; p-lenition responsible for class 16 prefix; /ɤ/ and /j/ loss stem- initially; d-sonorization in class 5 and 11; class 5 prefix reduction: via-rules and rule inversion affecting class 9/10 and Ganda law responsible for Ø, ŋ and ɲ prefix shapes in class 9/10.

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Other diachronic processes have affected the prefix vowels. The incomplete diachronic vowel lowering is such a process that has lowered /i/ and /u/ of the class prefixes to /e/ and /o/ accordingly. This process affects all classes except the word [munto] cl. 1. cl. 8 and cl. 10 prefixes. The other vowel process involve the deletion of class 9/10 prefix vowels to yield the nasal /N-/ as the class 9/10 prefix.

Generally, the diachronic consonant and vowel processes have interacted variously to breed irregularities in the synchronic nominal system. Indeed, the output of the various diachronic processes is the input to some of the synchronic phonological rules. Most synchronic vowel process for instance occurs when diachronic deletion of stem-initial consonant juxtaposes the prefix vowels to the stem-initial vowels.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0   INTRODUCTION

This chapter is a summative discussion of the research findings, leading to the research conclusion and recommendations for further research.

It should be remembered that we initially set out to carry out an investigation into the morphophonemic puzzles in the Kimeru Nominal system. We argued that the observed irregularities in the synchronic Kimeru Nominal system had a phonological basis that required a thorough scientific investigation.

Accordingly, we carried out a research on the Kimeru Nominal phonology. The collected data has been analyzed in chapters 2, 3, and 4.

The purpose of this chapter is to summarize the research findings and relate them to our specific research questions /objectives and our working hypotheses as outlined in sections 1.3 and 1.4 respectively. We intend to determine whether or not the findings confirm our earlier suppositions and provide adequate answers to our research questions.

5.1   A SUMMARY OF RESEARCH FINDINGS

In chapter 2, we looked at the Kimeru noun class system. We paid particular attention to the prefixal system used in classifying nouns in Bantu languages of

which Kimeru is a member. We observed that three major obstacles blurred the prefixal criterion.

To start with, we pointed out the occurrence of allomorphic class prefixes as one such major obstacle. Such allomorphic prefixal variants, we noted, have developed because the morphophonemic process that are triggered when the prefix morpheme is juxtaposed to the stem-initial segment. These morphophonemic processes (discussed in Chapter 3) underlie the synchronic prefixal shapes and variants. It is these processes that account for the prefixal alternations /mo/ ~ /mw/ cl. 1 and cl. 3; /me/ ~ /my/ cl.4 and /ke/, /ɣe/, /ky, /ky and /ɣy/cl. 7 for instance.

Other instances of allomorphy have however been shown to be independent of such phonetic conditioning. The occurrence of mu/mo as cl. 1 prefixes is as a result of diachronic phonological rules (discussed in chapter 4).

Another obstacle to the prefixal system of classifying nouns is the absence of a prefix to mark class overtly. Such instances have been noted in class 5 and class 9/10. We have established that various historical rules and subsequent reanalysis of the class prefix as part of the stem are in part responsible for the phenomenon. Other occurrences of the zero morph have been noted to be instances of borrowing (Not discussed in this study).

In view of the above two obstacles (allomophy and zero morphs), we have concurred with other Bantuists that morphological factors, that is, the class prefix and the corresponding concordial morphemes are what assign Bantu nouns to the

various gender classes. (Cf. Welmers 1973, Mberia 1993, Derek 2000, Kaviti 2004). In this case, the noun lacking an overt prefix is successfully assigned a gender class via concord.

Use of the above morphological criterion however was shown to be an insufficient tool in accounting for the third obstacle — the 'ambiguity' occasioned in the homophonous class 1, 3 {mo} and class 15, 17 {ko}.

We clearly demonstrated that only semantic considerations could account for the classification of nouns in the four noun classes. We further demonstrated that the original semantic correlations in the prefixal system are still transparent, save that the various semantic shifts and innovations have variously destroyed the original distributional order.

In view of the above, we posited that for Kimeru, like for other Bantu languages, it is a combination of both morphological and semantic considerations that can successfully account for the noun classification. The morphological criterion has however been shown to override the semantic considerations, so that it is the former that is used in formally classifying Bantu nouns.

Our main interest in the formal system of noun class (discussed in chapter 2) was the phonetic behaviour of the prefixal morphemes. We therefore set up prefix correspondences to capture the gradations of change attested within the synchronic prefixal system. Such correspondences also availed both internal and comparative evidence required in reconstructing historical sounds. It was quite apparent from these correspondences that the irregularities occasioned in the synchronic prefixal

system are as a result of the interaction of both diachronic and synchronic phonological processes.

The correspondence between the Common Bantu Prefix forms, the synchronic underlying forms, the surface class prefixes and concordial morphemes, diagrammatically summarizes the fore-mentioned interaction.

[1]

Class	C.B.	Underlying prefix	Surface prefix form.	Surface concordi morpheme
1.	mu	mu	mo	o
2.	βa	βa	a	βa
3.	mu	mo	mo	o
4.	mi	me	me	e
5.	di	re	e	re
6.	ma	ma	ma	ma
7.	ki	ke	ke	ke
8.	βi	βi	i	βi
9.	Ni	N	N	e
10.	Ni	N	N	i
11.	du	ro	ro	ro
12.	ka	ka	ka	ka
13.	tu	to	to	to
14.	βu	βo	o	βo
15.	ku	ko	ko	ko
16.	pa	βa	a	a
17.	ku	ko	ko	ko

The correspondence between the synchronic underlying prefixes and the surface forms captures the various synchronic phonological processes that underlie the correspondence. These synchronic phonological processes are discussed in

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Chapter 3. Below is a diagrammatic summary of these processes demonstrating how their operation results in the various surface alternations.

Class	underlying prefix prefix	surface alternant		phonological rules in operation
1	mu	mo	—	see D R (Diachronic Rules Ch 4)
		mw	—	gliding
2	βa	a	—	see D R
3	mo	mo	—	preserved
		mw	—	gliding
		mu;	—	vowel heightening
4	me	me	—	preserved
		my	—	gliding
5	re	re (concordial)	—	Preserved
		ri	—	vowel heightening
		e	—	see D R
		y	—	gliding
6	ma	ma	—	preserved
7	ke	ke	—	Preserved
		ky	-	gliding
		ki	—	Vowel heightening
		ɣe	—	Dahl's Law
		ɣv	-	gliding / Dahl's law

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8.	βi	βi	—	Preserved
		βy	—	gliding
		i	—	see D.R.
		y	—	gliding
		ji	—	rule innovation
		jy	—	rule innovation / gliding

9/10	N	n	—	Preserved (vacuous application of H.N.A rule
		m	—	Homorganic Nasal Assimilation (H.N.A)
		ɲ	—	H.N.A
		ŋ	—	H.N.A
		n̥	—	H.N.A/nasal devoicing
		m̥	—	H.N.A/nasal devoicing
		ɲ̥	—	H.N.A/nasal devoicing
		ŋ̥	—	H.N.A/nasal devoicing
		Ø	—	See D.R

11	ro	ro	—	preserved
		rw	—	gliding

12	ka	ka	—	preserved
		ɣa	—	Dahl's Law (D.L).

13.	to	to	—	preserved
		tw	—	gliding

14.	βo	βo	—	Preserved
		o	—	see D.R.
		w	—	gliding

15.	ko	ko	—	Preserved
		kw	—	gliding
		ɣo	—	Dahl's Law
		ɣw	—	Dah'ls law /gliding

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16. βa ——————— β   —   Preserved
            ———— a   —   see D. R

17. ko ——————— ko (concordial)   —   Preserved
            ———— ɣo   —   Dahl's Law.

Notice that, most prefix vowels change shape variously when juxtaposed to a vowel-initial stem. The interaction between the class prefix and the stem-initial vowel does not only alter the prefix shape but also the stem-shape. Usually, the various vowel processes involves altering the prefix vowel and deleting the stem–initial vowel; a phenomenon Polome (1970) describes as "loss of one Mora".

Some consonant processes also alter the stem-shape. One such synchronic phenomenon is attested in continuant strengthening as illustrated below:

Underlying segments	**Surface alternant**	**Synchronic rules in operation**

$$
\text{N} + \text{cl. 9/10}
\left\{
\begin{array}{c}
r \\
\beta \\
\eth \\
j \\
\gamma
\end{array}
\right\}
\longrightarrow
\left\{
\begin{array}{c}
d \\
b \\
(d) \\
ɟ \\
g
\end{array}
\right\}
\quad — \quad
\begin{array}{c}
\text{continuant} \\
\text{hardening}
\end{array}
$$

stem.

We noted that /ð/ hardens to [d] in the speech of the Upper-Mwimbi speakers. In the speech of the Lower-Mwimbi, the hardening is sporadic with some speakers consistently exhibiting the [+cont] /ð/, in which case the hardening fails. This phenomenon coupled with the innovative /j/ that has replaced /β/ of class 8 in Upper-Mwimbi, seems to account for the isoglosses that separate Upper -Mwimbi from Lower-Mwimbi. This is in line with the views of Bennett (1981:323), who points out that the class 8 prefix in Upper-Mwimbi is /ji-/ while in Lower-Mwimbi

the prefixal form is /βi/. In further noting the differences between the two sub-varieties he posits:

> The upper and lower sub-dialects, though they agree in most particulars, are not identical. Recent external influences (in the former from protestant mission and the kikuyu, in the later from the catholic missions and the "Meru" of Imenti) have only intensified the difference....The classes differentiated and the forms of certain prefixes differ considerably between the two. Other formal and functional differences exist but none is so great as to warrant treating the two separately. (1981:296).

What Bennett seems to suggest is that the speech of the Upper-Mwimbi speakers is influenced by Kikuyu, the language of the protestant missionaries while the Lower-Mwimbi is influenced by the Ki-Imenti; the Kimeru dialect used by catholic missionaries.

Contrary to Bennett's views, our findings reveal that the slight differences in speech of Upper and Lower-Mwimbi sub-dialects may not be as a result of external influence. Such influence though not totally denied is not phonological but only lexical. We noted for instance that the Upper-Mwimbi speakers use [ŋgui] for "dog" while the Lower-Mwimbi speakers have [kurɔ]. [ŋgui] is borrowed either from kikuyu or the neighbouring Chuka dialect.

The phenomena of /j/ and the hardening of /ð/ can have two possible explanations. One, the innovative /j/ and the hardening of /ð/ → [d] are isoglosses of Upper-Mwimbi as earlier suggested. This would then confirm Bennett's suspicions that Mwimbi has two sub-dialects. In this case, the sporadic occurrence of /j/ and

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/ð/ → [d] in Lower-Mwimbi can be argued to be cases of borrowing.

Alternatively, the innovative /j/ and hardening of /ð/ can be said to be rules in the dialect that have originated in Upper-Mwimbi and are slowly diffusing through the dialect continuum. In this case, the changes can be said to be complete in Upper-Mwimbi but in progress in the lower parts of Mwimbi. In this study, we have treated the above phenomena as cases of sound changes in the dialect that are diffusing at different rates through the dialect continuum. A dialectal study would probably establish whether sub-dialects or dialects exist in what we have called the Mwimbi variety.

Besides, we reivsted the phenomenon variouslt discussed as nasal palatalization by various Bantusit (Cf. Potome 1970, Welmers, 1973, Heinnebuch 19747, Bakari 1985 and Wa Mberia 1993) and empirically demonstrated that is indeed a case of Ganda Law where /N/ acquired the featurtes of /j/ to surfaces as [ɲ] before the stem-initial/j/ was deleted.

Further, we have shown that correspondences between the C.B. prefixal forms and the synchronic surface prefixes reveal the various diachronic processes that interact with synchronic processes in the synchronic grammar. It is this interaction with the former that breeds irregularities in the synchronic grammar. The irregularity causing diachronic processes are discussed in chapter 4. Below is a diagrammatic summary of these correspondences.

[4]

Class	C.B.	Underlying prefix forms	Surface prefix forms		Surface concordial morpheme		Rules underlying the phenomena
1	mu >	mo	mu	~	o	—	Preserved
			mo	~	o	—	Vowel lowering/Nasal deletion
2	βa >	a	a	~	βa	—	β-loss (cl. Prefix)
3	mu >	mo	mo	~	o	—	Vowel lowering /Nasal deletion
4	mi >	me	me	~	e	—	"
5	di >	e	e	~	re	—	d-sonorization /re-reduction/ vowel lowering
6	ma >	ma	ma	~	ma	—	preserved
7	ki >	ke	ke	~	ke	—	Vowel lowering
8	βi >	βi	βi	~	βi	—	Preserved
			i	~	i	—	β-loss
			ji	~	ji	—	Rule innovation
9	ni >	n	n	~	e	—	Vowel deletion/Nasal deletion (concoridal)
			ø	~	e	—	Nasal deletion.
10	ni >	n	n	~	i	—	Nasal deletion. (concordial)
			ø	~	i	—	Nasal deletion
11	ru >	ro	ro	~	ro	—	Vowel lowering
12	ka >	ka	ka	~	ka	—	Preserved
13	tu >·	to	to	~	to	—	Vowel lowering
14	βu >	o	o	~	o/ojo	—	β-loss/vowel lowering Analogical rule innovation.

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15	ku	>	ko ——	ko	~	ko	—	Vowel lowering
16	pa	>	a ——	a	~	a	—	p-lenition /β-loss
17	ku	—	ko ——	ko	~	ko	—	Vowel lowering

[5]

Class	C.B (Prefix + stem)		Surface alternant s		Rules underlying the phenomena
			ŋg	—	Vowel deletion / H.N.A
9/10	Ni + $\left\{\begin{array}{c} \gamma \\ j \end{array}\right\}$ >		ŋ	—	Vowel deletion /H.N.A/Ganda law
			ɲɟ	—	Vowel deletion / H.N.A
			ɲ	—	Vowel deletion / H.N.A / Ganda la
3.	mu > mo+ $\left\{\begin{array}{c} \gamma \\ \beta \end{array}\right\}$ >		mo-Ø	—	ɣ-deletion
				—	β-loss
14.	βu > o + $\left\{\begin{array}{c} j \\ \end{array}\right\}$ >		w-Ø	—	j-deletion

Clearly /ɣ/, /j/ and β/ are deleted stem-initially, creating a conducive environment
for various morphophonemic processes as we have already seen.

We have also noted that the diachronic weakening of stem-initial stops is the
inverted rule of the synchronic continuant hardening. This phenomenon has been
captured in our discussion on rule-inversion.

Interrelatedness of lexical items in other classes especially to those in class 9/10,
has been captured through via-rules (See chapter 4).

We have in the various diagrammatic illustrations above summarized our discussion of chapter 3 and chapter 4. We have shown how the interplay of both synchronic and diachronic rules accounts for the synchronic prefixal shapes and variants. We have shown that the class 5 prefix variant /ri-/, posited by Bennett (1981:321) for ki-Mwimbi, is infact a surface realization of the underlying prefix /re-/. /ri/ is realized after the operation of the vowel heightening rule as in

/re-iɔ́/ → [ri:ɔ́].

5.2   RELATING OUR FINDINGS TO OBJECTIVES AND HYPOTHESES

In chapter one, we stated the objectives of our research as follows:

1. To establish the relevant morphophonemic processes in the realization of the various concordial affixes in the Kimeru nominal system.

2. To account for the irregularities in the realization of the class prefixes as concordial morphemes in the Kimeru Nominal system.

3. To demonstrate that the concepts and descriptive tools of N.G.P can adequately account for the relevant data.

4. To demonstrate that both diachronic and synchronic processes are involved in the Kimeru phenomena outlined in the research problem (1.2).

In an attempt to answer the above questions, we made the following intelligent guesses (hypotheses):

1. The synchronic Kimeru Nominal phonology is a product of historical sound development.

2. Underlyingly, Kimeru has a CV syllable structure; the other realizations such as V, VV or V, CV are consequences of historical phonological processes.

3. The allomorphic class prefixes are products of sound changes that can be shown to be phonological, morphological and analogical.

4. The mismatch between the concordial affixes and their corresponding class prefixes is an indicator of change which can be accounted for through the methods of internal and comparative reconstruction.

In a nutshell, our discussion in chapter 3 and 4 has catered adequately for all the four research objectives. We have discussed the various morphophonemic processes responsible for the synchronic prefix shapes in Kimeru. The following synchronic processes were shown to be partly responsible for the current prefix shapes and variants.

Consonantal processes

- Homorganic Nasal assimilation

- Continuant Hardening

- Consonant dissimilation

- Nasal devoicing

- Identical consonant deletion

Vowel processes

- Gliding (devocalization)

- Height assimilation

- Identical vowel deletion

- Compensatory vowel lengthening.

To account for irregularities in the realization of the class prefixes as concordial morphemes, we have shown that diachronic phonological processes are involved. The existence of such diachronic processes has been confirmed by the available comparative evidence, especially through correspondences set up between the C.B. forms and the synchronic concordial affixes. In this respect we have discussed at length the various diachronic phonological processes in chapter 4. They include:

- Nasal deletion

- β-loss
- p- lenition
- Diachronic loss of /j/ and /ɤ/ stem-initially.
- d-sonorization and class 5 prefix reduction.
- Via-rules and rule-inversion
- Ganda-law.
- Vowel lowering
- Diachronic vowel deletion

In discussing the synchronic and diachronic processes, we have clearly demonstrated that indeed both synchronic and diachronic processes are involved in the Kimeru phenomena as required by the fourth research objective.

In all our analysis, we have used the concepts and descriptive tools of NGP, which is sufficient evidence that the theory has adequately accounted for the relevant Kimeru data.

In the effort to meet our set objectives, we have tested our research hypotheses, all of which have been confirmed. As hypothesized, we have confirmed that the Kimeru nominal phonology is in fact a product of both historical sound development and synchronic phonological rules. Further, we have confirmed that underlyingly Kimeru has a CV syllable structure; other realizations featuring V, or even C, as the prefix element are as a result of diachronic phonological processes. The operations of Ganda Law and diachronic vowel deletion are responsible for the single consonantal element as the class marker in class 9/10 nouns. The loss /β/ and /p/ on the other hand are responsible the vocalic prefixal elements in class. 2, 8, 14 and 16 respectively. This clearly confirms our second hypothesis.

Besides, the allomorphic class prefixes have been shown to be products of phonological, morphological or analogical sound changes. We have for instance clearly shown that sound changes responsible for the alternants in the class 7 are phonologically conditioned — the operation of Dahl's law. Similarly, Homorganic Nasal Assimilation, a phonetically conditioned rule, is responsible for the prefixal variants in class 9/10.

Morphological conditioning on the other hand is responsible for the class 5 and class 8 prefixal variants. The allomorphy in the demonstrative paradigm was noted to be as a result of the attempt to replace the second consonant of the duplicated prefix (forming the demonstrative) with an analogic /j/. This analogic /j/ in the demonstrative paradigm has arguably originated as an innovative rule in class 8 where it is replacing the /βi/ prefixal variant analogically. These evidently shows that even our third hypothesis has been confirmed.

Our fourth hypothesis has been confirmed variously in our discussion of diachronic phonological process where both internal and comparative reconstruction methods were used. Clearly, all our research objectives have been met and at the same time, the four research hypotheses have been tested and validated.

5.3   CONCLUSION

Evidently, the irregularities noted in the synchronic Kimeru Nominal phonology as highlighted in our problem statement, are as a result of the interaction between

historical sound development and synchronic phonological processes. It is the fossilized diachronic phonological rules that breed irregularities occasioned in the synchronic grammar.

5.4   RECOMMENDATIONS

As stated in our scope, our study has only dealt with the nominal morphophonology. In our attempt to account for the irregularities evidenced in the synchronic nominal system, we delved into both the synchronic and diachronic phonological processes in the language.

We have, at various stages in our discussion, suggested that the phonological changes affecting the prefixal morpheme pervade the whole grammar. While this is true, the reverse is not. In other words, the whole phonological spectrum in the language is not satisfactorily covered in our study of the nominal system. There are for instance phonological processes that are best handled in the verbal morphophonology. The phonological processes involved in verbal extensions are generally restricted to such morphological environments.

The phonology of these verbal extensions is quite intriguing. Some of the suffix vowels for instance seem to be determined by the vowel found in the verb root. When the verb root vowel is either /a, e, i, o, or ʊ/ the suffix vowel is /e/. When on the other hand the verb root vowel is /ɛ/ or /ɔ/ the suffix vowel is always /ɛ/. In such cases the applicative morpheme in Kimeru surfaces as [er] or [ɛr], depending on the verb-root vowel.

Such harmony is not attested in the nominal phonology. There is therefore need to investigate not only the vowel harmony phenomenon but the entire verbal morphophonology.

Besides, in discussing the various prefixal variants, we noted the occurrence of zero allomorph in class 5 and 9/10. We argued that in class 9/10, the zero allomorph was either due to a nasal deletion rule or cases of borrowed words that come into the language undifferentiated for number. Such loans are what Welmers (1973) refers to as adopted words about which he says:

> ...in Bantu in general, foreign words are commonly taken into classes 9 and 10. In Languages in which class 5 has no overt prefix, however, foreign words may be taken into class 5 and used with the prefix of 6 in the plural. If the first syllable of the foreign word is sufficiently reminiscent of a prefix in the adopting language, the word is likely to be taken into the class for which that prefix is appropriate, singular or plural, and the pairing prefix is then also used with the reanalyzed stem.... (1973:182).

There is need to determine the extent to which Welmers statements are valid for Kimeru. In this case a study of the phonological behaviour of Kimeru loans as they undergo nativization would be necessary.

Finally, our study has only dealt with the segmental phonemes of the language. There is need to not only explore the auto segmental tier, but to also consider what its implications to the segmental phonology might be. There must be some sort of interplay between the segmental and the auto segmental tiers. Some diachronic

deletions in some Bantu languages have for instance been shown to be blocked by stress dynamics.

In line with this, Meinhof (1932:33) observes that in Ur-Bantu:

> The nasal is most persistent before monosyllabic stems,
> where it is retained through the influence of the dynamic
> accent, which usually falls on the penultimate. It therefore
> survives in cases where it would otherwise have been lost.

The phenomenon of accent mentioned by Meinhof belongs to the non-skeletal tiers of the sound system. Its influence on the skeletal tier is however apparent. It is probable that such accent dynamisms, as illustrated by Meinhof, have similar implications in the Kimeru segmental phonology. The vowel lowering process, that appears to have lowered vowels "haphazardly", may probably be accounted for by the allocation of stress on the various syllables. If this can be shown to be the case, we would then explain why for instance some /i/ and /u/ were never lowered as in the cl. 1 [munto] and the class 8 βi/i prefixal variants. These are however mere hypotheses that are still untested.

There is need therefore to carry out a scientific investigation of the non-segmental tiers of Kimeru phonology with a view of determining their implications for the synchronic segmental phonology.

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