

**LOAN WORDS IN NANDI FROM ENGLISH AND KISWAHILI  
LANGUAGES**

**BY**

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**A project submitted in partial fulfilment of the requirements for the  
Degree of Master of Arts in the Department of Linguistics and  
Languages, University of Nairobi.**

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## DECLARATION

This thesis is my original work and has not been presented in any other university.

\_\_\_\_\_ Signature      Date \_\_\_\_\_

PERIS CHEROBON BOEN

This thesis has been submitted for examination with our approval as university supervisors.

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## **DEDICATION**

I dedicate this thesis to:

My parents, my dear late Papa, Kimaiyo Boen and my dear and loving Mama, Anne Boen for laying a firm foundation of academic excellence in me during my formative years.

My adorable children, Goddy, Dismo and Assu for giving me a reason to press on with my studies.

My best friend and loving husband Cornelius Rotich for his constant encouragement even when the going seemed tough.

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## **ABSTRACT**

This study focuses on the phonological and morphological adaptations of loan words in Nandi from English and Kiswahili using the theoretical frameworks of Natural Generative Phonology and Generative CV- Phonology. The former has been used in the explanation of phonological and morphological processes while the latter has been used in the analysis of the syllable structure. In light of this, segmental phonology of Nandi was discussed at length, phonological as well as morphological adaptations of loan words was also examined and finally a summary of the research findings was given. This study found out that various vowel and consonant processes as well as syllable structure adaptation processes were involved in the adaptation of loan words in Nandi from English and Kiswahili languages. Our study found out that Natural Generative Phonology theory was adequate in the analysis and explanation of phonological, as well as morphological processes involved in the adaptation of loan words in Nandi from English and Kiswahili.

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## **LIST OF SYMBOLS AND ABBREVIATIONS USED IN THE STUDY**

### **ABBREVIATIONS**

NGP	-	Natural Generative Phonology
MP-rules	-	morphophonemic Rules
P-rules	-	phonetically conditioned rules
U.R	-	underlying representation
S.R	-	surface realization
SD	-	structural description
L1	-	first language
L2	-	second language
V	-	vowel
C	-	consonant
CVC	-	consonant-vowel-consonant
DFM	-	distinctive feature matrix
ATR	-	advanced tongue root
V.H	-	vowel harmony
ESN	-	exclusive singular noun
EPN	-	exclusive plural noun
ISN	-	inclusive singular noun
IPN	-	inclusive plural noun
Pl def	-	plural definite noun
Pl indef	-	plural indefinite noun
Sg indef	-	singular indefinite noun
Sg def	-	singular definite noun
O	-	onset
G.P	-	Generative Phonology
T.G.P	-	Transformational Generative Phonology
N	-	Nucleus

Ant	-	anterior
Cor	-	coronal
Son	-	sonorant
Strid	-	strident
Cont	-	continuant
Syll	-	syllabic

### **SYMBOLS**

ó	-	a syllable unit
#	-	a word boundary
∅	-	a null element
:	-	a vowel or a consonant length
[ ]	-	phonetic boundaries
>	-	a diachronic change
→	-	a synchronic change
/	-	a phonetic environment
//	-	phonemic boundaries
{ }	-	morphemic boundary

# CHAPTER ONE

## INTRODUCTION TO THE STUDY

This is an introductory chapter to this study that sought to examine and analyze the phonological and morphological adaptations of loan words in Nandi from English and Kiswahili languages. As a form of introduction, the background to the language under study which is Nandi is given. Thereafter, the problem under study is stated, followed by the research objectives and hypotheses. Justification and significance of the research is also discussed together with its scope and limitations. The theoretical framework is further dealt with in detail, its principles and rules are expounded in detail. Literature review is also discussed in which works on Nandi language and on borrowing are reviewed. Finally, the methodology used in collecting as well as analyzing data is also outlined.

### **1.1 Background to Nandi Language**

Nandi language belongs to the Nilo-Saharan language family, called Chari- Nile which is one of the six branches of Nilo- Saharan family. It belongs to the Eastern Sudanic branch. The Nilotic group which is a branch of Eastern Sudanic family is again divided into three branches namely; Western, Eastern and Southern Nilotic groups. Kalenjin then belongs to the Southern Nilotic group.



The following diagram shows the Kalenjin family tree: (Figure 1)

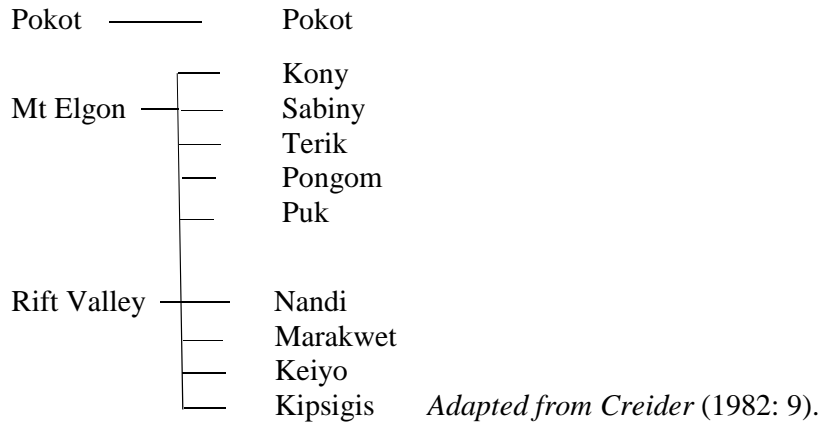


*Adapted from Rottland (1982)*

Nilotic languages in Kenya are grouped into plain, highland and river-lake Nilotes and Kalenjin belongs to the highland Nilotic group and by extension is a Southern Nilotic language. Kalenjin languages are spoken mainly in the Northern and Southern parts of the Rift Valley. The Kalenjin are said to have originated from the borders of present day Ethiopia and Sudan some two thousand years ago to their present day location. This is according to Kipkorir and Welbourn (1973: 94). The Kalenjin later separated and settled in different parts of Rift Valley. Their separation led to the creation of Kalenjin different dialects. Many scholars have attempted to classify Kalenjin into various dialects. Some scholars argue that Kalenjin has nine dialects, while others argue it has thirteen dialects.

Towett (1975) classified Kalenjin languages into nine dialects namely; Nandi, Kipsigis, Keiyo, Tugen, Sabaot, Marakwet, Pokot, Ogiek and Sengwer while Creider (1982: 9), groups Kalenjin languages into eleven dialects and gives a chart to show the genetic relationship of these dialects. He classifies them into three major divisions as follows:

(Figure 2)



Otterloo (1979) groups Kalenjin into thirteen dialects namely; Nandi (NA), Terik (TE), Kipsigis (KI), Keiyo (KE), South Tugen (ST), North Tugen (NT), Cheran’gany (CH), Talai Marakwet (TM), Sambirir Marakwet (SM), Sabaot (SA), Endo Marakwet (EM), West Pokot (WP) and East Pokot (EP). However, the classification that groups Kalenjin’s into nine dialects has gained acceptance. For the purpose of this study, we adopt Towett’s classification. Kalenjin languages are spoken in the following districts: Uasin Gishu, Kericho, Nandi South, Nandi North, West Pokot, Marakwet, Keiyo, Trans-Nzoia, Bomet, Koibatek, Mt Elgon and Baringo districts.

Kipkorir & Welbourn (1973) state that the term ‘Kalenjin’ is not only a recent coinage but also artificial and political in its origin because the people of Kenya who are now known to us as Kalenjin did not have a common name. There is no language called Kalenjin. The Kalenjins were initially referred to as the Nandi-speaking tribes by scholars and administration officials. The term later gained prominence when several Nandi-speaking scholars united and coined the term ‘Kalenjin’, a Nandi expression which means ‘I say to you’. The choice of the term ‘Kalenjin’ was guided by the need to find a term that was common to all dialects.

Kipkorir (1978) says ‘The invention of the word ‘Kalenjin’ to identify a group of people was the achievement of a number of educated young men who decided that the people then referred

to as the Nandi-speaking tribes should have a new and more acceptable collective name'. After the introduction of the term Kalenjin, the people were transformed into a major ethnic group in Kenya. Nandi, a dialect of Kalenjin is spoken in Uasin Gishu, Nandi South, Nandi North and Trans-Nzoia districts and also in other parts of the country.

Nandi was the first to be used in the written form. Later, Kipsigis and Pokot were also used in the written form. The missionaries used the Nandi language in writing texts such as hymn books, the Bible and prayer books. This is in fact the main reason why Nandi language is considered to be the standard dialect among the other Kalenjin dialects. However, there are other scholars such as Koske C. (2006) who have disputed this claim and argue that Kipsigis instead, is the standard dialect. This research acknowledges both Nandi and Kipsigis dialects as the standard dialects but chooses to use Nandi as the standard dialect since this is the language under study. It is with this background of Nandi language in mind that we seek to find out how loan words from English and Kiswahili languages have been phonologically and morphologically adapted in the language.

## **1.2 Statement of the Problem**

All natural languages have borrowed and continue to borrow lexical items from other languages. These borrowed lexical items have to be integrated into the recipient language through various loan word adaptation processes. Our study therefore seeks to find out how loan words are phonologically and morphologically integrated into Nandi language.

Falk (1993) argues that languages do not borrow in a haphazard manner but rather under particular conditions. In other words, there is a motivation in borrowing a word from a donor language for instance, a language may have a semantic gap for a particular word.

Lehman (1972) adds that borrowed words follow certain processes for them to be adapted in the recipient language. Therefore then, one needs to understand how these processes take shape in a language. For instance in Nandi language, most nouns in the singular form end in the

voiceless alveolar stop, [t] as exemplified in the following words, *ketit* [ketit] (tree) and *katet* [katet] (thorn). In the plural form, these nouns end mostly in the voiceless velar stop, [k] shown in the plural of the above words respectively, *ketik* [ketik] (trees) and *katok* [katok] (thorns). It therefore means that when loanwords enter Nandi language, they will be made to follow the above adaptation processes whereby if it is in the singular, it will end in a voiceless alveolar stop, [t] while if it is in the plural, it will end in the voiceless velar stop, [k]. The following loan words from Kiswahili illustrate the above argument, *meset* [meset] (table) and *kalamit* [kalamit] (pen). The plurals of the two loan words from Kiswahili above are *mesok* [mesok] (tables) and *kalamok* [kalamok] (pens) respectively. It is evident that the two words end in a voiceless velar stop [k] just like the other words in the language.

Since the two languages that is, English and Kiswahili both have different structures as compared to Nandi language, then it means that there are certain adaptation processes which are applied to English and Kiswahili loan words such that they appear to fit so well in Nandi language. This phenomenon therefore provided the driving force towards our seeking to examine, describe and analyze the phonological and morphological processes that are involved so that English and Kiswahili loan words are adapted and integrated into various Nandi noun classes.

### **1.3 Research Objectives**

In our study, we were guided by the following research objectives:

1. To describe the segmental phonology and syllable structure of Nandi.
2. To describe and analyze the various phonological processes involved in the adaptation of English and Kiswahili loan words into Nandi Language.
3. To describe and analyze the various morphological processes involved in the adaptation of English and Kiswahili loan words.

## **1.4 Hypotheses**

This research tested the following hypotheses:

1. Nandi syllable structure is involved in the adaptation of loan words from English and Kiswahili.
2. Loan words from English and Kiswahili are adapted into Nandi language through various phonological processes.
3. Loan words from English and Kiswahili are adapted into Nandi language through various morphological processes.

## **1.5 Justification and Significance of the Research**

Nandi language just like any other natural language has borrowed many lexical items from other languages. These borrowed lexical items or loan words need to be restructured to fit into Nandi language using various loan word adaptation processes. The need to examine these processes in detail gave us the impetus to do this research. There is therefore a need to examine both the phonological and morphological processes that are involved in the nativization of English and Kiswahili loan words in Nandi language. It is with this notion that we seek to investigate both the phonological and morphological processes involved in the adaptation of English and Kiswahili loan words into Nandi language.

There are various groups of people that will benefit from this study. First, the etymologists and lexicographers working on the Nandi dictionary and other Nandi literature will benefit immensely from this study. This study will also be beneficial to students who are interested in studying African languages and in particular the Nandi language.

## **1.6 Scope and Limitations**

This research mainly focuses on phonological and morphological processes involved in the nativization of English and Kiswahili words into Nandi language. This is because once a word has been borrowed into a language, the first thing that a language does is to modify the sound such that it sounds like any other sound in the language. This modification of sound involves both phonological and morphological processes. These phonological and morphological processes take place before other processes take effect. Therefore, Lexical borrowing is the main focus of this study since it is the most common type of borrowing.

This study also limits itself to loan words from English and Kiswahili and languages only, therefore, loan words from other languages other than the mentioned ones will not be part of this study.

## **1.7 Theoretical Framework**

The theories employed in the study are Natural Generative Phonology and Generative CV- Phonology theories. The former is employed in the explanation of phonological and morphological processes while the latter is used in the analysis of the syllable structure.

### **1.7.1 Natural Generative Phonology**

Natural Generative Phonology theory (NGP) was first proposed by Vennemann in the early 1970s and later expounded by Hooper in 1976 with the aim of constraining abstractness in phonology (Clark & Yallop 1995:402). Abstractness in Phonology is the degree to which an underlying representation of a morpheme may deviate from its associated phonetic representation. This abstractness is due to the fact that in Phonology, two levels of phonological representations are posited, the abstract underlying representation, and the concrete phonetic or surface representation. Natural Generative Phonology as a theory tries to limit this

abstractness by introducing generalizations across surface forms to replace rules. Thus, within Natural Generative Phonology, rules and representations are directly related to the surface forms and that phonological analysis is more concrete and more realistic than in earlier Generative Phonology theories such as Transformational generative Phonology (TGP), which are highly abstract and therefore unable to capture what is considered to be possible in the sound system of natural languages.

Natural Generative Phonology theory is based in part on Transformational Generative Phonology developed in the early 1950s by Chomsky and only differs with it with regard to the treatment of abstractness in Phonology. Natural Generative Phonology is described as a more constrained theory because it disallows underlying representations that are not related to their surface representations.

### **1.7.1.1 Basic Principles of Natural Generative Phonology**

The general principles of Natural Generative Phonology are outlined by Hooper (1976). She examines the consequences of Natural Generative Phonology for the morphological analyses of a wide range of data from various languages for instance French, Spanish and other languages. She claims that if abstractness can be limited, then also the same case will apply on the possible underlying forms and the result would be that the rules of grammar will be constrained as shown in the example below in (2a) and (2b) from Clark and Yallop (1995:403).

(2a) Demon [di:mən] (2b) Demonic [dɪ'mɒnɪk]

In the above example, if abstractness is constrained, it will then be proposed that one of the two words above is the underlying form and the other is a surface form. If that is the case, then the question to be asked is 'why do we have [ə] occurring in one form and not the other after the initial consonant?' Should a rule be formulated to explain this phenomenon, then problems are likely to arise. This is because one of the given elements does not exist in one of the words shown above. According to Hooper (1976: 13), it would be claimed that part of its structural

description (SD) does not exist on the surface in English. Therefore, Natural Generative Phonology has to place constraints to such rules. Viewed this way then, the abstract rule of the type exemplified in (2a) and (2b) would not be allowed.

In Hooper's words, 'A very strong constraint on rules would be the one that does not allow abstract rules at all, it would require that all rules express transparent surface generalizations that are true for all surface forms and should also express the relation between surface forms in the most direct manner'. This condition is referred to as the true generalization condition and is discussed below.

### **1.7.1.2 The True Generalization Condition**

This is a constraint on phonological rules that requires that a form posited as underlying should have a surface manifestation if it is to be acceptable as a correct underlying form. The condition states that, not all changes have phonetic conditioning.

The condition requires that all the rules express transparent surface realizations. Natural Generative Phonology posits that native speakers formulate rules about their languages that relate surface forms to other surface forms to eliminate abstractness (Clark & Yallop, 1995: 403).

The rules should show the relationship between surface forms in the most direct manner possible. The generalizations constructed by the speakers of a language are surface true and transparent. In other words, this principle allows us to have rules of grammar that make generalizations that are true and testable.

This principle requires that phonological rules and representations bear a direct relation to the surface linguistic forms, the resulting concrete analyses are subject to empirical disconfirmation than abstract analyses as explained in the Sound Pattern of English and similar works.



### **1.7.1.3 The No- Ordering Constraint**

This is a constraint on the application of rules. The rules should not be forced onto a language but rather apply when the structural description of a rule is met. The rules should also apply sequentially on the products of other rules so that they have their own intrinsic ordering. It restricts extrinsic rule ordering so that rules only apply after their structural descriptions have been created by the output of other rules. This condition states that special rules always apply before the general ones. It also implies that speakers of a language do not make use of rule order because they choose the phonological analysis that associates phonological phenomena and morphological phenomena.

### **1.7.1.4 A Strong Naturalness Condition**

This is a constraint on the abstractness of the underlying representations. This condition limits the abstractness of the underlying forms. It requires that the forms be similar if not identical to the surface forms and should be expressed in intrinsic phonetic content.

It requires transparency between underlying and surface forms. This direct correspondence between forms will show changes that are taking place thus avoiding abstractness in grammar.

### **1.7.1.5 Rules in Natural Generative phonology**

In Natural Generative Phonology, there are certain rule types each having its own characteristics. These rules include the following:

### **1.7.1.6 Phonetically Conditioned Rules (p- rules)**

These rules describe the alternations that take place in environments that are specified in phonetic terms. They are natural and are conditioned by the physical articulatory processes.

They describe the changes that are universal in that they always take place in given environments irrespective of the language. They are automatic and do not have exceptions.

According to Mberia (1993), phonological rules are more universal and are found in all languages as long as the rule contains only phonetic information.

Phonological rules also constitute the laws of pronunciation in a language. They also express allophonic variations that are entirely phonetically motivated. The Natural Generative Phonology model states that environments in which the alternations for these rules occur are purely phonetic. These rules are said to be productive and cannot be suppressed as they even apply in loan word adaptation. An alternation is considered phonetically motivated if it takes place when the phonetic motivation is present on the surface.

### **1.7.1.7 Morphophonemic Rules (MP Rules)**

Hooper (1976) argues that these rules are involved in sound-meaning correspondence of a language and are language specific. These rules explain the reason why we have various allomorphs marking plural in a limited number of English nouns for example, {-s} > {-iz} > {-z} as in the following words: chiefs(s) /tʃi:fs/, knives (z) /naivz/ and houses (iz) /hauziz/ respectively. These rules can also apply in the Nandi words whereby a noun can have more than one plural morpheme. For instance, in the following words; *chaakit* (jug) can take the following plurals, *chaakisiek* /tʃakisiek/, *chaakinik* /tʃa:kinik/ or *chaakok* /tʃa:kok/. This word has three plural morphemes, that is, three allomorphs, {- *isiek*}, {- *inik*} and {- *ok*} which are in free variation. Phonology alone cannot explain the above phenomenon but a morphophonemic rule would explain it. Distinction between MP-rules and P-rules is an important feature of Natural Generative Phonology theory.

Other Generative theories for instance Transformational Generative Phonology theory do not make such distinctions. In Transformational Generative Phonology, rules containing phonetic information are not distinguished from those that contain non-phonetic information therefore, they are all lumped together. Transformational Generative Phonology rules lack true

generalization conditions that specify how a rule should be formulated in phonetic terms even if it does not correspond directly to the surface phonetic facts.

Natural Generative Phonology as a theory hypothesizes that a learner of any language who only has the surface data to work with, constructs only hypotheses that are consistent with surface data and cannot construct abstract underlying forms and opaque rules. In other words, a learner constructs rules that express transparent surface generalizations that are true for all surface forms.

### **1.7.1.8 Sandhi Rules**

According to Hooper (1976), Sandhi rules are a class of rules that are intermediate between phonological rules and morphophonemic rules. Hooper continues to say that on one hand, the word boundary that functions in Sandhi rules must be considered a syntactic boundary since it is determined arbitrarily by the syntax and semantics but not phonology. Similarly, a word boundary resembles a phonological boundary since it has potential to coincide with a syllable boundary. Ideally, what can start and end a word can also start and end a syllable. In addition, where a word can start and end can also be where an utterance starts and ends. The close relations between word boundary and phonological boundary make Sandhi rules behave like phonological rules which cannot be suppressed since they are productive.

### **1.7.1.9 Word Formation Rules**

These are rules that specify the various morphological elements that can be combined together, and the order in which this combination can be done to form a word in a given language. These rules are morphologically related.

### **1.7.1.10 Spell- Out Rules**

The morphological spell-out rules dictate that an initial vowel and the final vowel must be inserted in order to meet the morphological requirements of the recipient language. Words in

the loan language undergo re- analysis in a manner identical to that of similar sounds in the recipient language.

#### **1.7.1.11 Via Rules**

These are rules which express relationships between surface forms directly deriving the surface form from a common underlying form. This makes them differ from MP-rules. If we have alternations such as *divine* versus *divinity* and *derive* versus *derivative* in English, Hooper argues that the speaker stores both alternates that is, /divain /and /diviniti/ but knows that there is a relationship between the two forms, expressible in the following via rules stored alongside each pair to which it applies that is, /ai/ and /i/.

Via rules are used to show the relationship between the two forms at the lexical level. They do this without showing any derivational relation. In most cases, via rules are not productive. This shows that Natural Generative Phonology as a theory can provide the basis for discussing borrowing since it will provide generalized rules to account for nativization process. Natural Generative Phonology also makes strong claims about natural language processes and changes and hence proves to be a better tool to use to analyze language change due to borrowing. This theory will therefore be used to illustrate how its claims are applicable to nativization of English and Kiswahili loan words by Nandi language.

#### **1.7.2 Generative CV- Phonology Theory**

Generative CV- Phonology Theory is used in our study to analyze the syllable structure of both the source languages and the recipient language. This theory is attributed to Clements and Keyser (1981) and is specifically used in the analysis of the syllable. According to Clements and Keyser, this theory has three functions: to state universal principles governing syllable structure, to state syllable structure typology that is, to define the range within which syllable

structure may vary from one language to another and to state language - specific rules governing syllable structure.

Generative CV- Phonology theory envisages a syllable as having a three- tiered structure consisting of a syllable node, a CV- tier whose C and V elements dominate and a segmental tier which consists of bundles of distinctive feature matrices which represent consonant and vowel segments.

## **1.8 Literature Review**

In this section, we undertake a review of works that are relevant to this study. The discussion of these works is based on their contributions to the study of Nandi language. We further point out works of scholars who have researched on borrowing and on loan word adaptation processes in other languages.

### **1.8.1 Literature Review on Nandi Language**

Ford (1958) establishes the relationship between singular and plural forms of Nandi nouns. This is significant in this study as it deals mostly with nouns that have been borrowed from English and Kiswahili.

Tucker & Bryan (1964) examine noun classification in Kalenjin by relating primary forms of nouns to their secondary forms. Their major argument is that Nandi nouns have primary and secondary forms in both singular and plural. Though they give the phonetic inventory of Nandi, they do not go into a detailed discussion of the phonological or morphological processes in Nandi. They also look at how voiceless plosives become voiced when they are preceded by nasals and liquid /l/. The explanation of these changes however is not done within any theoretical framework. Nonetheless, this work forms a relevant basis upon which this study is built on.

Towett (1975) classifies Kipsigis nouns basing on the plural formative suffixes. He groups the nouns into eleven plural classes according to the suffixes that they take. He also gives the phonemic inventory of Kipsigis and shows the positions in which consonants and vowels occur in a word. Though he discusses the phonetic inventory, it is never analyzed using any theoretical framework and also the phonological processes are not dealt with in detail. Nonetheless, the phonological issues introduced are relevant in this study. This study goes further to analyze how loan words are phonologically and morphologically integrated in the various Nandi noun classes.

Sang (2009) examines how Nandi uses epenthesis as a strategy for adapting loan words into its lexicon. He looks at different epenthetic vowels that Nandi language uses in order to integrate the loan words into Nandi. His study uses Optimality Theory Approach and loan words from English are examined. Our study examines other loan word adaptation processes involved in the adaptation of loan words from English and Kiswahili languages and shows how these loan words are integrated into various Nandi noun classes.

### **1.8.2 Literature Review on Borrowing**

Borrowing is a natural process of language change whereby one language adds new words to its own lexicon by copying those words from another language. This addition of new words to a language makes a language grow. Trask (1996:18), says that since these borrowed words are never returned to the donor language, they are referred to as loan words. This process of borrowing is one of the most frequent ways of acquiring new words and speakers of all languages do it.

Bloomfield (1933: 450) says that the process by which a foreign word becomes a loan word is gradual, implying that loan words take some time before they are integrated in the recipient language. Haugen (1953) and Sankoff (1990) say that true loan words are typically regarded as phonologically, morphologically and grammatically integrated into the host language. This

means that when loan words enter a language, they are phonologically, morphologically as well as grammatically adapted in the recipient language.

Fantini (1985:146) recognizes two levels of borrowing, pure borrowing and adjusted borrowing. In pure borrowing, the loan word retains all its native features while in adjusted borrowing, a word adapts to the structural criteria of the host language.

Olmsted (1986) distinguishes between three levels of linguistic integration: words used but retain foreign phonology, words partially integrated into the borrowing language and words fully integrated and indistinguishable from the other words in the language.

Katamba (1994: 200) says that a borrowed word may sometimes never become nativized while occasionally a loan word may actually affect the borrowing language itself. This means that some loan words may be fully integrated in the borrowing language while others may not be fully integrated.

Poblack and Sankoff (1984) measured the degree of a loan word's integration into the language by frequency of use, native synonymy replacement (that is, existing words in the first language (L1), will be replaced by the new loan words with similar meanings, morphophonemic or syntactic integration (adapting to the sound and grammar systems of the first language (L1) and the speaker acceptability).

According to Hall- Lew (2002), there are two types of loan words, the first type is phonologically similar to the donor language form and the borrowing language form. This is phonologically similar to the donor language form and the borrowing language form. This is referred to as the transliterated loan word and is used in the borrowing language with the closest possible meaning to the original word. Examples of transliterated loanwords include the following: *baibai* in Chinese which is similar in meaning to the English word 'bye-bye' and *disini* which is also similar to the English word 'dysney'. Examples of transliterated words in

Nandi include the following words: *sanit* which is similar in meaning to the Kiswahili word *sahani* and the word *sut* which is also similar in meaning to the word *suit* in English.

Haugen (1953:390) and Katamba (1994: 193) say that another type of loan words are referred to as calques (a French word for copy) and also called loan translations where the borrowed item consists of a foreign form and meaning with native morphonology. For instance, the Chinese word *yaogun* can be translated as *shake + stone* which means *Rock 'n' Roll* music style in English. Other examples of calques are *a round table meeting* in English which can be translated as *mkutano wa meza duara* in Kiswahili. Another example of a calque is the Kiswahili word *gari la moshi* which can be translated as *karit ab mat* in Nandi which literary translates to ' *car of fire*' in English. This study concentrates mainly on transliterated loan words.

According to Weinreich (1963: 53-55), previous research shows that loan words undergo some semantic alterations from the borrowing process. Such change can result in either semantic broadening or narrowing. Broadening occurs when the referent of a certain term is generalized to a wider range of things while narrowing or specialization occurs when a general term comes to refer to a more specific thing than the original referent (Trask, 1996: 42 and Weinreich, 1963: 55). An example of semantic broadening is found in the Nandi language loan word *kikombet*, [kikombet] from Kiswahili which is a general term for all types of cups while in Kiswahili, (kikombe), [kikombɛ] refers to the standard size cup as opposed to others such as *kombe* [kombɛ] or *kijikombe* [kijikombɛ].

Lehman (1962) and Arlotto (1972) discuss loan word adaptation processes although they draw their examples from European languages. This study borrows a lot from these works especially in determining the direction of borrowing and in establishing the categories that are normally borrowed. Lehman (1962), for instance discusses how borrowing may have an effect on the



phonological structure of languages. He gives an example of how sounds not native to English were introduced to the language for example /dʒ/ from French and /sk/ from Russian.

Arlotto (1972) states that lexical borrowing and more so the noun is the common type of interaction between languages. This will be reflected in the data that we will collect.

Antilla (1972) discusses the processes that a word undergoes before it is adapted into the recipient language. He also discusses the criteria for borrowing that is, whether it is phonological, morphological, grammatical or semantic criteria. He also explains the effect of borrowing on the structure of the lexicon for instance, a loan word can oust a native word with the same meaning completely. Although in his analysis he draws examples from European languages and those from the Far East, the same analysis can be done on African languages particularly Nandi which is the subject of our study. Antilla's work also provides us with the motivation behind borrowing and also reinforces the idea of the categories borrowed. He goes on to say that concrete items are commonly borrowed as compared to abstract ones. He further talks about how loan words are retailored to fit in the grammar of the borrowing language. This study moves a notch higher to discuss phonological and morphological processes involved in loan word adaptation.

Bynon (1977) distinguishes between partial and total assimilation of borrowed words. This work is relevant in the study as it explains why certain words still retain features foreign in the recipient language, while others lose almost all their foreign features.

Weinreich (1963: 48) discusses lexical integration of loan words and asserts that 'a transferred word is occasionally of such a form as to resemble phonemically a potential or an actual word in the recipient language'. This point is important in this study because once words have been borrowed from English and Kiswahili, the words can either get partially or totally assimilated such that they resemble other native words.

Bloomfield (1965) also has an impact on this study because he distinguishes between dialect borrowing and cultural borrowing. In our case, cultural borrowing is our subject of study since Nandi is borrowing from other languages. Bloomfield also makes a brief examination of phonological processes involved in loan word adaptation among European languages. This study borrows a leaf from its analysis of loan words even though Bloomfield's work does not discuss morphological processes.

Scotton (1972) carries out a thorough and an extensive discussion on loan word adaptation in Ateso language from languages neighbouring Ateso which are Bantu and Nilotic languages. This particular work examines the criteria for identifying words that are native and the ones that are loan words. It also does some analysis on morphological, phonological and semantic processes involved in the adaptation of loan words in Ateso. The only shortcoming of this work is its failure to apply any particular theory in the analysis of the loan words.

Winford (2003) discusses lexical borrowing in language maintenance contexts and provides several examples of English and Chinese loan words in the Japanese lexicon and French influence on the lexicon of Middle English. He also discusses the social motivations for lexical borrowing and demonstrates that borrowing is not just about direct importations of words but can be integrated in varying degrees into the phonology, morphology and the syntax of the borrowing language. Once the lexical items have been adopted, they may undergo further processes internal to the recipient language and may be subject to semantic change in addition to being subject to linguistic constraints. This particular work is significant as it gives an insight to this study.

Mwangi (2008) posits that borrowing is necessary to keep pace with new developments occurring in areas where the language is used. This work is also significant to this study since most loan words have been borrowed due to the fact that there was a semantic gap for that particular word, concept or idea in the recipient language.

Walker (2003) says that loan word processes tend to maximize the perceptual similarity between the adapted form and the foreign input. Our study explores this assertion in relation to nativization of English and Kiswahili loan words into Nandi language. The above reviewed works will indeed be very significant in this research as they form a formidable foundation to this study.

## **1.9 Methodology**

Methodology involves the various methods used in the study in collecting as well as analyzing the collected data

### **1.9.1 Data collection**

Data used in our study was collected using introspection, naturalistic observation and listening to radio stations that broadcast in Kalenjin. Introspection refers to the fact that the researcher being a native speaker of Nandi will generate loan words through intuition. To avoid subjectivity, the data generated was counterchecked with other native speakers. In the study, fifty loan words from each of the languages under study were collected. This means that fifty loan words from English were collected and another fifty loan words from Kiswahili were also be collected. In naturalistic observation, native speakers are engaged in a conversation without their knowledge. In the course of conversation, the researcher is able to pick words that are not native in the language. Data was also be obtained through listening to vernacular radio stations such as Kass and Changei radio stations. To this end, only loan words that have originated from English and Kiswahili were picked for analysis.

### **1.9.2 Data Analysis**

After collecting the data, (loan words) we then embarked on comparing and contrasting them with the native words so as to ascertain how they have been integrated in the language through various phonological and morphological processes. Each loan word was transcribed, and its

gloss given and finally, the phonological and morphological processes involved in the adaptation of these loan words were analyzed.

## **Conclusion**

This chapter has given an introduction to the study by giving a background study of Nandi language, that is, Nandi belongs to the southern group of Nilotic languages. The research problem and research objectives have been stated. The hypotheses to be tested have also been outlined. Further, justification and significance of the research have been outlined as well as its scope and limitations. The theoretical framework has also been discussed in detail. The theory employed in this research is that of Natural Generative Phonology (NGP) which was propounded by Heinemann and later expounded by Hooper in 1976. Generative CV-Phonology theory has also been discussed and is used in our study in the analysis of the syllable structure. Literature review has also been given on Nandi language as well as on borrowing and finally, the methodology has been outlined.

## CHAPTER TWO

### SEGMENTAL PHONOLOGY OF NANDI

#### Introduction

This chapter discusses the phonetic inventory of Nandi consonants and vowels together with the words that they occur in. The Nandi syllable structure is also discussed using the Generative CV- Phonology model. Examples of loan words and their syllable structure are analyzed. Thereafter, this inventory is captured on the consonant and vowel distinctive feature matrices.

#### 2.1 Nandi Consonants

Nandi has eleven true consonants and two glides. These consonant phonemes are distributed in word initial, word medial and word final positions. Nandi being a CVC (consonant- vowel –consonant) kind of language, allows consonants to occur in word initial and word final positions. It should be noted that phonemes /p/ and /k/ have allophones which are in free variation. The allophones of phoneme /p/ are [p], [b] and [β] while the allophones of phoneme /k/ are [g], [k]and [ɣ].

The table below shows orthographic as well as IPA representation of Nandi consonants together with the words that they occur in. (Table 1)

Consonant(IPA)	Orthography	phonetic transcription	Gloss
/p/ → [β,b,p]	Put	[put]	Dismantle
	Chup	[tʃup]	Abuse
	Batet	[βat ε t]	Back
	Bobat	[bobat]	Mushroom
/t/	Tes	[t ε s]	Add
	Kaatit	[ka:tit]	Neck
	Rut	[rut]	Pierce
/tʃ/	Cham	[tʃam]	Like
	Kochuun	[kotʃu:n]	to melt
	Paach	[pa: tʃ]	to peel
/k/ → [k,g,ɣ]	Kas	[kas]	Hear
	Tuga	[tuga]	Cattle

	Pugat	[puyat]	Foam
/m/	Mooset	[mo: set]	Monkey
	Kimiet	[kimiet]	Ugali
	Am	[am]	Eat
/n/	Niito	[ni: to]	this one
	Kiinet	[ki: n ε t]	Breast
	Karon	[karon]	Morning
/ŋ/	Nyei	[ŋ ε i]	Chew
	Koonyek	[ko: ŋ ek]	Eyes
	Kany	[ka ŋ]	wait for
/ŋ/	ng'om	[ŋom]	Wise
	ong'atet	[oŋatet]	Desert
	cheeng'	[tʃ e: ŋ]	look for
/s/	Sok	[s ɔ k]	Leaves
	Kasu	[kasu]	wake up
	Siis	[si: s]	be quiet
/r/	Riir	[ri: r]	Cry
	Koorik	[ko: rik]	Houses
	Piriir	[piri: r]	Red
/l/	Leel	[le: l]	White
	Kelek	[kɛlek]	Teeth
	Lul	[lul]	fall down
/j/	Yat	[jat]	Open
	Siyet	[sijɛ t]	finger nail
/w/	Wach	[watʃ]	Scream
	Chorwet	[tʃorwet]	Friend

Nandi consonant phonemes occur in word initial, word medial and word final positions with the exception of the two glides that only occur in word initial and word medial positions as shown in the following words in (1a) and (1b) below:

<u>Word initial</u>	<u>Gloss</u>	<u>word medial</u>	<u>Gloss</u>	<u>word final</u>	<u>Gloss</u>
(1a) [ke: r]	see	[patɛt]	back	[til]	cut
(1b) [ja: t]	open	[punik]	enemies	[pandek]	maize

## 2.2 Pre- nasalized Consonants

A pre-nasalized consonant is a type of a consonant cluster which consists of a sequence that begins with a nasal articulation and ends with an oral articulation. Pre-nasalized consonants behave in many respects like single segments in a word. Nandi language permits four types of pre-nasalized consonants which are /mb/, /nd/, /ŋg/ and /ɲj/ as shown in the following table:

(Table 2)

Cons	Orthography	Phonetic Transcription	Gloss
/mb/	Mbareet	[mbare:t]	Farm
	Kemboi	[kemboi]	Night
/nd/	Konda	[konda ]	Eye
	Sundeet	[sunde:t]	fatty meat
/ŋg/	Angen	[a ŋg en]	I know
	Mengit	[me ŋg it]	Ram
/ɲj/	Menjeet	[me ɲj e:t]	an initiates' hut
	Injoor	[i ɲjɔ:r]	Backyard
	Menjeiwet	[meɲjeiwet]	a type of a shrub

The four types of pre-nasalized consonants shown above are the voiceless plosives which through the process of progressive voice assimilation become voiced because of the nasals that precede them. These pre-nasalized consonants are treated as single sounds. When loan words enter the language and do not conform to the above mentioned pre-nasalized consonants, they are therefore adapted by use of various phonological processes which are discussed in the next chapter. There is also need to show distinctive features for all Nandi consonants on the distinctive feature matrix since these features will be employed in the formulation of phonological rules.

The chart below shows the distinctive feature matrix of consonants in Nandi. (Table 3)

	w	j	p	t	tʃ	k	s	r	l	m	n	ɲ	ŋ
Cons	-	-	+	+	+	+	+	+	+	+	+	+	+
Syll	-	-	-	-	-	-	-	-	-	-	-	-	-
Ant	-	-	+	+	-	-	+	+	+	+	+	-	-
Cor	-	-	-	+	+	-	+	+	+	-	+	-	-
Nasal	-	-	-	-	-	-	-	-	-	+	+	+	+
Voice	+	+	-	-	-	-	-	-	+	+	+	+	+
Cont	-	-	-	-	-	-	+	-	-	-	-	-	-
Back	+	-	-	-	-	-	+	-	-	-	-	-	+
High	+	+	-	-	+	+	-	-	-	-	-	+	+
Sons	+	+	-	-	-	-	-	+	+	+	+	+	+
Strid	-	-	-	-	+	-	+	-	-	-	-	-	-
Lat	-	-	-	-	-	-	-	-	+	-	-	-	-

*Adapted from Maiyo J.E. (2007)*

### 2.3 Nandi Vowels

The phonetic inventory of Nandi consists of ten vowels that are divided into two based on vowel harmony process. This research employs the use of the ten vowel system in its description of Nandi vowels. Vowel harmony can be described as an assimilatory process that involves a restriction such that all the vowels within a domain (for instance, a word or a morpheme), must have the same value for a phonological feature (Casali, 2000: 2). Vowel harmony is thought of as a particularly strong co- occurrence restriction among vowels.

Nandi vowels fall into two matching categories of five pairs on the basis of advanced tongue root [ATR] harmony. According to Local & Lodge (1994), [+ATR] vowels are articulated with the tongue advanced forwards while [-ATR] vowels are articulated with the tongue retracted. [ATR] harmony feature serves to divide Nandi vowels into two sets that is, [+ATR] which consists of the following vowels: /i, e, u, o and a / and [-ATR] which also consist of the following phonemes; /ɪ, ʊ, ɛ, ɔ, ɑ /.



## 2.4 Vowel Harmony in Nandi

The following examples in (2a) and (2b) below show how vowel harmony occurs in Nandi.

				<u>Gloss</u>
(2a)Par	{par}	[a] is [+ATR]		kill (root)
Kiabarin	{kiabarin}			I killed you
{ki}	{a-}	{par}	{- i n}	
(Distant past)	I	kill	(you)	
[i] is [+ATR]	[a] is [+ATR]	[a] is [+ATR]	[i] is [+ATR]	
(2b) Keer	{/ke: r}	[e] is [+ATR]		see (root)
Kiageriin	{Kiageri:n}			I saw you
{Ki -}	{a-}	{Ke:r}	{- in}	
(Distant past	I	see	you (sg)	
[ i ] is [+ATR]	[a] is [+ ATR]	[e] is [+ATR]	[i] is [+ATR]	

In the above examples of words in (2a) and (2b), if there is a [+ATR] vowel in a word, whether it is in the root or in the affix then all the following vowels become [+ATR]. For instance, in the root /ke: r/ (see), the [+ATR] vowel /e/, triggers vowel harmony in the word /kiakerin/ (I saw you).

In the following section, Nandi vowels are captured on a vowel distribution table together with the words that they occur in.

**Nandi Vowel Distribution Chart (Table 4)**

Vowel	Orthography	Phonetic Transcription		Gloss
/i/	Itit Lit	[itit] [lit]		Ear Sharpen
/ɪ/	Nyit Kitkit	[ɪt] [kɪtkɪt]		Annoy Tickle
/e/	Pet Eut	[pet] [eut]		Get lost Hand
/ɛ/	Ng'et Cheng	[ŋɛt] [tʃɛŋ]		to be tired to look for
/ɑ/	Ram Cham	[rɑm] [tʃɑm]		draw (of water) like
/a/	Ano Anyone	[ano] [ɑno]		Where I am coming
/o/	Chor Oret	[tʃor] [oret]		Steal Way
/ɔ/	Yom Os	[jɔm] [ɔs]		Attempt Old
/u/	Rut Chus	[rut] [tʃus]		Pierce Deflate
/ʊ/	Pun Chut	[pʊn] [tʃʊt]		Pass through Enter

From (table 4) above on the distribution of Nandi vowels, it is evident that vowels occur in all word positions. This means that Nandi vowels can occur in word initial position as seen in the following words, *itit* [itit] (ear), *am* [am] (eat) and *ui* [ui] (go) . Nandi vowel phonemes also occur in word medial positions as shown by the following words: *sas* [sas] (annoy), *chut* [tʃʊt] (enter), and *tem* [tem] (slash). Nandi vowel phonemes also occur in word final positions as seen in the following words, *teta* [teta] (cow), *ru* [ru] (sleep) and *pendo* [pendɔ] (meat). However, Nandi language is classified as a CVC (consonant- vowel- consonant) structure language due to the fact that most words in the language start with a consonant followed by a vowel then again followed by a consonant. This can be illustrated by the following verbs, *rat* [rat] (tie), *chup* [tʃʊp] (abuse) and *mel* [mɛl] (lick).

Table (5) below shows the distinctive features of Nandi vowels as captured on the distinctive feature matrix. These features play an important role in the analysis of various vowel processes.

## Distinctive Feature Matrix for Nandi Vowels (Table 5)

Feature	i	ɪ	e	ɛ	o	ɔ	ʌ	ɑ	u	ʊ
High	+	+	-	-	-	-	-	-	+	+
Back	-	-	-	-	+	+	-	-	+	+
Low	-	-	-	-	-	-	+	+	-	-
ATR	+	-	+	-	+	-	+	-	+	-

*Adapted from Maiyo J.E. (2007)*

## 2.5 Nandi Vowel Sequence

Nandi language permits two vowel sequences that is, (v1 v1) where two vowels of the same quality occur together and (v1 v2), where two vowels of different qualities occur together.

### 2.5.1 V1V1 Sequence in Words

As stated above, v1v1 vowel sequence refers to a situation where two vowels of the same quality occur together. In (table 6) below, examples of words with v1v1 sequence are given.

### V1V1 Sequence Table (Table 6)

Vowel	Orthography	Transcription	Gloss
/ii/	Piik Riip	[pi:k] [ri:p]	People To guard
/ɪɪ/	Piit Liil	[pɪ:t] [li:l]	To grow Light up
/uu/	Kuul Luul	[ku:l] [lu:l]	Sip (using straw) Fall down
/oo/	Muut Tuui	[mʊ:t] [tu:i]	Hit Black
/ee/	Cheet Beleek	[tʃe:t] [bele:k]	Loud noise Elephants
/εε/	Eeny Cheeng	[ɛ:n] [tʃɛ:n]	Slaughter Look for
/oo/	Oo Toor	[o:] [to:r]	Big Pierce
/ɔɔ/	Oon N'goot	[ɔ:n] [nɔ:t]	Drive off To fence
/aa/	Saan Maal	[sɑ:n] [mɑ:l]	Don't try Smear with mud

## 2.5.2 V1V2 Sequence in Words

V1V2 sequence refers to the various combinations of two different vowels in a word .They can therefore be said to be various combinations of two different vowels. There are several words in Nandi that have this sequence of V1V2 as shown in the following table:

**V1V2 Sequence (Table 7)**

V1v2 sequence	Word	Phonetic Transcription	Gloss
/io/	Riot	[riot]	In-calf
	Iogu	[iogʊ]	Send
/oi/	Moita	[moita]	Calf
	Oindet	[oindet]	Devil
/ui/	Tui	[tui]	Black
	Ui	[ui]	Go
/ei/	Mieindo	[mieindo]	Goodness
	Eindet	[eindet]	Drunkard
/ɛi/	Eik	[ɛik]	Oxen
	Nyeisiet	[ɲeisiet]	Chewing
/ɔi/	Tuiyet	[toijet]	Meeting
	Uindo	[oindo]	Difficulty
/aɛ/	Saet	[saet]	Buffalo
	Naet	[naet]	Knowledge
/ɔɛ/	Soet	[sɔɛt]	Sky
	Moet	[mɔɛt]	Wound
/ai/	Taita	[taita]	First born
	Mwaita	[mwaita]	Oil
/ɛu/	Keun	[kɛun]	To wash
	Keus	[kɛus]	To harass
/aɛ/	Maet	[maet]	Drying
	Saet	[saet]	Prayer
/iɛ/	Tiem	[tiɛm]	Attempt
	Tien	[tiɛn]	Sing

## 2.6. Nandi Syllable Structure

Katamba (1989:153), defines the syllable as the unit in terms of which phonological systems are organized. A syllable is therefore a purely phonological entity. In dealing with the syllable, one looks at the level of organization of the consonants and vowels in a word in a given language since each language has a specific syllable structure. A syllable's structure consists of two segments, that is, a consonant and a vowel. There are two types of syllable systems, the

open syllable and the closed syllable system. In the open syllable system, words end in a vowel while in a closed syllable system, words end in a consonant sound. Nandi language permits both the open and the close syllable systems as shown by the following words: *teta* [teta], (cow) *ui* [ui], (go) *muito* [muito] (hide/skin) which consist of open syllables and *soet* [soet] (sky), *tep* [t ε p] (ask) and *kot* [k ɔ t] (house), which consist of closed syllables.

Wardhaugh (1977:225) says that the syllable has the optional syllable onset which consists of one or more consonants and the obligatory rhyme which must have a vowel peak followed by an optional coda which like the onset will consist of one or more consonants. The rhyme is always the head constituent, that is, it is the only compulsory constituent

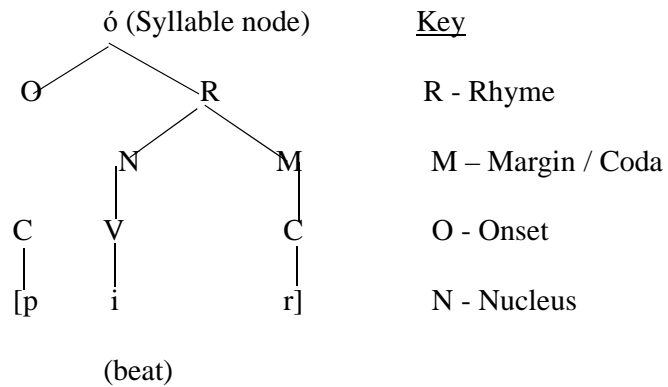
Akmajian et al (2001:126) define a syllable as representing a level of organization of the speech sounds of a particular language. This means that various languages have distinct syllable structures.

Kenstowicz (1994: 44) defines a syllable as a minimal pronounceable phonological unit. This means that a syllable can be utilized as a linguistic unit for studying distributional restrictions in a language. Since loanwords need to be re-syllabified in order to match with the syllable structure of the recipient language, then the study of the syllable structure is of utmost importance because in most cases, the syllable structure of the source language and that of the recipient language are not similar.

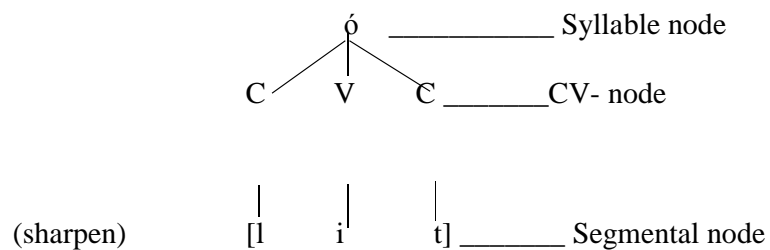
There are various models that are used in the study of the syllable for instance, the multi-tiered phonological theory propounded by Pike (1967), and expounded by Halle and Vergnaud (1980), and Harris (1983). This theory is an approach whereby phonological representations are viewed as consisting of a number of independent levels that are linked to each other (Katamba, 1989: 154).

Another model is that of the Generative CV - Phonology model propounded by Clements and Keyser in 1983. This model envisages the syllable as having a three- tiered structure consisting of a syllable node, a CV-tier whose C(consonant) and V(vowel) elements dominate consonantal and vowel segments and the segmental tier consisting of bundles of distinctive feature matrices which represent consonant and vowel segments. The following illustrations in (3a) and (3b) below, show the Nandi syllable structure using the two models of syllable structure described above that is, multi- tiered phonological theory model and generative CV-phonology model.

(3a) Example of a syllable using multi- tiered phonological theory model.



(3b) Example of a syllable using generative CV-phonology model.



This research analyses Nandi syllable structure using the Generative CV- Phonology model. Most Nandi words have a CVC (consonant-vowel-consonant) structure as seen in the following words; kuur [ku:r] (call), sal [sal] (to paint) and chor [fɔ r] (steal). Words in Nandi can also be monosyllabic, bisyllabic, trisyllabic or polysyllabic as seen in the following examples below:

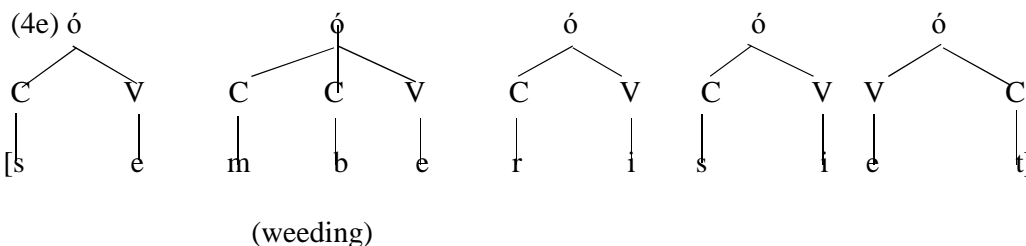
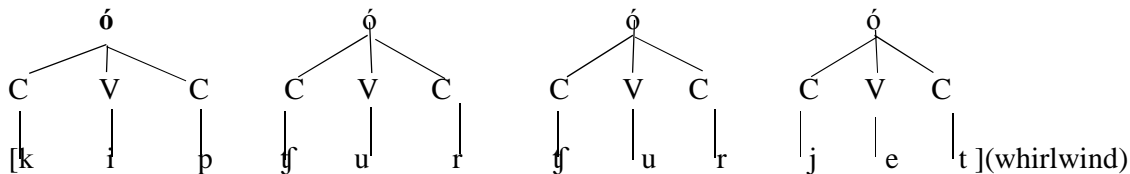


### 2.6.4 Polysyllabic Words

Polysyllabic words consist of more than three syllables as shown in (4d) and (4e) below:

*Kipchurchuryet* [kipʃurʃurjet] (whirlwind), *semberisiet* [semberisiet] (weeding).

(4d)

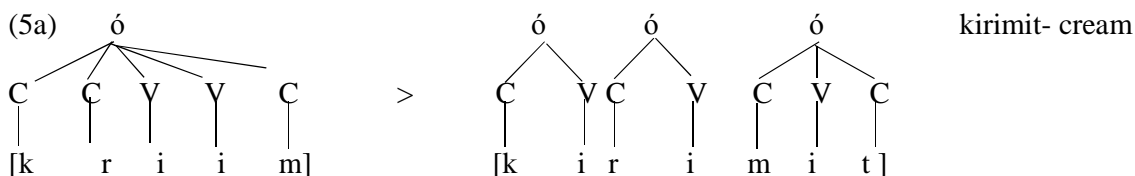


From the above examples, it can be deduced that when loan words enter Nandi language just like any other language, there is need for loan adaptation processes that will enable the borrowed words to be fully integrated in the recipient language. In essence therefore, there is need to examine the syllable structure of both the source and the recipient languages. In the following examples of loan words from English and Kiswahili, it is evident that syllable structure adaptation processes are involved in the integration of the loan words into Nandi.

### 2.6.5 English Loan Words and their Syllable Structure

The English loan words below in (5a- 5c), illustrate how Nandi restructures their syllable structure so as to fit into its syllable structure.

Gloss

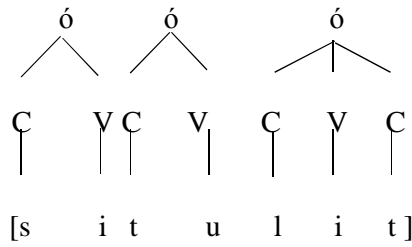
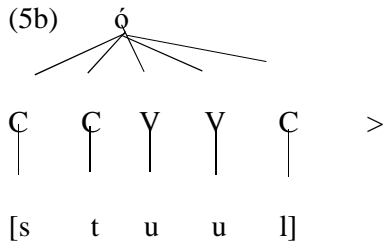




[Stu:l]

[situlit]

Gloss

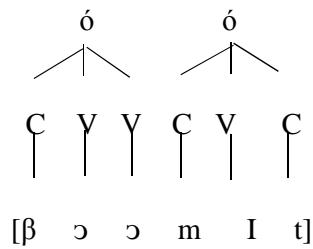
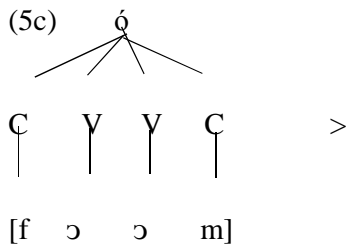


situlit - stool

[fɔ:m] (form)

[βɔ:mit]

boomit - form



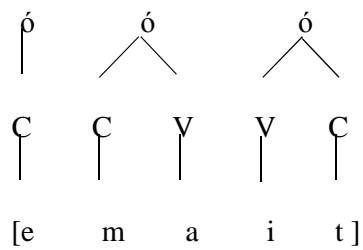
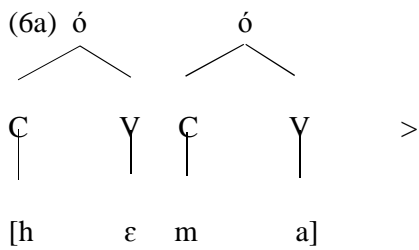
### 2.6.6 Kiswahili Loan Words and their Syllable Structure

The example below in (6a) shows how Kiswahili syllable structure is restructured to fit in Nandi language.

[h ε ma]

[emait]

Gloss



Hema - tent

The above examples of various loan words from both English and Kiswahili re-affirm the fact that loan words entering a language need to be adjusted so as to fit in the recipient language through various loan word adaptation processes such as addition of vowels (epenthesis) in words to break a consonant cluster which may not be permitted in the recipient language. In breaking the undesirable consonant cluster, the preferred syllable structure is thus attained.

## **Conclusion**

This chapter has outlined the segmental phonology of Nandi that is, its consonants and its vowels. Nandi language has a total of eleven true consonants and two glides that is /w/ and /j/. Consonants /p/ and /k/ have their allophones which occur in free variation. Apart from the consonants, Nandi also has four pre-nasalized consonants which are /mb/, /nd/, /ŋg / and /ɲɲ/ which are treated as single sounds. Nandi language also has five pairs of matching vowel phonemes based on Advanced Tongue Root (ATR) harmony system. One pair consists of (+ATR) vowel phonemes while the other consists of (-ATR) vowel phonemes. The distinctive features of both the consonants and vowels were further captured on the distinctive feature matrices. The chapter has also discussed Nandi syllable structure and has shown that Nandi language is a predominantly CVC language and that words in the language display various syllable structures for instance, some are monosyllabic (one syllable), bisyllabic (two syllables), trisyllabic (three syllables) while others are polysyllabic (more than three syllables). The syllable structure has been analyzed using the generative CV phonology model that envisages the syllable as a three tier consisting of the syllable node, the CV node and the segmental node. The chapter has also given examples of words which have the various vowel and consonant phonemes in the language.

## **CHAPTER THREE**

### **PHONOLOGICAL ADAPTATIONS OF NANDI LOAN WORDS**

#### **Introduction**

This chapter discusses phonological processes that loan words undergo in order to be adapted in the recipient language. In this case, the recipient language is Nandi while the source languages are English and Kiswahili. Both consonant and vowel processes are discussed since these processes are used in the loan word adaptation processes. Phonological rules are also formulated to account for these processes using the framework of Natural Generative Phonology.

#### **3.1 Phonological Processes in Nandi**

There are various phonological processes in Nandi which can be grouped into two broad groups namely, the vowel processes and consonant processes. Vowel processes include: palatal glide formation, labial glide formation, vowel lengthening and coalescence while consonant processes include: spirantisation, voicing, palatalization and labialization.

##### **3.1.1 Vowel Processes**

Vowel processes are systematic sound changes that affect vowels. Various vowel processes are discussed below:

##### **3.1.2 Glide Formation**

Glides are consonants which have vowel- like articulatory features and the two glides, that is, the labio- velar glide /w/ and the palatal glide /j/ are part of Nandi consonant inventory. Glide formation is a phonological process that derives the surface glides, /j/ and /w/ when high vowels

are immediately followed by non-high vowels. The following section examines how these glides are formed

### 3.1.2.1 Palatal Glide Formation

Formation of a palatal glide /j/, in Nandi occurs in certain environments and not in other environments. One such environment that motivates the formation of a palatal glide is when a high vowel is followed by a non-high vowel. On the other hand, if a high vowel is followed by another high vowel, then the palatal glide is not formed. The following examples in (2a -2c) illustrate this:

<u>U.Representation</u>		<u>S.Realization</u>		<u>Gloss</u>
(2a) /ki + a + teb/	→	[kjate:p]		[kjate:p] - I asked
(2b) /ki + a + keer/	→	[kjake:r]		[kjaker] - I saw
(2c) /ka + i + net/	→	[kainet]		[kainet] - you have taught

In the above examples, (2a) and (2b), show the formation of a palatal glide as the high vowels are followed by non- high vowels while in example (2c) there is no formation of a palatial glide because vowel /a/ is a non- high vowel.

### 3.1.2.2 Labio-Velar Glide Formation

A labio- velar glide is formed when high- back vowels are followed by non- high vowels as shown by the following examples:

<u>U.Representation</u>		<u>S.Realization</u>		<u>Gloss</u>
(3a) /Ko + a + neet/	→	[kwaanet]		I had taught
(3b) /Ko + a + til/	→	[kwaatil]		I had cut

In the above examples on labio-velar glide formation, the velar glide is formed in example (3a) and (3b) as the high-back vowels /u/ and /o/ are followed by words beginning with non-high vowels. Vowels /u/ and /o/ change into a labio-velar glide when they are followed by /a/,

The rule for labio-velar glide can be formalized as follows:

$$\left( \begin{array}{l} +\text{high} \\ +\text{back} \end{array} \right) \longrightarrow \left( \begin{array}{l} -\text{syll} \\ -\text{cons} \end{array} \right) / - [+ \text{low (v)}]$$

The notion of naturalness in ease of articulation explains the formation of the glides. Phonetically, it is easier to articulate a glide than two vowels of different qualities in succession. The formation of a glide minimizes the effort of articulation. The rule above will apply when the structural description is met.

### 3.1.3 Vowel Harmony

Vowel harmony is an assimilatory process that is common in Bantu and Nilotic languages. Vowel harmony can be defined as system in which all the vowels of a language are divided into two subsets or more with the condition that all vowels in a given word (or domain), must come from a single subset (Goldsmith, 1990: 304).

The phonological feature of vowel harmony ensures that vowels in a given domain in this case, vowels within a word or a morpheme belong to or have the same feature. The vowels of a given language harmonize in terms of features for instance, backness, roundness, frontness and [ATR] (advanced tongue root), as vowels that exhibit opposite values will not co- occur within the same domain. A language which has a rounding harmony for example rounded vowels such as /o/ or /u/ cannot co- occur in the same word with an unrounded vowel like /e/ (Casali, 2003:2). In a given word, all the vowels must be ordinarily be drawn from the same set.

The [ATR] feature is a phenomenon of vowel harmony and Nandi has its harmony based on it. Casali (2003: 2-3), defines vowel harmony as a phenomenon in which all the vowels in a word

must agree or harmonize for their value of [+ATR]. This feature divides the vowels of a language into two sets, the [+ATR] and the [-ATR] as shown below:

[+ATR] Vowels

/i u, o, e, a/

[-ATR] Vowels

/ɪ, ʊ, ε, ɔ, ɑ/

**Examples of Words with [+ATR] Vowels**

<u>Word</u>	<u>Transcription</u>	<u>+ATRVowel</u>	<u>Gloss</u>
(4a) {ki-} + {a-} + {rip}	→ /kiarip/	/i/	I guarded
(4b) {keer} + {-ei}	→ /ke:rei/	/e/	He/ she sees
(4c) {ma-} + {i-} + {cham}	→ /mai tʃam/	/a/	You did not like

**Examples of Words with [-ATR] Vowels**

<u>Word</u>	<u>Transcription</u>	<u>-ATRVowel</u>	<u>Gloss</u>
(5a) {ma-} + {a-} + {lapat}	→ /ma:lapat/	/ɑ/	I did not run
(5b) {kɔ-} + {i-} + {sɔm}	→ /kɔis ɔm/	/ɔ/	You borrowed

This agreement of vowels within a word shows that Nandi has intrinsic harmony since the harmony is found within the vowels in a word or a morpheme. Vowel harmony in Nandi ensures that affixes share the same feature with the root as shown in the above examples in (4a-4c) and (5a) and (5b).

**3.1.4 Vowel Lengthening**

Vowel lengthening refers to the change in which a sound, usually a vowel, is made to be longer in some contexts. Nandi language exhibits this process as seen in the following words in (6a) and (6b).

<u>Underlying representation</u>		<u>surface realization</u>	<u>vowel lengthened</u>	<u>Gloss</u>
(6a) /kemwa + tʃi/	→	[kemwa: tʃi]	/a /	to be told
(6b) /kesɔ:m + tʃi/	→	[kesɔ:mtʃi]	/ɔ /	to be asked for

In examples (6a) and (6b) above on vowel lengthening in Nandi, it is evident that this process occurs before the suffix {chi} in words, that is, the final vowel in the word is lengthened when it is suffixed to {chi}. This means that in Nandi, the suffixing of {chi} to a word triggers lengthening of the preceding vowel.

The rule to account for vowel lengthening can be formalized as shown below:

$$V \rightarrow \left[ + \text{long} \right] / - \# C$$

### 3.1.5 Vowel Coalescence

Coalescence refers to the coming together of linguistic units which were originally distinguishable (Crystal, 1997: 65). In this process, two adjacent segments influence one another and may be replaced by a new segment. In Nandi for instance, the vowel /a/ in the negative prefix {ma}, combines with {i} (second person singular pronoun), to form the new segment, /ɛ/ in words as shown below:

<u>Underlying representation</u>		<u>Surface realization</u>	<u>Gloss</u>
(7a) /ma + i + tep/	→	[mɛtep]	you did not ask
(7b) /ma + i + kono/	→	[mɛkono]	you did not give me

In the above data in (7a) and (7b), the segments /a/ and /i / are replaced by one segment, which is /ɛ /.

## 3.2 Consonant Processes

There are various consonant processes in Nandi such as spirantisation, voicing, palatization and labialization. It is necessary to discuss these processes since some of these processes are involved in the adaptation of loan words in Nandi.

### 3.2.1 Spirantisation

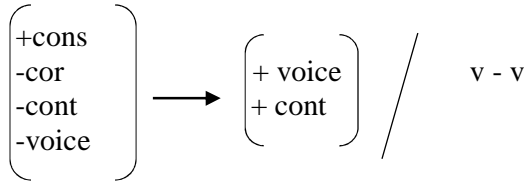
Campbell (1998:42) defines spirantisation as a process of turning non- fricatives into fricatives. It is a common change involving stops when they occur between vowels. This process is also known as fricativisation and it is a case of consonant weakening. In Nandi, the underlying voiceless bilabial and velar plosives /p/ and /k/ become fricatives when they occur intervocally. In this way, the voiceless bilabial plosive /p/ is realized as a voiced bilabial fricative /β/ while the voiceless velar plosive /k/, is realized as the voiced velar fricative /ɣ/ as seen in the following words in (8a -8d):

<u>Underlying Representation</u>		<u>Surface Realization</u>	<u>Gloss</u>
(8a) /ke + par/	→	[keβar]	to kill
(8b) /ke + pan/	→	[keβan]	to bewitch
(8c) /ke + kut/	→	[keɣut]	to scratch
(8d) /ke + ku:r/	→	[keɣu:r]	to call

In the above data in (8a-8d) in terms of distinctive features, phonemes /p/ and /k/ share the following features, (+consonant, -voice, -continuant, and – coronal). In Nandi, any consonant which has these features and is found in the intervocalic position in a word, becomes a voiced fricative.



The rule for spirantisation can be formulated as follows:

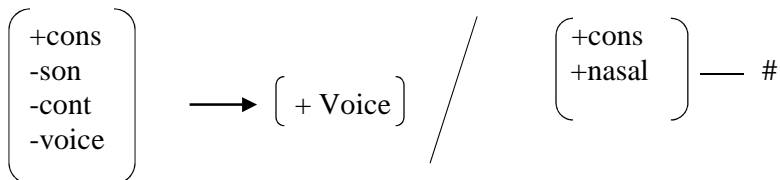


### 3.2.2 Voicing

Katamba (1989: 80) defines assimilation as the modification of a sound in order to make it more similar to the other sounds in its neighbourhood. The main function of assimilation is to ease articulation of sounds. In Nandi, voiceless plosives become voiced when preceded by nasals. The nasal being a voiced sound influences the voiceless plosive to become more like it in terms of the feature [+voice]. This means that there is progressive voice assimilation in that the feature [+voice] of the preceding nasal is carried over to the following voiceless consonant as seen in the following examples in (9a -9d):

<u>Underlying Representation</u>		<u>Surface Realization</u>	<u>Gloss</u>
(9a) /panan + ta/	→	[pananda]	poverty
(9b) /iman + ta/	→	[imanda]	truthfulness
(9c) /paan + ta/	→	[paanda]	journey
(9d) /tam + pesiet/	→	[tambesiet]	camel

From the above data in (9a-9d), a rule for voicing can be formalized as follows:



### 3.2.3 Voicing after Liquids

In Nandi, voiceless plosives become voiced when followed by a liquid. This means that the voiceless plosives acquire the feature, [+ voice] from the liquids since liquids are voiced sounds. This is a case of voice assimilation as shown in the following examples:

<u>Underlying Representation</u>	<u>Surface Realization</u>	<u>Gloss</u>
(10a) /ɲalil + ta/ →	[ɲalilda]	poverty
(10b) /kir + kit/ →	[kirɣit]	bull
(10c) /kur + ket/ →	[kurɣet]	door
(10d) /mɛlɛl + ta/ →	[mɛlɛlda]	thirsty
(10e) /tel + tet/ →	[teldet]	a type of a tree

In the data above in (10a -10e), the words have a liquid preceding a voiceless stop and so the resultant surface realization is a voiced plosive, so in essence, the liquids have influenced the voiceless plosives to become voiced. The above data reaffirms the fact that Nandi language does not have underlying voiced plosives instead, they are realized through the process of progressive voice assimilation.

The rule for voicing after liquids can be formalized as:

$$\left( \begin{array}{l} + \text{ cons} \\ - \text{ son} \\ - \text{ cont} \\ - \text{ voice} \end{array} \right) \longrightarrow \left( + \text{ Voice} \right) \quad / \quad \left( \begin{array}{l} - \text{ syll} \\ - \text{ nasal} \\ + \text{ son} \end{array} \right) \text{---} \#$$

### 3.2.4 Palatalisation

Palatalisation involves raising the tip and blade of the tongue to a high front position close to the anterior part of the hard palate region, as for the vowel [i] and it is a secondary consonant modification (Clark & Yallop, 1995: 6). The modification of tongue position occurs at the same

time as the other articulatory gestures of the segment. The diacritic for palatalisation is a superscript [j].

In Nandi, palatization occurs when a consonant is followed by the high vowel [i] as shown in (11a) and (11b) below:

<u>Underlying Representation</u>		<u>Surface Realization</u>	<u>Gloss</u>
(11a) /kiim/	→	[ki: <sup>j</sup> m]	strong
(11b) /kiit/	→	[ki: <sup>j</sup> t]	something

The rule for palatization can be formalized as shown below:

$$C \longrightarrow [+ \text{pal}] \quad / \quad \text{---} \quad \left( \begin{array}{l} [+ \text{syll}] \\ [+ \text{high}] \\ [- \text{back}] \end{array} \right)$$

### 3.2.5 Labialization

Labialization is an assimilatory process that involves addition of lip rounding or lip protrusion to any sound which is normally articulated with the lips in a neutral or spread position, Clark & Yallop (1995: 64). Labialization modifies the basic articulation by extending the length of the vocal tract and altering its cross section.

According to Hyman (1988), Labialization is a secondary consonant modification in that in addition to the primary constriction, the lips are rounded and the consonants acquire a /u/ or /w/ colouring. Labialization is shown by using a superscript [c<sup>w</sup>] after the consonant as shown in examples (12a- 12c) below:

<u>Underlying Representation</u>		<u>Surface Realization</u>	<u>Gloss</u>
(12a) /tup /	→	[t <sup>w</sup> up]	bury

(12b) /kut/ → [k<sup>w</sup>ut] scratch

(12c) /ʃut/ → [ʃ<sup>w</sup>ut] enter

The rule for labialization can be formalized as shown below:

$$C \longrightarrow [+round] / - \left( \begin{array}{c} -cons \\ +round \end{array} \right)$$

### 3.3 Loan Word Adaptation Processes

These are processes that loan words undergo so as to be integrated in the recipient language and include vowel adaptation processes, syllable structure adaptation processes and consonant adaptation processes. The description of these processes is important since some of these processes will be employed in the adaptation of loan words from English and Kiswahili into Nandi. The next section examines these processes in detail.

#### 3.3.1 Vowel Adaptation Processes

Vowel adaptation processes refer to how various vowels in loan words are treated once they enter a recipient language. These vowel adaptation processes include vowel preservation, vowel merger and vowel substitution. Each of these vowel adaptation processes is discussed below:

##### 3.3.1.1 Vowel Preservation

In vowel preservation, some vowels within the loan words do not change once they enter the recipient language. Vowels that are preserved in Nandi include the following, /i, o, u and a/

<u>English</u>	<u>Nandi</u>	<u>Vowel Preserved</u>	<u>Gloss</u>
(14a) /pəli:s/	/polisiot/	/i,/	police
(14b) /biskit/	/bisikut/	/i/	biscuit

(14c) /mail/            /mailit/            /ai/            mile

	<u>Kiswahili</u>	<u>Nandi</u>	<u>Vowel Preserved</u>	<u>Gloss</u>
(14d)	/maka/	/maka/	/a/	charcoal
(14e)	/meza/	/mesait/	/e,a/	table
(14f)	/kura/	/kuraijat/	/u,a/	vote
(14g)	/bodaboda/	/βotaβota/	/o/	motorcycle

From the above data in (14a -14g), it is evident that various vowels such as /a, e, i, o and u / are preserved in the loan words from English and Kiswahili as they enter Nandi language.

### 3.3.1.2 Vowel Substitution

In vowel substitution, vowels in the loan words are substituted with those found in the recipient language and it is a strategy used by the recipient language to incorporate the loan words in the language.

#### Examples of vowel substitution:

(16a) /ə/ and /ɜ/ are replaced by /a/ in Nandi as seen in the following loan words in (16b- 16d):

(16b) /skɜ:t/ > /sikatit/ (skirt)

(16c) /membə/ > /membaijat/ (member)

(16d) /sentə/ > /senda / (shopping centre)

Another type of vowel substitution is that of substituting vowel /ʌ / with vowel / a/ as seen in the loan words below in (16e) and (16f):

(16e) /klʌtʃ/ > /kilatʃit/ (clutch)

(16f) /drʌm / > /tiramit/ (drum)

### **3.4 Nandi Syllable Structure Adaptation Processes**

According to Schane (1973: 520), syllable structure processes affect the relative distribution of consonants and vowels within a word. In addition, these processes also alter the original syllable structure of the language in question. This means that syllable structure adaptation processes are important in that through these processes, loan words become adapted in the recipient language.

In dealing with loan words, there is restructuring of the syllable so that the C (consonant) and V (vowel) units are reorganized by substitution of elements from the source language to a recipient language. Every language consists of rules which specify the permitted phonemes and hence borrowed words have to undergo phonemic restructuring. In Chapter Two, it was observed that Nandi language does not permit consonant clusters which English and Kiswahili languages readily permit. This means that when loan words from English and Kiswahili enter Nandi language, they will have to be restructured so as to fit in the language through various syllable structure adaptation processes. These syllable structure adaptation processes include vowel epenthesis, vowel deletion and assimilation. Each of these processes is discussed below:

#### **3.4.1 Vowel Epenthesis**

In vowel epenthesis, a vowel is inserted in the word so as to make that word conform to the syllable structure of the recipient language. Nandi language uses vowel epenthesis as a strategy for adapting loan words into its lexicon. Vowels may be inserted in all word positions depending on the language in question but in Nandi, they are usually inserted between two consonants to break a consonant cluster. Hooper (1976: 25) says that an inserted or a deleted vowel in a purely phonetic environment is predictable on the basis of the following principles:

(a) That the epenthetic vowel must be the minimal vowel.

(b) That the vowel should be that vowel whose features are copied from a nearby segment.

The above principles in (a) and (b), imply that the epenthetic vowel in a word should have the same features as the other vowels in the word. For instance if the vowel in a word has a [+ back feature], then the epenthetic vowel also should have a [+ back] feature as well. The loan words below illustrate how epenthesis takes place when loan words from English and Kiswahili enter Nandi language.

### Examples of Vowel Epenthesis in Loan Words

<u>Kiswahili</u>	<u>Nandi</u>	<u>Gloss</u>	<u>Epenthetic Vowel</u>
(17a) /daktari/	/takitari/	doctor	/i/
(17b) /mfuko/	/maβuket/	bag	/a/
<u>English</u>	<u>Nandi</u>	<u>Gloss</u>	
(17c) /breik/	/βurekit/	brakes	/u/
(17d) /glu:/	/γulu:/	glue	/u/

From the data (17a- 17d) presented above on vowel epenthesis, it is evident that that the commonly used epenthetic vowels are / i, u and a /. As noted above, vowel epenthesis is necessary so as to break the consonant clusters found in English and Kiswahili loan words. This insertion of vowels makes the loan words conform to the CVC syllable structure of Nandi language.

### 3.4.2 Epenthesis and Pre-nasalized Consonants

In chapter two, it was noted that Nandi has four pre-nasalized consonants which are /mb/, /nd/, /ŋg/ and /nj/. Loan words mostly from Kiswahili which begin with any of these pre-nasalized nasals will have an epenthetic vowel inserted before the pre-nasalized consonant. The main reason for this insertion is to make the loan words conform to the Nandi phonotactics that do

not permit pre-nasalized consonants in initial word positions in most instances. Examples of such words are shown below in (18a- 18f):

<u>Kiswahili</u>		<u>Nandi</u>	<u>Gloss</u>
(18a) /mbu/	>	[umbu]	mosquito
(18b) /ndo:/	>	[indoit]	bucket
(18c) /njugu/	>	[injukuk]	groundnuts
(18d) /ndizi/	>	[indisiot]	banana
(18e) /nguruwe/	>	[ɪŋgurut]	pig
(18f) /ngamia/	>	[ɪŋgamiet]	camel

From the above data in (18a- 18f), it can be seen that Nandi language inserts an epenthetic vowel /i/ before any pre-nasalized consonant that begins a word. This phenomenon can be supported by native words of the language, which behave the same way as the loan words above as seen in the following examples of words in (19a- 19e):

<u>Nandi</u>	<u>Gloss</u>
(19a) /ɪŋgoroik/	clothes
(19b) /indaret/	snake
(19c) /imbaret/	farm
(19d) /ɪnjiriot/	fish
(19e) /ɪŋjo:r/	backyard



### 3.4.3 Voice Assimilation

Voice assimilation is an assimilatory process in which two successive different states of the glottis are replaced by a single state. It is easier to voice a sound and keep it voiced throughout the word than to alternate it with a different sound. The main motivation of assimilation is to ease articulation since sounds which share similar places or manner of articulation are bound to be assimilated.

Nandi language has few examples of loan words that exhibit voice assimilation as shown below in examples (20a- 20c):

	<u>Kiswahili</u>		<u>Nandi</u>	<u>Gloss</u>
(20a)	/kufuli/	>	/kiβulit/	padlock
(20b)	/matofali/	>	/mutuβaruk/	bricks
(20c)	/mfipi/	>	/masiβit/	belt

From the above data in (20a- 20c), it is evident that phonemes /f /and/p/ are realized as /β/ in Nandi language so there is a case of voicing since the following sound is a vowel. Voice assimilation enables sounds that do not share the state of the glottis to be assimilated, that is, share the place of articulation which in turn eases articulation.

### 3.5 Consonant Adaptation processes

There are various consonant adaptation processes that loan words from English and Kiswahili undergo so as to be adapted in the Nandi language. These processes are discussed below:

#### 3.5.1 Consonant Preservation

The following consonants are preserved in Nandi language as loan words from English and Kiswahili enter Nandi language:

<u>English</u>	<u>Nandi</u>	<u>Consonant preserved</u>	<u>Gloss</u>
(22a) /paen/	/panit/	/p/	pan
(22b) /kaendl/	/kandolit/	/k/	candle
(22c) /ti:m/	/timit/	/t/	team
(22d) /seitn/	/setani/	/s/	satán
(22e) /sku:l/	/suku:l/	/s,l/	school
(22f) /rulə-/	/rulait/	/r,l/	ruler
(22g) /maep/	/mapit/	m,p/	map
(22h) /n ʌt/	/natit/	/n/	nut

<u>Kiswahili</u>	<u>Nandi</u>	<u>Consonant Preserved</u>	<u>Gloss</u>
(23a) /pasi/	/pasit/	/p,s/	iron box
(23b) /kalamu/	/kalamit/	/k,l,m/	pen
(23c) /stima/	/sitimet/	/s,t,m/	electricity
(23d) /mali/	/malik/	/m,l/	property
(23e) /noti/	/notit/	/n,t/	note
(23f) /lami/	/lamit/	/l,m/	tarmac
(23g) /karai/	/karait/	/k,r/	basin
(23h) /ʃiliŋgi/	/siliŋgit/	/l,ŋ/	shilling
(23i) /pundo/	/pundoit/	/p,n,d/	hammer
(23j) /miwa/	/miwat/	/m,w/	sugarcane

(23k) /ʃupa/                      /ʃuβoit/                      /tʃ/                      bottle

(23l) /jadi/                      /jatit/                      /j/                      yard/

The above loan words in (22a- 22h) and (23a -23l) from English and Kiswahili respectively, show that all consonants are preserved in loan words except for the voiceless velar stop /k/ which can be realized as /k, g, or γ / and the voiceless bilabial plosive /p/, which can be realized as /p, b, or β/.

### 3.5.2 Consonant Substitution

The consonants that are not found in the language (Nandi) are substituted with those sounds found in the language. Since most consonants in English and Kiswahili languages are not found in Nandi, there is need for such sounds to be substituted with those found in the language as shown in the following examples:

Labio-dental fricatives, /f/ and /v/ are substituted with the voiced bilabial fricative /β/ as shown below in examples of loan words in (24a- 24c):

<u>English</u>		<u>Nandi</u>	<u>Gloss</u>
(24a) /fu:t/	>	/βu:tit/	foot
(24b) /fail/	>	/βailit/	file
(24c) /vidəu/	>	/βitio/	video

The voiced alveolar fricative /z/ is also substituted by its voiceless counterpart /s/, as seen in the following examples in (25a) and (25b):

<u>English</u>		<u>Nandi</u>	<u>Gloss</u>
(25a) /dizl/	.>	/tisel/	diesel
(25b) /blauz/	>	/βulausit/	blouse

The voiced alveolar plosive /d/ as well as the voiceless dental fricative /θ/, are substituted by the voiceless alveolar plosive /t/ as seen in examples (26a) and (26b) below:

<u>English</u>		<u>Nandi</u>		<u>Gloss</u>
(26a) /θɜ: mə-s/	>	/tamosit/		thermos flask
(26b) /θiə-tə/	>	/tieta/		theatre

The voiceless post- alveolar fricative /ʃ/ is substituted by the voiceless alveolar fricative /s/, as seen in examples (27a) and (27b) of loan words below:

<u>English</u>		<u>Nandi</u>		<u>Gloss</u>
(27a) /ʃiliŋ /		/silingit/		shilling
(27b) /ʃi:t/		/siti:t/		sheet

The voiced palatal plosive /j/, and the voiced post alveolar fricative /ʒ / are also substituted by the voiceless post- alveolar affricate /tʃ/, as shown by examples of loan words from English and Kiswahili (28a- 28d) below:

<u>Kiswahili</u>		<u>Nandi</u>		<u>Gloss</u>
(28a) /jela/	>	/tʃela/		jail
(28b) /kijiko/	>	/kitʃiket/		spoon

<u>English</u>		<u>Nandi</u>		<u>Gloss</u>
(28c) /ʒʌg/	>	/tʃakit/		jug
(28d) /gaerɑʒ/	>	/yaraʃ/		garage

From the above examples of consonant substitution, it is clear that Nandi like any other natural language uses substitution as a strategy for adapting non- native sounds in the language by utilizing those sounds found in the language.

### 3.5.3 Consonant Deletion

There are instances in Nandi language where the voiceless glottal fricative /h/ is deleted in loan words that have the sound. This consonant is deleted in all word positions in loan words that have this sound. The main reason for the deletion is that this consonant is not part of Nandi consonant inventory system. The examples in (29a- 29d) below illustrate how this process of deletion takes place in loan words, especially those loan words from Kiswahili.

<u>Kiswahili</u>		<u>Nandi</u>	<u>Gloss</u>
(29a) /hema/	>	[emait]	tent
(29b) /sahani/	>	[saanit]	plate
(29c) /mfahara/	>	[musjara]	salary
(29d) /bahari/	>	[βa:rit]	ocean

Another form of consonant deletion in Nandi loan words involves the deletion of the labio-velar glide, /w/ in words that begin with this glide. This process is mainly found in Kiswahili loan words as shown in the examples (30a) and (30b) below:

<u>Kiswahili</u>		<u>Nandi</u>	<u>Gloss</u>
(30a) /wembe/	>	[embeit]	razor blade
(30b) /wakili/	>	[oyiliot]	advocate

The rule for consonant deletion can be formalized as shown below:

$$\left( \begin{array}{l} \text{-cons} \\ \text{-syll} \\ \text{+back} \\ \text{+son} \end{array} \right) > \emptyset / \# -$$

The above examples of consonant deletion in Nandi loan words reveal the fact that Nandi uses deletion as a strategy in adapting loan words into its lexicon.

## **Conclusion**

This chapter has outlined the phonological processes found in Nandi. Some of these processes have been shown to be responsible for the various loan adaptation processes in the language. Both consonant and vowel processes have been discussed. Vowel processes discussed include: glide formation, vowel harmony, vowel lengthening and coalescence. Consonant processes discussed include spirantisation, voice assimilation, voicing after liquids, palatalization and labialization. Phonological rules for all the processes were also formulated using the theoretical framework of Natural Generative Phonology. Some of these rules were found to account for loan word adaptation processes in Nandi.

Syllable structure adaptation processes have also been discussed at length and were found out to be involved in loan word adaptation of loan words from English and Kiswahili languages. The syllable structure adaptation processes discussed include, vowel epenthesis, epenthesis and pre- nasalized consonants and voice assimilation.

Loan word adaptation processes were also discussed. These processes include consonant preservation, consonant substitution and consonant deletion. These loan word adaptation processes were found to be employed by Nandi in the adaptation of loan words.

## CHAPTER FOUR

### MORPHOLOGICAL ADAPTATION OF NANDI LOAN WORDS

#### Introduction

This chapter analyses morphological adaptations of loan words and describes morphological processes that loan words from English and Kiswahili languages undergo so as to be adapted in Nandi language. Since morphological adaptation affects roots and stems of nouns, then it is imperative that an overview of Nandi noun classification is dealt with so as to ascertain how loan words are integrated into the various Nandi noun classes. This chapter also discusses how nouns in Nandi acquire their roots as well as class markers.

#### 4.1 Noun Classification in Nandi

Toweit (1975: 86) classified Kalenjin nouns into eleven noun classes, six singular and five plural classes. Apart from this classification, Kalenjin nouns can also be broadly divided into two categories, the primary and the secondary forms (Tucker & Bryan, 1964). The primary form consists of nouns in their indefinite form while the secondary form consists of nouns in their definite forms. A noun is said to be indefinite if it has not been specified that is, it refers to any other noun but not a specific noun and it is shown by use of an indefinite article, 'a' or 'an' in English. For instance, 'a cow' is an indefinite noun since the cow that is being talked about has not been specified or has not been talked about earlier. In Nandi, a cow is referred to as [tap], referring to any cow. A definite noun on the other hand refers to a specific noun which means that the said noun has already been talked about and it is shown by use of a definite article 'the' in English. In Nandi 'the cow' that is known or has been talked about earlier is referred to as 'teta' [teta] meaning a particular cow but not any other cow. Examples of these indefinite and definite nouns are shown in the following examples:

<u>Primary form</u>		<u>Secondary form</u>	<u>Gloss</u>
(1a) (Sg)	[taŋ]	[teta]	cow
(Pl)	[ti ʃ]	[tu: ʧa]	cows
(1b) (Sg)	[kɛ:t]	[ketit]	tree
(Pl)	[kɛ:tin]	[ke: tik]	trees
1(c) (Sg)	[lakwa]	[lakwet]	child
(Pl)	[la: ʧoi]	[la: ʧok]	children

The above data in (1a-1c) show examples of nouns in their primary and secondary forms. In the data above, it is evident that the singular and the plural suffix for each of the three words is different. This means that the three words above belong to different noun classes. According to Tucker & Bryan (1964), as cited by Towett (1975), nouns in Nandi are classified based on the plural suffix that they take in their primary and secondary forms. While Tucker & Bryan referred to the primary and secondary forms as indefinite and definite forms respectively, Towett preferred to use the terms, inclusive and exclusive nouns respectively. A singular indefinite noun is referred to as inclusive singular noun (isn) while a plural indefinite noun is referred to as inclusive plural noun (ipn). On the other hand, a singular definite noun is referred to as exclusive singular noun (esn) while a plural definite noun is referred to as exclusive plural noun (epn) (Towett, 1975: 20-25). It can be said that Kalenjin noun classification in general is based on this classification, that is, nouns that take similar plural morphemes are deemed to belong to the same noun class. Towett observes that the existence of these two forms side by side can also be referred to as functional doublets. This type of classification however has given rise to many noun classes in Kalenjin which makes it rather confusing to place a noun in a particular class. Our view is that nouns in Nandi should be classified based on the plural



suffixes that nouns take in their definite forms since this type of classification is straight forward and also will reduce the number of noun classes in the language.

Below is a summary table of Nandi noun classification: (Table 8)

<u>Class</u>	<u>Root</u>		<u>Plural suffixes</u>		<u>Examples of words</u>	<u>Gloss</u>
(1)	{kari-}	+	{-isya/-isyek}	>	[karisja/garisjek]	vehicles
	{meso-}	+	{-osya/-osyek}	>	[mesosja/mesosjek]	tables
	{kitab-}	+	{-usya/-usyek}	>	[kitabusja/kitabusjek]	books
(2)	{chorua-}	+	{-oi/-ok}	>	[ʃforonoi/ʃforonok]	friends
	{kibanan-}	+	{-onoi/-onok}	>	[kibananoi/kibananok]	poor people
(3)	{maiwa-}	+	{-wa/-wek}	>	[maiwa/maiwek]	alcohol
	{bor-}	+	{-wa/-wek}	>	[borwa/borwek]	bodies
(4)	{saanya-}	+	{-an/-anik}	>	[saan/saanik]	sons-in-law
	{kwen-}	+	{-en/-enik}	>	[kween/kweenik]	firewood
	{sokis-}	+	{-in/-iniik}	>	[sokisin/sokisiniik]	socks
	{ponindo-}	+	{-on/-onik}	>	[poon/poonik]	witches
	{punyo-}	+	{-uun/-uunik}	>	[puun/puunik]	enemies
(5)	{mai-}	+	{-ai/-aiik}	>	[mai/maik]	eggs
(6)	{ket-}	+	{-et/-etik}	>	[ket/ketik]	trees
	{kuut-}	+	{-ut/-utik}	>	[kuut/kuutik]	insects
	{ot-}	+	{-ot/-otik}	>	[oot/otiik]	servants
(7)	{matuβar-}	+	{-u/-uk}	>	[matuβaru/matuβaruk]	bricks

	{nuk-}	+	{-un/-uk}	>	[nuɣun/nu ɣuk]	wild fruits
(8)	{tengek-}	+	{-wak/-wakik}	>	[teŋkekɰak/teŋkekɰakik]	sins
(9)	{βoβa-}	+	{-e/-ek}	>	[βoβ/βoβek]	mushrooms
	{kimit-}	+	{-t/-ek}	>	[kimit/kimitek]	fleas
(10)	{kor-}	+	{-in/-ik}	>	[koorin/koorik]	houses

In the noun classification (table 8) above, it can be deduced that a noun is integrated into a class based on the plural suffix that it takes in both its primary and secondary forms. For instance, the noun [meso] table, takes the plural suffixes, {-osya} and {-osyek} respectively to give the plural forms as {mesoosya} (tables) (indef pl) and {mesoosyek} (tables) (def pl). These plural suffixes make the noun [meso] (table), to be integrated into noun class (1) as shown above in (table 8).

(11) This class of nouns consists of definite nouns that in their plural form, end in a vowel. Examples of these nouns are shown below:

<u>Singular</u>	<u>Plural</u>	<u>Final vowel</u>	<u>Gloss</u>
(2a) [teta]	[tu: ɣ a]	[a]	cow(s)
(2b) [artet]	[ne: ɣ o]	[o]	Sheep

The above two nouns in (2a) and (2b) belong to class eleven since they end in a vowel in their plural. The two vowels in the final positions are [a] in the noun [t:uga] and [o] in the noun [ne:go].

When loan words enter Nandi language, they take any of the above noun classes depending on how it is morphologically structured. The next section analyses how Nandi nouns acquire the class marker and root from the noun.

## 4.2 Acquisition of the Root

In Nandi, the root is acquired from the singular form of an indefinite noun and also from the verb or adjective for those nouns that are derived from verbs and adjectives. In other words, the root is acquired from the primary form of the noun as well as being derived from verbs and adjectives for nouns that are derived from verbs and adjectives. Each derivation of a noun is illustrated in the following section.

### 4.2.1 Nouns Derived from Singular Indefinite Forms of Nouns

<u>(sg indef)</u>	<u>gloss</u>	<u>( pl indef)</u>	<u>(pl def)</u>	<u>gloss</u>	<u>root</u>	<u>pl markers</u>
(3a) [ter]	a pot	[teren]	[terenik]	pots	{ter-}	{-en, -ik}
(3b)[kɛ:t]	a tree	[kɛ:tin]	[ke:tik]	trees	{keet-}	{-in, -ik}
(3c)[Meso]	a table	[me:soi]	[meso: k]	tables	{meso-}	{-oi, -ok}

From the data above in (3a-3c), it is evident that the root of a noun can be derived from the indefinite form of its singular. In deriving a noun, a singular indefinite noun which acts as a root is suffixed to singular or a plural suffix of a noun to form a singular or a plural noun as shown above in examples (3a- 3c).

### 4.2.2 Nouns Derived From Verbs

Nouns in Nandi as said earlier can also be derived from the root of a verb as shown in the examples below:

<u>Verb (root)</u>		<u>suffix</u>		<u>Noun derived</u>	<u>Gloss</u>
(4a) {ʃo:r-}(steal)	+	{-indet}	>	[ʃorindet]	thief
(4b){s ɔ:m-}(beg)	+	{-indet}	>	[sɔmindet]	beggar
(4c){lapat-}(run)	+	{-indet}	>	[lapatindet]	an athlete

The above examples in (4a- 4c) show how nouns in Nandi can be derived from verbs, which means that verbs can act as roots as a verb root is suffixed to {-indet} to form a noun.

### 4.2.3 Nouns Derived from Adjectives

As said earlier, nouns can also be derived from adjectives as shown below:

<u>Adj (root)</u>		<u>Suffix</u>		<u>Noun derived</u>	<u>Gloss</u>
(5a){tui-} (black)	+	{-indo}	>	[tuindo]	blackness
(5b){kararan-}(good)	+	{-indo}	>	[kararanindo]	goodness
(5c){kɔ:i-} (tall)	+	{-indo}	>	[kɔ:indo]	tallness

The above data in shows that adjectives like verbs can also act as roots. In deriving a noun from an adjective, an adjective which acts as a root is suffixed to {-indo} to form a noun as shown in (5a- 5c) above.

It should be noted that when loan words enter Nandi language, they are treated as roots themselves. This means that they are made to behave as indefinite singular nouns as seen in the following examples in (6a- 6c).

<u>Sg (indef) (root)</u>		<u>sg (def) suffix</u>		<u>sg (def) noun</u>	<u>Gloss</u>
(6a){Suut-}(Eng)	+	{-it}	>	{suutit}	suit
(6b){saβuni-}(Kisw)	+	{-it}	>	{saβunit}	soap
(6c){βokis-} (Eng)	+	{-it}	>	{βokisit}	box

The loan words above in (6a-6c) from English and Kiswahili show that indeed they are treated as roots of nouns and acquire their singular or plural markers through suffixation of either the plural marker or singular marker.

### **4.3 Acquisition of the Class Marker**

In Nandi, the class marker is derived from the plural morphemes of both the indefinite and the definite form of the noun. Data in (table 8) show that each word has two plural markers, that is, one for the definite form and the other for indefinite form. This is because each Kalenjin noun as said earlier, consists of two forms, the indefinite (primary) form, and the definite (secondary) form which they exist side by side.

The first noun in (3a) is [ter] (pot), and its plural markers are {-en} and {-enik} respectively. From the noun class table above, it can be deduced that this word belongs to class four noun class. In the same way, the second noun in (3b) is [kɛ: t] (tree), which its plural markers are {-in} and {-ik} can be placed in class ten noun class. Also, the last noun in (3c) [meso] (table), has its plural markers as {-oi} and {-ok} and can be placed in class two noun class. In the same way, when loan words enter Nandi, they are incorporated into the various noun classes based on the plural markers or suffixes that they take. In the following section, various loan words are analyzed to ascertain their noun classes as they are adapted into Nandi.

### **4.4 Morphological Adaptation of Loan Words**

When loan words from English and Kiswahili languages enter Nandi language, they are morphologically adapted so that they can fit into the various noun classes that have already been discussed. As pointed out earlier, what determines the noun class of a noun in Nandi has to do with the plural markers that the noun takes both in its primary form and secondary form. Loan words are also treated the same way when they enter Nandi language. Various loan words will be analyzed to assess how they are morphologically adapted in the noun classes.

#### 4.4.1 Noun Class (1)

Nouns in class one are divided into three sub- classes as shown in the noun class table (table 8). In the first sub- class, the nouns take {-isya/-isyek} plural suffixes. In the second sub-class, nouns take {-osya/-osyek} plural suffixes. The last sub-class of nouns take {-usya/-usyek} plural suffixes. Examples of loan words found in this class are shown below in (7a-7c).

<u>Sg(def)(root)</u>	<u>pl suffixes</u>	<u>pl(indef)</u>	<u>pl(def)</u>	<u>gloss</u>
(7a){kari-}	{-isya/-isyek}	[karisja]	[karisjek ]	vehicles
(7b){tuka-}	{-osya/-osyek}	[tukosja]	[tukosjek]	shops
(7c){kitaβu-}	{-usya/-usyek}	[kitaβusja]	[kitaβusjek]	books

The data in (7a-7c), show how various loan words from Kiswahili have been adapted to fit into Nandi noun class one. In (7a) for instance, the nouns [karisja] and [karisjek] (vehicles) are derived by suffixing of {-isya} and {-isyek} to the root noun {kari-} (vehicle. It should be noted that most loan words are found in this noun class as most nouns in the language are also found in this class.

#### 4.4.2 Noun class (2)

Nouns in this class are categorized into two sub-classes. In the first sub-class, the nouns take {-oi/-ok} plural suffixes while the second sub-class take {-onoi/-onok} plural suffixes. Examples of loan words found in this class include the following in (8a-8c) below:

<u>Root</u>	<u>pl suffixes</u>	<u>Noun</u>	<u>Gloss</u>
(8a) {kalam-}	+ {-oi}	> [kalamoi]	pens (pl indef)
(8b) {kalam-}	+ {-ok}	> [kalamok]	pens (pl def)
(8c) {barua-}	+ {-onoi}	> [baronoi]	letters (pl indef)

(8c) {barua-} + {-onok} > [baronok] letters (pl def)

From the data in (8a- 8c), it is evident that loan words above have been morphologically adapted into noun class two as they take the suffixes {-oi/-ok} and {-onoi/-onok} as their plural suffixes.

#### 4.4.3 Noun class (3)

Nouns in this class are divided further into two sub- classes. In the first sub- class, the nouns take {-wa/-wek} plural suffixes while the second sub- class take {-owa/-owek} plural suffixes. Loan words were not found in this class. An example of a native word found in this class is [kirok] (a stick). The plurals of this word are [kirokwa] and [kirokwek] (sticks), the former being the plural indefinite while the latter is the plural definite. The plural suffixes of this word are {-wa} and {-wek} respectively.

#### 4.4.4 Noun class (4)

Class four nouns are further sub-divided into five sub-classes and they take the following plural suffixes respectively, {-an/-anik}, {-en/-enik}, {-in/-inik}, {-on/-onik} and {-un/-unik}. Examples of loan words found in this class include the following in (10a- 10d) below:

<u>Sg (root)</u>	<u>pl (indef)</u>	<u>pl (def)</u>	<u>pl suffixes</u>	<u>gloss</u>
(10a) {sokis-}	[sokisi:n]	[sokisinik]	{-in}/{-nik}	socks
(10b) {kaseti-}	[kaseti:n]	[kaseti:nik]	{-in}/{-nik}	newspapers
(10c) {mitai-}	[mitai:n]	[mitainik]	{-in}/{-nik}	metres
(10d) {ekai-}	[ekain]	[ekain]	{-in}/{-nik}	acres

From the data in (10a-10d), it is evident that loan words found in this class mostly take the plural suffixes {-in /-nik} as opposed to the other plural markers in the same class such as {-an/-anik} or {-en/-enik}

#### 4.4.5 Noun class (5)

Nouns in this class take the plural suffixes {-ai/-aiik} and do not have sub classes like the other classes seen above. Examples of loan words found in this class include the following:

<u>Sg (root)</u>	<u>Pl(indef)</u>	<u>Pl(def)</u>	<u>Pl suffixes</u>	<u>Gloss</u>
(11a){mai-}	[ma:i]	[mai:k]	{-ai}/{- aiik}	eggs
(11b){chai-}	[ʃa:i]	[ʃai:k]	{-ai}/{-aiik}	tea

The data in (11a) and (11b) show how loan words are adapted into noun class five through suffixing of the plural suffixes {-ai/-aiik} which are the plural markers of nouns in class five.

#### 4.4.6 Noun class (6)

This class of nouns has three sub-classes of plural suffixes, which are {-et /-etik}, {-ot/-otik} and {-un/-utiik}. Loan words were not found in this class. An example of a native word found in this class is [ke:t] (tree) and its plural is [k etik] (trees) while its plural suffix is {-etik}.

#### 4.4.7 Noun class (7)

In this noun class, nouns are sub-divided into two sub-classes which take the plural suffixes {-u/-uk} and {-un/-uk} respectively. Loan words found in this group include the following:

<u>Sg(root)</u>	<u>pl(indef)</u>	<u>pl(def)</u>	<u>pl suffixes</u>	<u>gloss</u>
(12a){mutuβar-}	[mutuβaru]	[mutuβaruk]	{-u}/{-uk}	bricks (Kisw)
(12b){sukaru-}	[sukaru]	[sukaruk]	{-u}/{-uk}	sugar (Kisw)

The data in (12a) and(12b) show how the two loan words have been adapted into noun class seven through suffixing of {-u/-uk}, which is the plural suffix of nouns found in this class.



#### 4.4.8. Noun class (8)

In this class, nouns take the plural suffixes {-wak/-wakik} in order to be adapted morphologically into Nandi. Loan words were not found in this class. Example of a native word from this class is [teŋkek] (sin) and its plurals are [teŋkekwak] and [teŋkekwakik] (sins). The plural suffixes of this word are {-wak} and {-wakik}.

#### 4.4.9 Noun class (9)

Class nine nouns are divided into two sub-classes. The first sub- class takes {-e/-ek} plural suffixes while the second sub- class takes {-t/-ek} plural suffixes. Examples of loan words found in this class include the following:

<u>Sg(root)</u>	<u>Pl(indef)</u>	<u>Pl(def)</u>	<u>Pl suffixes</u>	<u>Gloss</u>
(13a) {maembe-}	[maembe]	[maembe:k]	{-e}/ {-ek}	mangoes
(13b) {muŋele-}	[mu ŋele]	[muŋ ele:k]	{-e}/{-ek}	rice

In the data in (13a) and (13b), it is evident that the above loan words from Kiswahili have been morphologically adapted into Nandi through suffixing of {-e/-ek} plural suffixes to the loan words.

#### 4.4.10 Noun class (10)

Nouns found in this class take {-in/-ik} plural suffixes attached to the root of the noun. Loan words found in this class include the following:

<u>Sg(root)</u>	<u>Pl(indef)</u>	<u>Pl (def)</u>	<u>Pl suffixes</u>	<u>Gloss</u>
(14a){tangi-}	[taŋki:n]	[taŋkinik]	{-in}{/-ik}	tanks
(14b){βail-}	[βaili:n]	[βailinik]	{-in}/{-ik}	files

From the data in (14a) and (14b), it can be deduced that the above loan words from English have been morphologically adapted into Nandi through suffixing of {-in/-ik} plural suffixes to the noun.

#### **4.4.11 Noun class (11)**

This class as said earlier, consists of nouns that in their secondary or (definite) form end in a vowel in their plural form. This means any noun that ends in a vowel in its plural form belongs to noun class eleven. Loan words were not found in this class. Examples of native words found in this class include [teta] (cow), its plural is [tuga] (cows) and [artet] (sheep) sg, its plural is [nego] (sheep) pl.

This section has analyzed how various loan words from English and Kiswahili have been morphologically adapted into the Nandi noun classes. The next section analyzes morphological processes involved in the adaptation of loan words into Nandi.

### **4.5 Morphological Processes involved in Loan Word Adaptation in Nandi**

As seen from the above data on noun classification in Nandi, it is evident that loan words are morphologically integrated into the noun classes through suffixation. The main morphological process in loan word adaptation in Nandi is suffixation. In most cases, an indefinite singular noun forms the root of the noun to which plural morphemes are attached to form plural of the noun. In nouns that are derived from verbs or adjectives, the verb or the adjective can also act as roots.

In Nandi, suffixation is also used in the derivation of singular and plurals of nouns. In deriving the singular of a noun, a root noun (singular indefinite noun) is suffixed to a singular morpheme. In deriving the plural of a noun, a root noun (singular indefinite noun) is suffixed to the plural morpheme.

### 4.5.1 Suffixation in Words

The following data in (15a-15e) below show how suffixation of nouns take place:

<u>Sg (indef) noun</u>	<u>sg (def) suffix</u>	<u>pl (indef) suffix</u>	<u>pl (def) suffix</u>	<u>gloss</u>
(15a){kilo-}	{-it}	{-oi}	{-isyek}	kilogram
(15b){ki βande-}	{-t}	{-oi}	{-ok}	identity card

From the first loan word [kilo] in (15a), the following words can be derived from it:

- (15c){kilo-} + {-it} > [kiloit] (a kilogram) (sg def)
- (15d){kilo-} + {-oi} > [kilo] (some kilograms) (pl indef)
- (15e){kilo-} + {-isyek} > [kiloisjek] (kilograms (pl def))

From the second loan word [kiβande] in (15b) above, the following words can be derived from it:

- (16a){kiβande-} + {-t} > [kiβandet] (an identity card) (sg def)
- (16b){kiβande-} + {-oi} > [kiβandoi] (some identity cards)(pl indef)
- (16c){kiβande-} + {-ok} > [ki βando:k] (identity cards) (pl def)

The loan words above in (15a- 16c), illustrate how suffixation as a morphological process takes place in Nandi. From the above data on suffixation, various morphological rules can be formalized as shown in (17a- 17c) below:

- (17a)(Sg indef) noun root + pl/sg suffix > noun
- (17b)Verb root + pl/sg suffix > noun
- (17c)Adjective root + pl/sg suffix > noun

The three rules in (17a- 71c) can further be generalized into one rule as follows:

Root (sg) indef noun/verb/adjective) + pl/sg suffix (noun/verb/adjective) > noun

Morphological rules can also be formalized in the derivation of singular and plural forms of nouns as shown in (18a -19b) below:

(18a) {karai-} + {-it} > [karait] (basin)

(18b) Root noun (sg indef noun) + sg suffix > (sg) noun

(19a) {[karai-} (sg indef noun) + {-syek} > [karaisjek] (basins

(19b) Root noun (sg indef noun) + pl suffix > (pl) noun

Where (pl) means plural, (sg) means singular, (indef) means indefinite and (>) means ‘is realized as’.

From the analysis of morphological processes involved in the adaptation of loan words in Nandi, it is evident that the common morphological process used is suffixation. It is also clear that suffixes can be attached to a noun root, a verb root or an adjective root and that singular and plural forms of nouns can also derived through suffixation of singular or plural morphemes to a root noun.

## **Conclusion**

The main goal of this chapter has been to analyze how loan words in Nandi are morphologically adapted to fit in the language. In order to achieve this, it was imperative to give an overview of Nandi noun classes since loan words need to be integrated into these noun classes. The study found out that Nandi has eleven noun classes, six singular and five plural classes (Toweet 1975: 86). This classification is based on the plural suffix that a noun takes in its primary as well as its secondary forms. The study also found out that Kalenjin nouns in general (Nandi included), can also be categorized into two broad classes, the primary and the secondary forms. Primary

forms of nouns refer to nouns in their indefinite forms while secondary forms of nouns refer to nouns in their definite forms. This existence of two forms in each noun can also be referred to as functional doublets.

This chapter has also discussed each of the noun classes at length and examples of loan words in each noun class were given. Most loan words were found in noun class one which also consists of most Nandi nouns. Loan words are integrated to the various noun classes based on the plural suffixes that they take in both their primary and their secondary forms.

Root and class marker acquisition was also discussed. The study further found out that the root of a noun can be acquired through the indefinite singular noun, through a verb root or through an adjective root being attached to a suffix. It was also found out that nouns acquire their class markers based on the plural suffixes that they take in both their primary as well as their secondary forms.

Morphological processes involved in loan word adaptation were discussed and the study found out that suffixation is the morphological process that is widely used as a strategy for loan word adaptation in Nandi. Examples of suffixation processes in words were given. Finally, morphological rules were formulated to account for the process of suffixation. One rule states that the root of a singular indefinite noun can be attached to a singular or a plural suffix to form a noun. Another rule states that a verb root can also be attached to a singular or plural suffix to form a noun. The final rule states that an adjective root can also be attached to a singular or a plural suffix to form a noun. It was also found out that suffixation is employed in the derivation of singular and plural forms of nouns.

# CHAPTER FIVE

## CONCLUSION

### **Introduction**

This chapter presents a summary of the chapters, the research findings, conclusion to the study and recommendations for future researchers. The main goal of the research was to analyze the phonological as well as morphological adaptation of English and Kiswahili loan words in Nandi. This study was carried out using the theoretical framework of Natural Generative Phonology (NGP) which was propounded by Vennmann and later expounded by Hooper in 1976. The study was geared towards establishing whether the adaptation of loan words in Nandi from English and Kiswahili languages was motivated by both phonological and morphological processes. In view of this, the research was divided into five chapters, each chapter dealing with a different aspect in detail.

### **5.1 Summary of Research Findings**

In chapter one, a background study of Nandi language was discussed and it was found out that Nandi language belongs to the southern Nilotic group of speakers. Borrowing was discussed at length since loan words enter a recipient language through borrowing. Borrowing was also seen to contribute to the growth of a language in that the borrowed lexical items are added to the existing lexical items in the language. The research problem was stated, research objectives were stated, hypotheses to be tested were outlined, scope and limitations were also stated, the theoretical framework was also discussed, a literature review was given, methodology to be used in the research was outlined and also how the data collected will be analyzed.

Chapter two dealt with Nandi segmental Phonology in which the consonants and vowels were outlined. It was observed that Nandi has thirteen consonants inclusive of the glides /w/ and /j/,

four pre-nasalized consonants and a ten vowel system that occurs in five corresponding pairs based on Advanced Tongue Root feature [ATR]. Nandi syllable structure was also discussed in detail since when loan words enter a language, they have to be re-structured so as to conform to the preferred syllable structure of the recipient language. It was observed that Nandi language exhibits a CVC syllable structure with words being monosyllabic, bi-syllabic, tri-syllabic or polysyllabic. One major finding in this chapter was that vowel and consonant processes were found to be responsible for loan word adaptation in Nandi language. Another finding was that loan words whose syllable structure did not match that of Nandi had their syllable structure re-structured so as to achieve the preferred syllable structure. This was done through syllable structure adaptation processes such as vowel epenthesis, epenthesis and pre-nasalized consonants and voice assimilation. Our study also observed that for each phonological process, a rule was formalized to account for the process using the theoretical framework of Natural Generative Phonology.

Chapter three dealt with phonological adaptation of loan words that is, how loan words are phonologically integrated in the language. To this end, phonological processes were examined in detail. Both vowel and consonant processes were discussed and were found out to be responsible for loan word adaptation in Nandi. Vowel processes that were examined in detail included glide formation, vowel harmony, vowel lengthening and coalescence. Consonant processes were also discussed at length. These processes include spirantisation, voicing, palatalization and labialization. Chapter three also dealt with adaptation processes that loan words from English and Kiswahili undergo in order to be integrated in Nandi. The loan word adaptation processes that were discussed in the chapter are vowel adaptation processes, syllable structure adaptation processes and consonant processes. The vowel adaptation processes that were dealt with are vowel preservation and vowel substitution. The syllable structure adaptation processes that were discussed are vowel epenthesis, epenthesis and pre-nasalized consonants and voice assimilation. The study found out that that the epenthetic vowels mostly

used in Nandi are [a, i, and u]. Another syllable structure adaptation process is that of epenthetic vowel and pre-nasalized consonants. Consonant adaptation processes were also dealt with in detail. These consonant processes include consonant preservation and consonant substitution. One major finding in this chapter was that various vowel and consonant processes were found to be responsible for loan word adaptation in Nandi language. Another finding was that syllable structure adaptation processes are involved in the adaptation of loan words in Nandi. This was done through various syllable structure adaptation processes such as vowel epenthesis and voice assimilation. It was also observed that for each phonological process, a rule was formalized to account for the process using the theoretical framework of Natural Generative Phonology

Chapter four examined in detail how loan words are morphologically adapted into Nandi language. Since morphological adaptation affects roots and stems of nouns, then it was imperative to provide an overview of Nandi noun classification. It was observed that Nandi has eleven noun classes. The study also found out that a root of a noun can be acquired through the attachment of a singular or plural marker to an indefinite noun, a verb root or an adjective root. It was also observed that when loan words enter Nandi language, they are treated as roots of nouns. The acquisition of class marker was also discussed. It was observed that Nandi nouns acquire the class marker based on the plural suffixes that they take in their primary as well as in their secondary forms. Morphological adaptation of loan words was also examined at length. Each of the noun classes was examined to confirm if loan words can also be adapted morphologically in the noun classes just like the nouns in the language. It was found out that loan words just like other nouns in the language are integrated in the noun classes based on the plural markers that they take. It was also observed that suffixation was a common morphological process used in the integration of loan words from English and Kiswahili into Nandi. In deriving the root of a noun, morphological rules were formulated. One rule derived a noun from a singular indefinite noun, another from a verb root and finally from an adjective



root. All these rules were found to be similar to their underlying representations and that they were transparent on the surface implying that they are not abstract but are rather concrete. Natural Generative Phonology posits that underlying representations should always be related to their surface forms so as to limit abstractness and also to conform to the True Generalization condition that claims that underlying representations of phonological or morphophonemic processes should be identical or similar to their surface forms.

It is in the light of the above findings in each chapter of the research that we seek to show whether our objectives were achieved and whether our hypotheses were proved or disproved.

## **5.2 Relating the Findings with the Objectives and Hypotheses**

Our study found out that loan words are integrated in Nandi through syllable structure adaptation processes, phonological adaptation processes and morphological adaptation processes. The study also found out that various phonological and morphological processes were involved in the adaptation of loan words in Nandi from English and Kiswahili languages.

Natural Generative Phonology was found to be an adequate theory in this study as it was able to explain the relations between the underlying representations and surface realizations of various phonological and morphological processes involved in the adaptation of loan words in Nandi from English and Kiswahili languages. Since Natural Generative Phonology as a theory makes strong claims about natural languages, that is, it can only account for alternations that occur in natural languages. This means that Nandi language like any natural language has used various processes as a strategy of adapting loan words into its lexicon. Since these alternations occurred in a natural language, then this proves that NGP has served as an adequate theory in as far as loan word adaptation processes are concerned.

### **5.3 Conclusion**

This study has established that phonological and morphological processes are involved in the adaptation of loan words in Nandi from English and Kiswahili languages. The study adopted Natural Generative Phonology and Generative CV- Phonology theories. The former was employed in the explanation of phonological and morphological processes while the latter was used in the analysis of the syllable structure of both the source languages and the recipient language. The two theories have been deemed adequate in the analysis and explanation of the processes identified in loan word adaptation.

### **5.4 Recommendations for Further Research**

This research has endeavored to show that indeed phonological and morphological processes are involved in the adaptation of loan words in Nandi from English and Kiswahili languages. However, research should be conducted on how loan words are adapted semantically in the language because there are cases whereby a loan word can broaden or narrow in meaning in the recipient language.

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## APPENDIX A

### DATA ON LOAN WORDS IN NANDI FROM ENGLISH AND KISWAHILI LANGUAGES

#### (Loan words from Kiswahili)

<u>Kiswahili</u>	<u>Nandi</u>	<u>Gloss</u>
/bakuli/	/βakulit/	bowl
/mkebeɛ/	/mukeβet/	tin
/hema/	/emait/	tent
/sahani/	/sani:t/	plate
/maka:/	/maya:/	charcoal
/meza/	/meset/	table
/kura/	/kuraijat/	vote
/daktari/	/takitari/	doctor
/mʃeleɛ/	/mutʃelek/	rice
/mkoba/	/maβuket/	bag
/mpira/	/mbiret/	ball
/ndo:/	/indoit/	pail
/ɲjugu/	/ɲjukuk/	groundnuts
/ndizi/	/indisiot/	banana
/ɲguruwe/	/ɲguruet/	pig
/ɲgamia/	/ɲgamiet/	camel
/kufuli/	/kiβulit/	padlock

/matofali/	/matuβaruk/	bricks
/mf̄ipi /	/masiβit/	belt
/paŋga/	/paŋket/	panga
/pasi/	/pasit/	iron box
/karatasi/	/karatasit	paper
/stima/	/sitima/	electricity
/sauti	/sautit/	voice
/simu/	/sime:t/	phone
/mali/	/mali:k/	property
/lami/	/lamit/	tarmac
/meli/	/melit/	ship
/malaika/	/malaikaijat/	angel
/ɲaɲa/	/ɲaɲat/	tomato
/ɲundo/	/ɲundoit/	hammer
/ʃuma/	/ʃumaijot/	iron rod
/ʃupa/	/ʃuβoit/	bottle
/majai/	/mai:k/	eggs
/ʃela/	/ʃela/	prison
/kijiko/	/kiʃiket/	spoon
/mf̄ahara/	/musjara/	salary
/bahari/	/βari:t/	ocean
/wembe/	/embeit/	razor blade
/wakili/	/oyiliot/	advocate



/gari/	/karit/	vehicle
/kalamu/	/kalamit/	pen
/barua/	/βaruet/	letter
/miwa/	/miwat/	sugarcane
/kahawa/	/ka:wək/	coffee
/gazeti/	/kasetit/	newspaper
/ʃai/	/ʃaik/	tea
/maembe/	/maembe:k/	mangoes
/kipandɛ/	/kipandɛt/	identity card
/karai/	/karait/	basin

## APPENDIX 2

### DATA ON NANDI LOAN WORDS FROM ENGLISH AND KISWAHILI LANGUAGES

(Loan words from English)

<u>English</u>	<u>Nandi</u>	<u>Gloss</u>
/desk/	/teskit/	desk
/jʌg/	/tʃa:kit/	jug
/kri:m/	/kiritit/	cream
/fɔ:m/	/βomit/	form
/pəli:s/	/polisiek/	police
/biskit/	/βisikut/	biscuit
/mail/	/mailit/	mile
/paip/	/paipit/	pipe
/mitə/	/mitait/	metre
/sə'tifikət/	/satiβiket/	certificate
/skɜ:t/	/sikatit/	skirt
/membə/	/membaijat/	member
/sentə/	/senda/	shopping centre
/klʌtʃ/	/kilaʃit/	clutch
/drʌm/	/tiramit/	drum
/breiks/	/βurekit/	brakes

/glu:/	/yulu/	glue
/maep/	/mapit/	map
/baetri/	/βetirit/	battery
/kaendl/	/kandolit/	candle
/rulə	/rulait/	ruler
/lɔri/	/lorit/	lorry
/klinik/	/kilinik/	clinic
/ʃiliŋ/	/siliŋgit/	shilling
/fu:t/	/βutit/	foot
/fail/	/βailit/	file
/vidəu/	/βitio/	video
/dizl/	/tisel/	diesel
/blauz/	/βulausit/	blouse
/ʃi:t/	/sitit/	sheet
/gaeraʒ/	/karatʃ/	garage
/boks/	/βokisit/	box
/taeŋk/	/taŋit/	tank
/stu:l/	/situlit/	stool