

ASPECTS OF GUA (GWA) PHONOLOGY

BY

MICHAEL YEBOAH OBIRI

(10225330)



**THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA,
LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR
THE AWARD OF M.PHIL LINGUISTICS DEGREE**

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DECLARATION

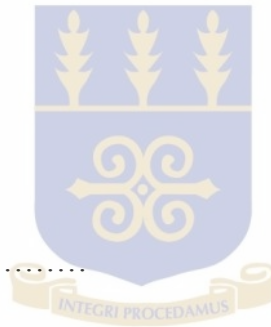
I humbly declare that apart from references to works that have been consulted and duly acknowledged and cited, this dissertation is the result of my own research and that, it has neither in whole nor in part been presented for any degree elsewhere.

Signed

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Michael Yeboah Obiri

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Date

Dr. J. A. N. Saanchi

(Supervisor)

DEDICATION

This thesis is dedicated to the Amoah-Frimpong and the Obiri Yeboah families for your love, care and unflinching support showed me throughout my studies.



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For who makes you different from anyone else? What do you have that you did not receive? And if you did receive it, why do you boast as though you did not. (1 Cor. 4:7) NIV. I do not consider myself as having done anything all by myself. It is through the grace and the favour of God that I have come this far. I humbly give a heartfelt gratitude to the Almighty God for how far He has brought me in my course of study.

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ABSTRACT

In this thesis, I discuss the sound system, tonal patterns and some phonological processes of Gwa (Gwa). As a 'Hill Guan' language, Gwa belongs to the Guan language group under Central Comoe sub-family of the Kwa language family. It is spoken typically by the people of Anu-(m) and Boso, which form the two dialects of the language. It is located in the Asuogyaman District in the Eastern Region of Ghana. The thesis relied on data from the Boso dialect of Gwa for its description. Using primary sources of data such as wordlist elicitation, unstructured interviews and focus group discussions, the thesis adopts Dixon's (1997, 2010a, 2010b and 2012) Basic Linguistic Theory to describe the phonology of Gwa. The thesis claims that Gwa has ten (10) vowels with thirty-two (32) consonants (both plain and labialised). The study maintains that Gwa has five (5) syllable types which include CV, V, C, VC and CVC. The thesis maintains vowel deletion, epenthesis, aspiration, palatalisation, homorganic nasal assimilation and nasalisation are phonological processes in Gwa. Others are labialisation, labial-palatalisation and vowel mutation. The thesis claims that, Gwa has low and high basic tones. It shows that verbs and adjectives have clarity in tonal patterns but in nouns it's only the monosyllabic ones. Grammatically, Gwa uses tone to distinguish between present and past tense on one hand and habitual, progressive and perfective aspects on the other. Finally, the thesis indicates that downstep, downdrift, tone polarity, tone deletion and dissimilation are tone processes in Gwa.

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LIST OF SYMBOLS AND ABBREVIATIONS

		Page
+	Present or advanced	
-	Absent or non-advanced	
~	Nasal diacritic	
σ	Syllable symbol	
!	Downstep marker	
1	First Person	
2	Second Person	
3	Third Person	
ANIM	Animate	
ATR	Advanced Tongue Root	
C	Coda	
CM	Clause Marker	
COMPL	Completive marker	
CV	Consonant-Vowel	
DET	Determiner	

DIM	Diminutive
FUT	Future
H	High tone
HAB	Habitual marker
INANIM	Inanimate
L	Low tone
N	Nucleus
NEG	Negative marker
NOM	Nominaliser
NUM	Number
O	Onset
PERF	Perfective marker
PL	Plural marker
POSS	Possessive linker
PRES	Present Tense marker
PROG	Progressive marker
PST	Past Tense marker

R	Rhyme
SG	Singular Marker
STAT	Stative
SUBJ	Subject marker
V	Vowel

CHAPTER ONE

GENERAL INTRODUCTION

1.0 Introduction

This chapter presents a general overview of the thesis. It discusses the background to the study, ethnolinguistic issues of Gua and its people, linguistic background of Gua and the problem statement. In addition to the above discussion are the objectives of the study, its significance and scope. The source of data for this thesis, methodology, literature review, theoretical approach and the organisation of the various chapters have also been discussed in this chapter. The chapter concludes with a brief summary of the things discussed.

1.1 Background to the Study

A language can be considered conceptually as a living thing. In that sense, once a language can be born, so also can it die. To linguists, every language has something to contribute to knowledge. This has necessitated the call by linguists for every language to be documented in order to preserve the vital parts (thus its phonetics, phonology, morphology, syntax and semantics) that contribute to knowledge, should the language die. Unfortunately, many languages, especially the minority ones, have died without leaving any trace of their vital parts because they were not documented. Brenzinger et al (1991:19) explain how minority languages and cultures suffer from their maintenance and development. They

write, “the members of the communities concerned very often are, as minorities, not in a position to fight successfully for their basic rights, which include that of maintaining and developing their own culture and language.”

This is so with some Ghanaian languages, with Gua inclusive. In Ghana, minority languages are struggling to survive as a result of the threats posed by English and other majority Ghanaian languages, especially Akan and Ewe. It is therefore prudent for linguists to rise up to the task and document these languages that are under threat. Exploring the phonology of such languages is one major step towards documentation and maintenance; hence the topic, “Aspects of Gua Phonology”. Gua is a minority language which has not been widely explored. As a language with very little work on the description of the various linguistic elements such as phonology, morphology, syntax, semantics, among others, a lot needs to be done to bring the language to light thereby saving it from getting extinct without leaving any trace of its written form.

The scope of this study will be in the area of phonemic inventory of the sounds of the language, syllable structure, tone and phonological processes. Gua has two dialects which are Anu (m) and Boso. This study will consider only the Boso dialect with data taken from Boso. The research will employ primary data as the source of data with Basic Linguistic Theory as the approach in the description of Gua.

1.2 The Ethnography of Gua

According to Ampene (2003:6), “The ‘aboriginal inhabitants’ of Ghana called themselves GUAN, and speak a language of the same name”. However, he asserts that due to the various places where these people lived after disintegration “there are many variants of the name: GWA, GUAN, GOUN.” (Ampene 2003:6). The speakers of the Boso dialect call the language Gua /gwa/. It so occurs that, the ‘Hill Guan’ people – Okere, Larteh, Anum, Boso – call themselves GWA-EBI, meaning the people of Guan descent. Guan largely refers to the language and the people who reached Ghana first before any other ethnic group (Ampene 2003). Gua is spoken at places like Anu(m), Boso, Tosen, Dodi, Nanyɔ, Nkwakubew, Anum Apapam, Asamankese Anum, partially at Asikuma and Sankɔre. There are other pockets of communities where the language is spoken largely because there are people who are of Gua descent residing in those places. In this study, I will restrict myself to the Boso dialect of Gua which is spoken in areas such as Boso, Tosen, Dodi and Nanyɔ.

Boso is located in the Asuogyaman Constituency of the Asuogyaman District in the Eastern Region of Ghana. In the area of Traditional administration, Boso serves as the head of the Gua Boso Traditional Council with the Paramount Chief living in Boso. Towns which form part of the Gua Boso Traditional Council include Dodi, Nanyɔ, Tosen and Boso itself.

Tradition has it that Boso comes from two Gua words: bo ‘mountain’ and so ‘upper surface’ meaning ‘on top of a mountain’. If you take into consideration the

geographical position of Boso, it is situated on a mountainous area. Indeed the entire town of Boso is found between two mountains. This has been the long standing belief of some people concerning the name Boso.

A contrary view concerning the etymology of Boso is a legend reported by Ampene (2003). This legend states that, “the town was founded on rocks (Twi: ‘Abo so’)” (Ampene 2003:88). Ampene (2003) admits that this myth is degrading because he sees it as hazy. He disagrees with the two views (on the etymology) discussed above. However, Ampene (2003) seems to support the tradition which seems to be acceptable in the area and among the people themselves. That is, “anytime travellers or visitors questioned the inhabitants ‘about progress so far,’ the evasive answer was Ene bo so ‘we are making some progress’, and this expression became corrupted into Boso.” (p.88)

Another significant thing about Boso is the belief system of the people. The people of Boso seem to be highly religious. I came across an edifice close to the central point of the town in the middle of the road during my fieldwork. This edifice signifies the heart of the town. The belief is that, that is the god which takes care and protects the people of Boso. No one is expected to touch that edifice. When an individual touches it or even a car hits it, rituals which involve sacrificing of sheep would have to be performed for the person (s) or vehicle involved. Apart from this belief, Christianity has also gained root on the land. Churches like the Presbyterian Church of Ghana, Anglican, and Methodist Church, Ghana are some of the Christian denominations at Boso.

If there is one thing that unites the people of Boso and its environs, then it must be the festival, “Odweegy”. This festival is celebrated in other areas as the ‘Odwira’ festival. Odweegy comes from two Gaa words. Odwe ‘a type of yam’ and gyi ‘eat or celebrate’. The Odweegy is the major festival which is celebrated in the month of September. This is celebrated to mark the end of a year and for the initiation into the New Year. It is at a time when odwe is allowed to be uprooted for human consumption for the first time in the New Year. This festival brings family members and friends who for one reason or the other have travelled far and near to come home for a reunion. There is a great deal of merry making during this season.

The major occupation of the area is farming. As farmers, the main crops cultivated are oil palm, cocoa, maize, cassava and yam. These activities are mostly done by men with few women getting involved lately. Women are mostly into trading in the foodstuffs that are produced by the farmers. Palm oil production has also become another major source of income for women in the area lately.

In terms of education, Boso Presbyterian Primary and Junior High School and the Anglican Primary and Junior High schools are the main basic schools at Boso. There is also Boso Senior High and Technical School which accommodate most of the students who complete the basic schools at Boso. Despite the fact that most of the youth are entering into second cycle institutions, there is still a relatively high level of illiteracy. Indeed the literacy rate in the L2 of the area has been pegged at 5-15% (Lewis et al 2013). This may be due to the fact that some of the older generation in the area did not benefit much from education. Even though literacy

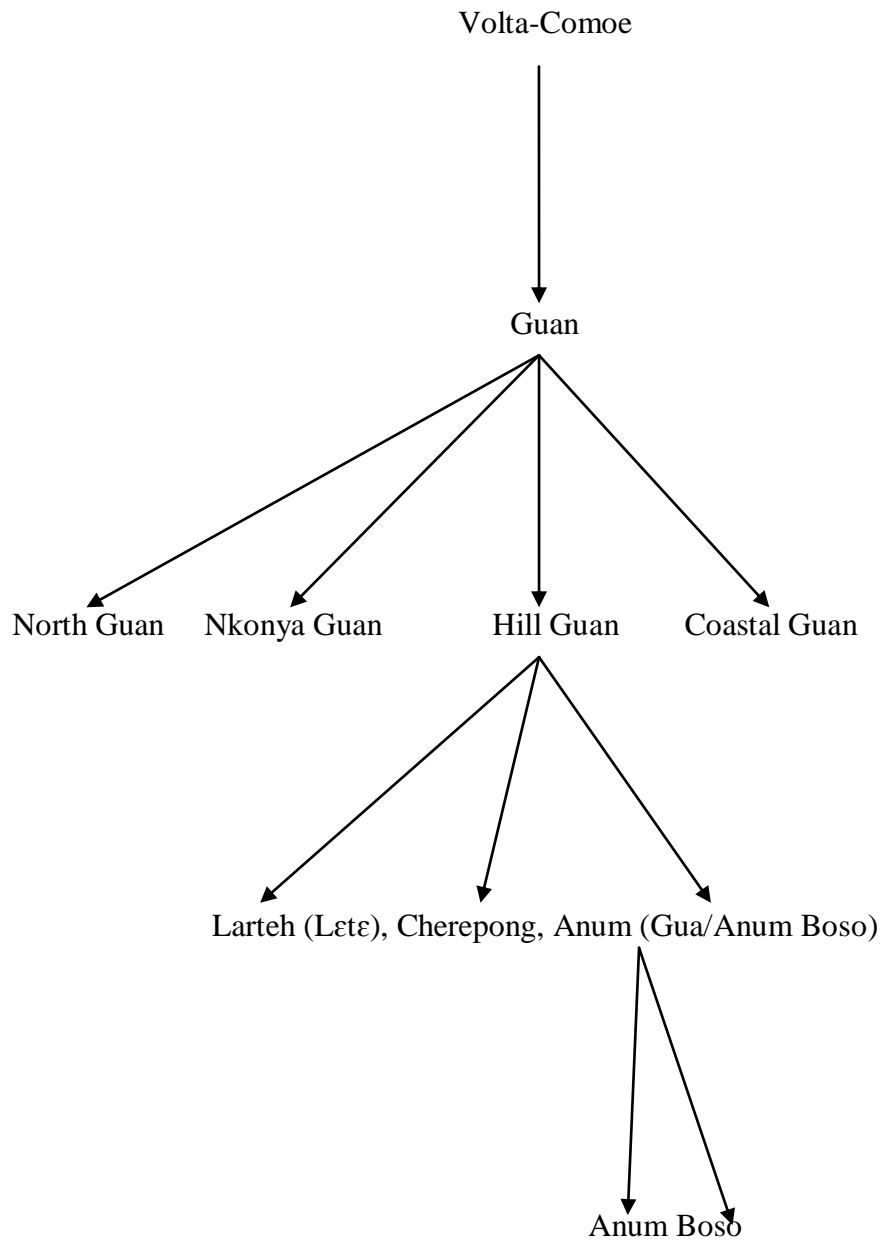
level in the English Language is relatively low, there have been some important personalities from Boso who have served and others who are still serving in various capacities in Ghana. The rate of illiteracy is also affecting the lives of school going age individuals at Boso. This is because some parents find it difficult to send their wards to school partly because some of those parents did not receive formal education. Some of the parents prefer their children rather help on the farms. Also, lack of available funds due to lack of adequate employment avenues can be the cause of parents not being able to send their children to school resulting in relatively high level of illiteracy.

1.3 Linguistic Background of Gua

The linguistic situation of Boso, Tosen, Dodi and Nanyɔ is such that, the people are bilinguals. The Akuapem dialect of Akan and Gua are the major languages used besides English. In these places, Gua seems to be the language used in most domains; primarily in informal settings. In the language, **Gwa** means ‘run’. It is worth noting that non-speakers of Gua use Gua and Boso (which is a dialect of Gua anyway) interchangeably to refer to both the language and the speakers of the language. This reference is largely accepted by the Gua speakers. Gua is a Guan language. Dakubu (1988) categorises the language under the Tano group of the Volta-Comoe of the Kwa language family. It is one of the “Hill Guan” languages (Painter 1967a:75). Painter (1967a:75) presents a reclassification exercise of the Guan languages spoken in Ghana. It is based on this that he discusses Gua as a Hill

Guan language. In his work, the Guan languages spoken in Ghana could be classified into four broad language groups. These are the North Guan, Nkonya Guan, Hill Guan and the Coastal Guan. The North Guan language group comprises Gonja, Choruba, Ndmopo, Yeji, Prang, Nawuri, Achode, Anyanga, Nchimburu, Nchumuru and Krachi with Nkonya Guan having only Nkonya as part of the group. While Hill Guan has Anum (Gua/Anum-Boso), Coastal Guan has Awutu and Effutu. These classifications were made possible due to some features the languages exhibit. Per this classification, a language family tree which has Gua as the main focus could be drawn for Gua from the Volta-Comoe. This is as follows:

Figure 1: Gua Language Family Tree



This tree has been adopted and modified from Painter (1967b:6).

Lewis et al (2013) have also come out with a current classification of the Gua language. In the analysis, the linguistic lineage of Gua could be represented as follows: Niger-Congo, Atlantic-Congo, Volta-Comoe, Kwa, Nyo, Potou-Tano,

Tano, Guan, South Guan, Gua. Gua in this context refers to both the Anu(m) and the Boso dialects. The map below indicates where Gua is spoken in Ghana. On the map, Gua is indicated with figure 52.

Map 1: Language Map of Ghana



Source: Lewis et al (2013)

1.4 Statement of the Problem

As noted in 1.1, Gua is a language which is not yet documented. Very few works can be found on the language. One of such works is Dakubu (1988). This work mainly describes the typology of the language. The language is influenced by Akan, thereby making the people highly bilingual. Akan is gradually taking over some of the major domains of Gua usage in Boso and its related environments. An instance is where during my fieldwork, I realised Akan is studied as a language while Gua, due to the lack of its written form, is only used for emphasis in the classroom because most of the students can read and write Akan. Gua is only employed when there is lack of clarity and more emphasis needs to be laid. This is however seen as a threat to the language.

Taking cognizance of what has happened to some Guan languages (where some unwritten Guan languages have become extinct), it is possible that if Gua remains unwritten, there will be a language shift which will consequently lead to language death. This is not to say that unless a language is written, its ability to survive cannot be assured. Rather, documenting a language goes a long way to help maintain the language even when it is no longer in use. Dakubu (1988) hints of some of the Guan languages which have become extinct without any trace of their written forms. Her work cites Nterato, once spoken north of Salaga, Mpre on the West bank of the Volta below Yapei and Mpur on the east bank of the Volta which have become extinct. Here, she states, “the area is Gonja speaking today” (Dakubu1988:78). However, she is not certain whether Mpur and Mpre are entirely different languages. On the other hand, Blench and Dendo (2007) express

a view that Mpre, which was known to its speakers as Mpra spoken around Butei, is technically and practically an extinct language. This assertion is based on a field work to Butei they embarked upon in February 2007. All these give a strong indication that some of the minority Guan languages are getting extinct. The point therefore is that, Gua being one of the minority Guan languages, it should not come as a surprise should it gradually follow this trend if not salvaged.

There are other instances identified where the speakers of the Southern Guan languages (of which Gua is also a member) refuse to use the language when they leave their hometown to places like Accra, etc. According to Dakubu and Emberson (1979), cited in Dakubu (1988), exploratory surveys indicate that only insignificant members among nearby Akan and Ga or Dangbe speaking populations speak a south Guan language. This raises a matter which needs to be of concern to every linguist in Ghana.

In a country where the use of the language around the catchment area is encouraged to be used in the basic schools, there is the need for all languages to be researched into and developed for educational purposes. It is also very difficult to get scholarly work on Gua which add to the threat of it becoming extinct. The few research works (including Painter 1967a, 1967b and Dakubu 1988) that seem to talk about the language only make some general highlights on the typology and linguistic affinity of the language. In terms of the description of the language, very little has been said about it. Indeed Dakubu (1988) in her remarks of the discussion on the linguistic characteristics of the Guan languages notes “in this section we shall not attempt a comprehensive description of any of the Guang languages, but

comment briefly on some of their more distinctive characteristics” (Dakubu 1988:81). This gives room for a detailed description of the languages involved especially Gua which is the subject under study.

1.5 Research Objectives

In an attempt to address the problem stated above, the proposed study, among other things, would seek to:

1. investigate and present a description of the phonemic inventory of Gua.
2. study the syllable structure associated with Gua.
3. discuss tone markings in the language
4. offer description of the various phonological processes that can be found in Gua.

1.6 Scope of the Study

In a single study, one cannot touch on everything in an area within the language. In this vein, it is important to clarify issues on the scope of the study. In this research, I have indicated that the study will concentrate on the Boso dialect only. This is because of the differences that exist among Anu(m) and Boso, the two dialects of Gua. Besides, there is an ongoing project on the Grammar of Anum.

At this point, it is realised that the Boso dialect needs attention. The study will focus primarily on some aspects of its phonology. Aspects like phonemic

inventory, syllable structure, phonological processes as well as tone and tone processes.

1.7 Relevance of the Study

It is my hope that when the objectives are achieved, this thesis would, among other things, be:

1. the first study with a detailed description of Gua. Areas like phonemic inventory, syllable structure, phonological processes and tone would be the focus.
2. the unifying factor for the speakers of Gua to better appreciate their linguistic identity and heritage
3. the contributing factor for the maintenance of the language and culture of Boso.
4. a reference point for Gua in academia.

1.8 Source of Data and Methodology

The study employs the use of primary data elicited through focus group discussions, unstructured interviews and recordings of wordlists in Gua. The focus group discussions throw light on the ethnolinguistic information needed for this thesis. The focus group discussion was specifically administered to two sets groups with three women in each group. This was specifically done because it was meant to give equal opportunity to both males and females since more males took

part in the wordlist elicitation per the plan for the data. The first focus group discussed issues that relates to general life and living standard at Boso and how the odweegy 'Odwira festival' is celebrated at Boso. Topics relating to some aspects of the language and the culture were raised for the discussions. The topics encompassed the history of the language, social and cultural interaction of the area. The second focus group's discussion centred on only the celebration of the Odwira festival and its relevance. The focus group discussions gave me the opportunity to understand the way of life of the people of Boso and a general view about the language.

The unstructured interviews as well as consultations were made to help in the elicitation of the data collected for proper and accurate description. The unstructured interviews and the consultations were conducted among groups like the old, young, male, female, educated and uneducated. This helped to complement the focus group discussion and the wordlist elicitation. The unstructured interviews and the consultations helped in ascertaining the validity of the words transcribed.

Through the use of Summer Institute of Linguistics (SIL) wordlist, data concerning lexical items in the language were elicited. Using the SIL wordlist, six hundred and sixteen (616) words were elicited in this exercise. In all, ten (10) males and females were engaged in the wordlist elicitation.

Again, my native speaker's intuition has been utilised greatly in this study. Due to my native speaker's competence, it made it a bit easier analysing the data

collected. Analysis of the data collected was purely descriptive. I described phenomena as they appeared in the language as required by the Basic Linguistic Theory. This theory has been expounded in section 1.10.

1.9 Literature Review

Gua has very few literary works which are basically generalisations on the language which make in-depth review work difficult. However, there have been some works on other languages for consideration. These are literature on languages which have similarities on the topic and areas which share some closeness with the language under study as well as literature that has similar phenomena in Gua phonology. One literature on Gua which has been chanced upon has also been discussed in this section. In this section, I will review literature within the four thematic areas of the entire thesis; thus, phonemic inventory, syllable structure, tone and phonological processes.

Painter (1967b) makes the attempt to describe Gua. He describes the various vowels and consonants of the language. He touches on tone and vowel harmony as well. Painter's work is not detailed. In fact in his own words, he states "the papers in this collection do not represent an even partially complete phonology or grammar of Gwa [Gua]" (Painter 1967b: 3). Painter's work represents the first major work done specifically on Gua. Even though this work is not detailed, I will draw a lot of inspiration from his work. His work gives a general overview of the Anu (m) and the Boso dialects but the current work will focus specifically on the

Boso dialect. His work identifies phonological features like phonemic inventory, tone, and loan words from other languages into Anum and Boso. His work is seriously an eye-opener and offers a great deal of insight into the current work. The description he made makes it possible for even a beginner to be able to read and understand some of the phonological elements the language portrays.

Asante (2009) works on the Nkonya language. The work suggests that the classification which categorises Guan languages should be looked into again. He writes, “clearly it could be seen that very little could be said to justify the unity of the North Guang languages, particularly so when there is even more linguistic evidence that supports a possible unity between Nkonya and the other South Guan languages” (Asante 2009:10). He supports his arguments with some cognates from some of the Guan languages. His observation is that, Nkonya which has been classified under North Guan cannot be accurate since the language has a lot of resemblances with the South Guan languages. He in the end suggests that Nkonya should be considered under the South Guan language group and not the North Guan. Asante’s (2009) view seems to suggest that language classification should be done meticulously to avoid disagreements in future work by other scholars.

Asante (2009) turns his attention to describing the various sounds found in the language. According to him, “Nkonya has 18 phonemic vowels” (Asante 2009:60). He indicates that half of these vowels are oral while the other half is nasal vowels. The 9 oral vowels are /i, ɪ, e, ε, a, ɔ, o, ʊ, u/ and the 9 nasal vowels are /ĩ, ã, ẽ, õ, ã, ã, õ, õ, ã/. In effect, all the oral vowels in Nkonya, to him, have their nasal counterparts. These are produced without any influence of a nasal consonant in a

close environment. In the case of distribution of these vowels, the work indicates that the 9 oral vowels occur word medially, word finally and in word initial except /u/ and /ʊ/ which do not occur word initially. He explains how these 18 phonemic vowels are realised in the language as used in words below. Example (1):

/i/	ikwi	‘beard’
/ɪ/	líɪ	‘stand’
/e/	kebibɔbʊɛ	‘fetus, baby’
/ɛ/	pélíɪ	‘shyness’
/a/	bate	‘chicken’
/ɔ/	ìwɔ	‘snake’
/o/	ɔɲí	‘male’
/ʊ/	ɔtu	‘laddle’
/u/	kufā	‘goat’
/ĩ/	ofi	‘shin’
/ĩ/	tĩ	‘to tear’
/ã/	kufā	‘sheep’
/ẽ/	opioɸɪhẽ	‘sister’
/ẽ/	obiẽ	‘snail’
/õ/	akõ	‘hunger’
/ũ/	dũ	‘bite’
/õ/	põ	‘to become weak (verb)’
/õ/	e/obó	‘potter’s clay’ (p. 61)

One interesting thing Asante (2009) found on Nkonya vowels is that, “difference in vowel length may bring about meaning difference” (p. 61). To this end, meaning difference is realised when the vowel is short or long and vice versa.

In terms of consonants, Asante identifies 23 consonants. He explains that 19 of these consonants are oral while the other 4 are nasal. The oral consonants are /f, s, p, t, ts, k, kp, h, ʔ, v, b, d, dʒ, g, j, r, l, w, gb/, and the 4 nasal consonants include /n, m, ŋ, ŋ/. Talking about the distribution of these consonants, he explains that /v, r, ʔ/ do not occur in word initial position while /ŋ, ʔ/ do not have representation in word medial position. At the instance of word final position, he is of the view that only /m, n, ŋ, ʔ/ can occur. He also used distinctive features to describe the phonemic inventory of Nkonya. Apart from these discoveries on the vowels and consonants, he also mentions that Nkonya has 4 main syllable types. These types are CV, V, CVC and VC. The C in the Coda position of CVC is occupied by a nasal or the glottal stop. He indicates that due to the various types of the syllable found in the language, vowels have greater possible combinations than their consonant counterparts (Asante 2009:65). Asante also makes mention of a syllable type which he calls CVV. In this type, the V2 element is realised as a duplicated form of V1. He exemplifies it in example (2) below;

(2a). sa.sa ‘fast’ sa.sa.a.sa ‘very fast’

(2b). tsɔ.tsɔ ‘many’ tsɔ.tsɔ.ɔ.tsɔ ‘very many’ (Asante 2009:111)

He also discusses some syllable structure processes and assimilation processes of the language. He also discusses vowel harmony which is a significant feature in some Ghanaian languages. Tone in the language was also discussed extensively.

Asante’s (2009) work is a very significant piece because it is a Guan language which is classified differently yet they share some resemblances based on the

similarities in the area of phonemic inventory, syllable structures, phonological processes and tonal patterns with Gua. Nkonya also shares some resemblances with the Hill Guan and the other South Guan languages.

Again, in Asante (2009), emphasis has been laid on the essence of fieldwork. This is because through the extensive fieldwork embarked upon by him, he was able to bring to bear the actual vowels which can be found in Nkonya. His work has debunked the view that “Nkonya had only 7 vowels” (Dakubu 1988:82). This work has made me aware that some of the issues raised in the literature may be misleading; hence, the essence of going to the field as well as offering detailed description on every language on the basis of what is available in the language and not what is thought to be there.

Akrofi Ansah's (2002) description was on Late (known to its speakers as Letε). Late is one of the Hill Guan languages. Akrofi Ansah (2002) refers to it as a dialect of Guan. She describes the phonemic inventory of the language using the Distinctive Feature framework devised by Chomsky and Halle (1983). She explains that Late has 10 oral vowels with 7 nasal vowels. The oral vowels are /i, ɪ, e, ε, a, ɔ, o, ʊ, u, ɑ/ while the nasal vowels are /ĩ, ã, ẽ, õ, ã, õ, ã/. She points out that vowel nasality in Late is phonemic. In that sense, vowel nasality results in semantic change. Irrespective of the fact that nasal vowels are realised as counterparts of the oral vowels in Late, not all the oral vowels have a nasal counterpart. Per her discussion, /e, o, a/ do not have nasal counterparts. In terms of distribution of Late vowels, she explains that all the oral vowels occur word

initially with the exception of /u, ʊ/. In addition, oral vowels can also occur in word final positions except /a/.

In describing the consonants of the language, she indicates that, Late has 27 phonemic consonants. She puts these consonant in a chart as indicated below:

Table 1: Late Consonants

	Bilabial	Labiodental	Alveolar	Pre- /Palatal	Velar	Labial- velar	Glottal
Plosive	p b		t d		k k ^w g ^w	kp gb	
Affricate			ts	tɛ tɛɣ dʒ dʒɣ			
Nasal	m		n	ɲ	ŋ		
Lateral			l				
Trill			r				
Fricative		f	s	ɕ ɕɣ		^m	h
Approx/ Glide				ɥ y[j]		w	

(p.23)

She explains that [ts] and [tɛ] are free variants, as in words like tsa and tɛa “house”

(p. 23) in the language. They do not make any difference no matter where they

occur. In terms of distribution she argues that apart from /r/, all other consonants can occur in stem initial position. She adds that /r/ occurs frequently only in intervocalic position. There is also the point that all sounds do not occur in word final position except /m/, /ŋ/, and /w/. Apart from the position of the occurrence of /m/ and /ŋ/ in the language, they can also occur in word final position in loanwords from Akan.

Mention is also made of three types of syllable structures in the language. These syllable types are CV, V and C. She argues that there is another type of syllable structure which is CCV which is realised after the deletion of the V1 element in word like wɔrɛ “wear” sɔrɪ “run” which would now be realised as wrɛ and sɪ respectively. Some assimilatory processes discussed include vowel harmony, homorganic nasal assimilation and nasalisation. Tone in Late also caught her attention. Using the autosegmental theory (Goldsmith 1976), she presents two basic tone markings in the language. She identifies high and low tones as the basic tones in the language. In terms of function, she explains that tone in Late has two main functions. These are lexical and grammatical which were also discussed in her work. She uses tone to distinguish between various functions of verb forms as well as sentence types of the language.

This work is considered as an object of review, particularly because it discusses another Hill Guan language. Gua being a Hill Guan language, it would be good to review work done in a sister Hill Guan language. The work has given me an indication of some of the sound inventories and the possible syllable types that

could be found in describing Gaa. It has set the ball rolling for me as a guide as to how the Hill Gaa languages look like.

Considering the works of Akrofi Ansah (2002) and Asante (2009), it can be observed that, because they are all Gaa languages, they have some similar phonological features and contrasts in some areas as well. Late has 10 oral vowels with 7 nasal vowels while Nkonya is made up of 9 oral vowels with each of them having their nasal counterparts. In the case of the Nkonya vowels, all the oral vowels have their nasal counterparts but that does not seem to be the case in Late even though they are all Gaa languages. This points to the fact that, in describing Gaa, which is another Gaa language, there may be a situation where some phonological features may be similar to or contrast with Nkonya and Late. This work has reiterated the fact that specific languages exhibit their specific characteristics. This calls on linguists to describe languages according to the specific observations made on the language.

Dakubu (1988) also describes the various languages in Ghana. She looks at them from a broader perspective of the various language families available in Ghana. She gives a general description of the Gaa languages. She adopts Painter's classification of Gaa, Larteh and Okere (Kyerepong) as a "Hill Gaa" language. The review below has been done in such a way that it is skewed along the lines of the features which are common or closer to the Gaa language. In terms of linguistic features of the Gaa languages, (in the area of phonology) she explains among other things that, most of the Gaa languages show phonemic opposition in

their consonant inventory. She considers these inventories in table (2) as common to the Guan languages.

Table 2: Consonants of Guan Languages

	Labial	Alveolar	Palatal	Velar	Labio-Velar[sic]
Plosive	b	d		g	
	p	t		k	kp
Affricate			ɟ		
			tʃ		
Fricatives	f	s		(h)	
Frictionless					
Continuant	w	l	y		
(Nasal)	m	n	ɲ		ŋ (p:81)

She makes some generalisations about the Guan languages. To her, most occurrences of /p/ in the Hill Guan languages appear to be loan words from Twi. She adds that /g/ does not occur in Nkonya and it is also rare in Nchumburu and Hill Guan. She indicates that, /h/ which occurs in the South Guan languages is realised as [x] in Hill Guan. She argues that most Guan languages do not have ‘/f/’ as a contrastive sound to /s/. She however observes that /ʃ/ which occurs as a

contrast to /s/ in Okere does not occur as such in Gua and Larteh even though they are all Hill Guan languages. She attributes this difference to perhaps the influence that Twi has had on Okere. In the area of vowels, she argues that Gonja, Gichode and Nkonya have seven vowel phonemes. However, Asante (2009) claims that Nkonya has 18 phonemic vowels with 9 being oral while the other 9 are nasal. Dakubu (1988) is of the view that Nchumburu has nine while Krachi and Hill Guan have ten. The work also reveals that in Hill Guan and North Central Guan, like Akan, the vowels of the language exhibit vowel harmony. On tone, Dakubu (1988:82) indicates that “all the Guang languages are terraced level tone languages.” She adds, “all the others on which there are data (Gonja, Nchumburu, North-East and South Guan) are terraced level with two tones”.

Dakubu’s (1988) work is relevant because it offers a general description of the Guan languages. It gives a general overview of what to expect on Guan languages.

Uguru’s (2010) views on nasal vowels in the Ika dialect of Igbo are worth considering in this thesis. The main focus of his work was on Nasal Vowels in Ika. However, he throws light on the Standard Igbo Vocalic Systems. He states, /a/, /e/, /i/, /o/, /ɪ/, /ɔ/, and /ʊ/ are the various vowel sounds in Standard Igbo. He however adds that, /ɛ/ and /ə/ are part of the vocalic systems in Ika. His attention on the Ika Vocalic Systems establishes that /ə/ is used as a substitute for /ʊ, e, a/. In a sense Uguru (2010) is saying that even though all the dialects of Igbo have nasal consonants and nasalised vowels, Ika shows occurrences of nasal vowels as well. The difference between the nasalised vowel and the nasal vowels is such that the oral vowels become nasalised when they occur in nasal environment while the

nasal vowels are intrinsically nasalised. He posits that / ã, ẽ, ĩ, ï, õ, õ̃, ù, and õ̃/ are the nasal vowels in Ika. This means that these vowels are intrinsically nasalised. Examples of these nasal vowels could be established from their oral counterparts in the pairs of words below;

- (3) chá /tʃã/ wash
- (4) chá /tʃa/ ripe
- (5) dé /dẽ/ rumble
- (6) dé /de/ write
- (7) chí /tʃĩ/ go back; state (one's case)
- (8) chí /tʃi/ god (p. 22)

Based on the above findings made by Uguru (2010), he suggests some hypotheses. First, the nasal vowels in Ika may have resulted from the language contact with Edoid. Second, as in Edoid, it is possible that all Ika vowels can be nasalised. However, he makes calls on further researchers to research into this area to test the two hypotheses above. He indicates in his work that vocalic nasalisation in Ika is unpredictable with regard to nasal vowels and the inherently nasalised consonants. Ika nasal vowels transfer nasality to preceding consonants. He explains that “Ika nasal vowels transmit some degree of nasality to the adjoining sound segments. Thus, the direction of the flow of nasality is from right to left contrary to what is obtained in other Igbo dialects where nasalised consonants confer nasality on adjacent vowels from left to right” (Uguru 2010: 24).

He acknowledges the fact that Igbo has nasal consonants which are /m, n, ŋw, ɲ, ŋ/ and nasalised sounds. Yet, the Ika dialect of Igbo exhibits nasal vowels in Ika in addition to the nasal consonants, oral vowels and the nasalised vowels. His thinking is that even though Ika is a dialect of Igbo, Ika has nasal vowels as compared to other Igbo dialects, and this seems to confirm the assertion of Williamson (1968:84; cited in Uguru 2010) that Ika and Ukwuani differ from other dialects of Igbo ‘purely on linguistic grounds.’ He adds that there are both progressive and regressive nasal assimilation in the Ika dialect. One other important revelation that Uguru (2010) has made is the fact that plosives and affricates allow nasalisation which opposes what some scholars like Anyanwu (1998) cited in Uguru (2010) seems to suggest that plosives and affricates block nasalisation of vowels in Igbo. Finally, Uguru (2010) calls on other researchers to investigate why Ika allows nasal vowels to appear with plosives and affricates. Uguru (2010) leaves room for more research work to be carried out in order to establish whether nasal vowels in Ika may have resulted from language contact with Edoid languages and the indication that, as in Edoid, it is possible that all Ika vowels can be nasalised.

This work is relevant to this thesis because, Uguru (2010) makes a case for the presence of nasal vowels in Ika. This, he explained with much detail. Ika being a non-Ghanaian language and a non-Guan language, it portrays nasal vowel features which are found in Guan languages. The expectation is that Gua like some other Ghanaian languages has nasal vowels. This thesis will find out whether the nasal vowels in Gua are as a result of the contacts Gua has had with other neighbouring

languages which is the case Uguru (2010) supposes is the case in the Ika dialect of Igbo.

1.10 Theoretical Approach

The research employs the Descriptive approach through the use of Dixon's (1997, 2010a, 2010b and 2012) Basic Linguistic Theory. The basic linguistic theory is actually a theory for grammar writing. However, since phonology is an aspect of grammar, the theory would be useful in describing Gwa phonology. The theory claims that a linguist must be taught the principles of basic linguistic tools and also receive instruction on how to describe language. It is a theory that differs from other linguistic theories.

Dryer (2006:3) writes that,

Basic linguistic theory differs most sharply from other contemporary theoretical frameworks in what might be described as its conservativeness: unlike many theoretical frameworks that assume previous ideas only to a limited extent and freely assume many novel concepts, basic linguistic theory takes as much as possible from earlier traditions and only as much as necessary from new traditions. It can thus be roughly described as traditional grammar, minus its bad features (such as a tendency to describe all languages in terms of concepts motivated for European languages), plus necessary concepts absent from traditional grammar. It has

supplemented traditional grammar with a variety of ideas from structuralism, generative grammar (especially pre-1975 generative grammar and relational grammar), and typology.

Dryer's (2006) view here is that, Basic Linguistic theory does not necessarily make a case against earlier theories as some theories may do, rather, it tries to refine existing theories and incorporate them if they are found to be useful in describing any particular phenomenon in a language under description.

Dixon (1997) notes that, in dealing with an unwritten language towards its description, "the ideal plan is to undertake original fieldwork on a previously undescribed (or scarcely described) language, and write a comprehensive grammar on it as a Ph.D dissertation" (Dixon 1997:130). The theory maintains that, since every language is capable of producing a theoretical issue, describing a language will end up going into literature. In view of that, the description should be done first, and when one knows what the language has, a particular theory could be employed on any aspect of the language. Dixon (2010a) provides the methodology that linguists should adopt in describing a particular language. It makes a case for a good fieldwork exercise. In describing fieldwork exercise, he notes,

When commencing work, the linguist will record, transcribe, and analyse texts, uncovering bit by bit the grammatical regularities and irregularities of the language. Gradually, over a period of months, the overall structural scheme of the language will emerge, as the linguist is able to relate together bits of patterns from different areas. (Dixon 2010a:57).

This methodology follows with some grammatical topics on phonology, morphology and syntax. The methodology and the grammatical topics have been well expounded in (Dixon 2010a, 2010b and 2012).

The underlying tenets of the Basic Linguistic Theory are that; first, fieldwork is very essential in language description and analysis. Linguists who seek to describe or analyse any particular language must therefore undertake fieldwork to gain natural data to work with. It is only when the linguist gets to the field that he would know how the languages are being used; the context of usage and the people whose language is under study would get involved and accept wholly what the linguist is saying about them and their language. However, if there is any feature in one language which is similar to a feature in the language under description, it can be alluded to before what pertains in the language under study is presented.

Secondly, there should be the description of languages before theoretical application. The explanation is that, since theories have a life span, if we start analysing languages on a theoretical basis (formalisms), with time when the theory becomes out dated, it will be difficult to find enough data on the language to which the theory was applied. These formalisms make some generalisations on the structure of language, a template with which every language is believed to have.

Again, every bit and piece of the language (based on the data elicited) must be analysed and adequate explanation given with enough evidence supporting the explanation. To this end, in describing a language, one needs to talk about what is

found on the language. A claim cannot be made without the needed data supporting it. Through this exercise, whatever the language is made up of with its relevance would be discussed and explained.

Finally, the linguist can draw on ideas from the available formalisms which best describe any particular phenomenon found on the language. What this means is that, the linguist who is describing a particular language should not limit himself to a particular theory which only highlights an aspect of the language. If the linguist limits himself to a particular theory, other essential parts of the language would be left unattended to or would not be discussed since it would be irrelevant to the theory being applied.

This theory would be applicable to this study because Gua is a minority language which has not been studied into detail. In view of that, it is important that any scholarly work that is done on it makes a presentation of what is available in the language. There is no imposition of what is not available in the language from another language or languages since field work has been embarked on in areas where Gua is spoken. Adequate and proper descriptions with explanations would be made as far as the Basic Linguistic Theory can allow.

1.11 Organization of Chapters

This section provides information on how the thesis is outlined in terms of chapters. Chapter one discusses an overview of the research that would be carried out in this thesis. It particularly introduces the entire thesis, discusses the

background to the study, ethnolinguistic issues of Gua and its people, linguistic background of Gua and the problem statement. The chapter also talks about the objectives of the study, significance of the study and the scope of the study. Other things that this chapter talks about are source of data and methodology, literature review, and theoretical approach.

In chapter two, the phonemic inventory of Gua has been discussed. Consonant and vowel inventories in the language have been dealt with while particular discussion on their distribution in the language has been given. The chapter also discusses the syllable structures of Gua.

Chapter three talks about the various phonological processes that Gua exhibit. Assimilatory processes as well as syllable structure processes have been the focal point in this chapter.

Chapter four will also consider tone. The various basic tones have been discussed. This chapter will also consider the lexical and grammatical functions of tone as well as morphological.

Finally, chapter five would consider conclusion of the entire thesis and make some recommendations for future work.

1.12 Summary of the Chapter

The chapter concludes by looking at the various things that have been discussed so far. It has thrown light on Gua, its speakers and the socio-economic situation of the

areas where it is spoken. I have identified some problems associated with the language and the steps to take in order to ameliorate the situation. I have indicated some objectives and the significance of the research. Source of data and methodology, theoretical approach, review of related literature and how the entire thesis is structured have also been discussed.

CHAPTER TWO

PHONEMIC INVENTORY AND SYLLABLE STRUCTURE OF GUA

2.0 Introduction

This chapter focuses on the phonemic inventory and syllable structure of Gua. Phonemic inventory and syllable structure are phenomena in every language. Cross-linguistically, languages have a way of representing the sounds that are prevalent in them. They pattern these sounds in an organised manner which can be pronounceable referred to as syllables. This chapter will focus primarily on the various consonants and vowels in Gua with a description and the distribution of the sounds on one hand and the syllable structure on the other hand. In the case of the vowels, oral and nasal vowels have been identified with specific discussion on their description and distribution. With the consonants, mention is made of their description and distribution. Particularly, the CV (Consonant Vowel), V (Vowel Only), C (Consonant only) VC (Vowel Consonant) and the CVC (Consonant Vowel Consonant) syllable types have been identified and discussed.

The chapter has been grouped into five sections. Section one discusses vowels with relation to their description and distribution while two deals with consonants. In section three, a description and the distribution of the consonants are given, section four contains the discussion on the syllable structure of Gua using the Onset Rhyme Principle. The final section takes a look at summary of the chapter.

2.1 Vowels in Gua

Gua has ten (10) phonemic oral vowels with seven (7) nasal vowels.

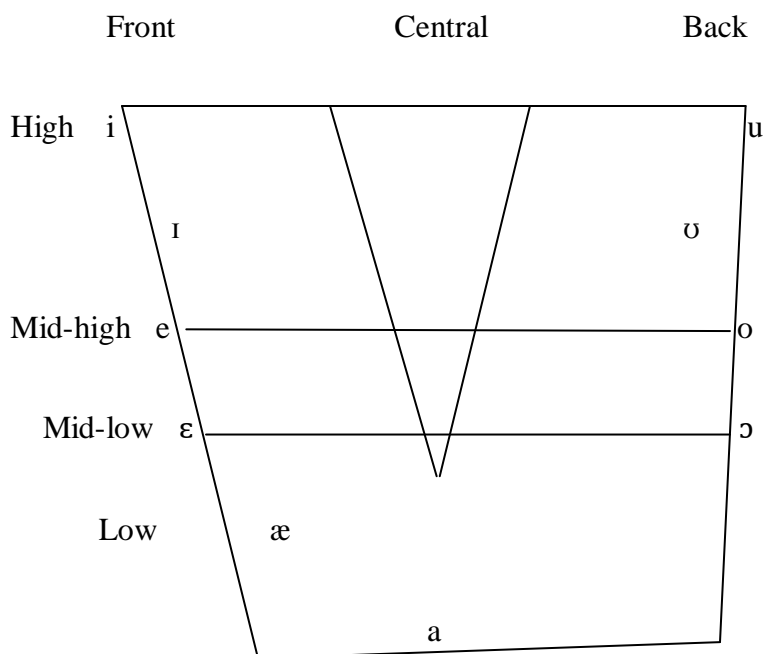
2.1.1 Gua Oral Vowels

The ten (10) oral vowels in Gua are /i, ɪ, e, ɛ, a, æ, ɔ, o, ʊ, u/. These vowels occur in the following words. Example (9):

/i/	timi	short	okisi	rat
/ɪ/	mfalɪ	salt	sɪ	soil
/e/	ætebi	animal	tente	long/tall
/ɛ/	ntɛ	drink (n)	ɔpɛ	male/man
/a/	adanna	jaw	akpɛ	road/path
/ɔ/	bɔ	mountain	ɔlɔma	kitchen
/o/	oni	fish/meat	ælo	squirrel
/ʊ/	akpɔse	ladder	ahɔ	breast
/u/	kutu	cooking pot	butu	bend
/æ/	æpi	night	æbie	chair

Based on how vowels are represented using the vowel chart, the ten (10) Gua vowels are represented in figure 2.0 below;

Figure 2: Gua Vowel Chart



The above figure indicates where the high, mid and low vowels are produced with regard to the tongue. The description and distribution of these vowels have been given at section 2.3.1.

2.1.2 Gua Nasal Vowels

The seven (7) nasal vowels in Gua have been discussed here. The understanding is that, when these vowels occur in a non-nasal environment or in an environment where there are no nasal sounds to influence them to assume a nasal feature, the nasal feature is still realised when producing them. These nasal vowels are /ĩ, ã, ẽ, ã̃, õ̃, õ̃, ã̃/. These vowels have the same place of articulation as their oral

counterparts but in terms of stricture, the airstream escape through the nasal passage in the production of the nasal vowels. For the purposes of clarification, these nasal vowels have been exemplified in (10) below with words from their oral counterparts to determine their phonemic status. Example (10):

ORAL		NASAL
/i/ ti ‘close/cover’		/ĩ/ tĩ ‘short/summary’
/ɪ/ atɛɪ ‘woman’		/ĩ/ atɛĩ ‘sponge’
/ɛ/ kɛ ‘to teach/show’		/ẽ/ kẽ ‘spread (mat), drive’
/a/ tɛa ‘to dance’		/ã/ tɛã ‘to lit (matches)/change’
/ɔ/ kɔ ‘defecate’		/õ/ kõ ‘fight’
/a/ akɔ ‘one’		/õ/ akõ ‘honey’
/u/ tu: ‘an idiophone for emphasise’	/ũ/	tũ: black

2.1.3 NASALISED VOWELS IN GUA

Nasalised vowels are oral vowels which are also realised as nasal when they occur in nasal environment. Cross-linguistically, the nasal environment of the nasalised vowels could either be before, between and/or after a nasal consonant. In their production, the airstream escapes through both the oral and the nasal cavity. In Gua, the nasal environment for nasalised vowels is when the vowels occur before, between and/or after nasal consonants. It must be noted that all the ten oral vowels in Gua can be nasalised in nasal environment. Example (11) below illustrates nasalised vowels in Gua. Example (11)

/ĩ/	ẽḡĩmĩ	‘skin (human skin)’	etē:mĩ	‘money’
/ĩ/	fĩnẽ	‘to smell’	mĩ	‘to swallow’
/ẽ/	mĩẽnĩ	‘hair’	ẽḡĩ	‘teeth’
/ẽ/	ḡẽ	‘name’	ohũmẽ	‘swelling’
/ã/	ãḡm ^w ã	‘fist’	fãñĩ	‘scar’
/õ/	õnĩ	‘fish’	nturoturõmĩ	‘an ant’
/õ/	bõnõ	‘an egg’	mũnõsu	‘garbage dump’
/õ/	lã:nõ	‘forehead’	ãnõ	‘mouth’
/ũ/	sũñó	‘seven’	ḡũ	‘head’
/æ̃/	næ̃mĩ	‘toe’	æ̃ḡnēti	‘morning’

It is realised that, with the exception of /e/, /æ/ and /o/, the rest of the seven (7) oral vowels in Gua have their nasal counterparts. That notwithstanding, all the ten (10) oral vowels in Gua can be nasalised in the environment of nasal consonants. The nasalisation process is such that, it can take place at word initial, medial and final positions. Nasalisation as an assimilatory process has been discussed in section 3.2.3.

One important issue about Gua nasal vowels is the fact that they are inherent in the language. There are situations where languages have been influenced due to their contact with other languages. An example is Uguru’s (2010) work on Ika Igbo, where he suggests that, the nasal vowels in Ika which do not reflect in the other dialects of Igbo could partly be attributed to the contact Ika has had with Edoid. In the case of Gua, the nasal vowels which are realised have not come about as a consequence of contact with other languages like Akan and Ewe.

2.1.4 Vowel Length in Gua

Another important point that needs to be made about Gua vowels is that, differences in vowel length brings about a change in meaning. Fitzgerald (2012:446) indicates that, “length contrasts in vowels are typically accounted for by assuming a quantitative distinction between short vowels (one mora) and long vowels (two moras)”.

The point noted by Fitzgerald (2012) is realised in Gua except that long vowels are not realised on some non-initial loan words when stress is transferred as found in O’odham. In Gua, when a vowel is lengthened in clause initial position, it can bring about a semantic change. In other words, long vowels in clause initial positions could create meaning difference especially when dealing with simple clauses. It can be said that, there is no such meaning difference when the long vowel is realised in the final position of a word. Examples of the above phenomenon include:

12a. á-bè

3SG-come.PROG

‘S/he is coming’

12b. ǎ:-bé

3SG.CM-come.PERF

‘S/he has come’

13a. á-dzí tèi

3SG-eat.HAB food

‘She/he eats (food)’

13b. â:-ɔ̀zi tèí

3SG.CM-eat.PERF food

‘S/he has eaten (food)’

14a. æturu: gun

b. ætohi: male goat

This lengthening is applicable to all the vowels of the language which can occur in word initial position. From the examples above, examples (12a) and (13a) have high tone marking on the initial vowel, but as soon as the vowel in the clause initial position is lengthened, as in (12b) and (13b), the high tone on the initial vowel changes to become a rising and a falling tone respectively due to the functions of the tones on them. Rising and falling has been described in section 4.0 in this thesis. It must be mentioned that, just as it is revealed in (14a) and (14b), there is no such contrast when a long vowel ends a word. There cannot be a situation where *æturu and *ætohi can be meaningful and grammatical in Gua in order to call for a contrast between the short and the long vowel.

2.1.5 Vowel Harmony

Vowel Harmony can be both segmental and an assimilatory process in phonology. The feature as realised in Gua is both segmental and assimilatory. The segmental feature as it pertains to Gua would be dealt with in this section. As a segmental feature, vowel harmony can be describe as a situation where vowels of a language can be grouped into two sets based on the position of the tongue root, lips and tension in the vocal cords. Archangeli and Pulleyblank (2002:139) are of the view

that, “Canonically, vowel harmony describes a situation where a feature distributes itself throughout some definable domain, for example, the word”. Dolphyne (1988:14) discussing Akan vowel harmony indicates, “In any Akan word of two or more syllables, only vowels of one set may occur. This means that there is restriction on the distribution of these vowels which does not generally allow the vowels in Set I to occur in the same word with the vowels of Set II.” The views of Archangeli and Pulleyblank (2002) and Dolphyne (1988) indicate that vowel harmony group vowels into definable and specific environments based on the rules of the language involved. Similarly, Gaa, vowels can be grouped into two sets basically due to the position of the tongue root. It is expected that by distribution, only vowels that belong to one set occur in a given word at a time. Based on the tongue root position, the ten (10) vowels in Gaa have been grouped into advanced tongue root and the non-advanced tongue root. We achieve advanced tongue root (ATR) when in the production of vowel segments the tongue root moves forward (indicated by a plus sign (+)). In the event that the root of the tongue moves backwards, then, we achieve non-advanced tongue root (indicated with a negative sign (-)). To this end, any word with vowels must select the vowels from only one of the two sets. The two sets are elaborated below:

2.1.5.1 Set I: Advanced Tongue Root (+ATR)

/i, e, o, u, æ/

These can be exemplified in words below. Example (15):

okiti	lizard
ntebi	things(n), animals
oni	fish/meat
ægbeli	cassava
kutu	cooking pot
æturu	gun

It can be observed that all the vowels highlighted come from the first set. There is no word which mixes the vowels in Set I with the vowels in Set II in the examples above.

2.1.5.2 Set II: Non-Advanced Tongue Root (-ATR)

/ɪ, ɛ, ɔ, ʊ, a/

The following words shed light on how the -ATR vowels select their vowels in words. Example (16)

ɔkpɔkpɔ	wall
akpɔɛ	ladder
bakpɛ	shoulder
kɔtɪ	tear/shift

In the above examples, it is observed that the vowels in the words are selected from the Set II only.

Some of the instances where this principle is violated with much clarity are when a particular assimilatory process has taken place which allows for vowels from the

two sets to co-exist and when both /a/ and /æ/ are replaced with /a/ in the orthography. The conditions and circumstances which allow for this mixing have been outlined in sections 3.1.2.1 and 4.5.3.2.1.

2.1.6 Description and Distribution of Gua Vowels

The vowels of Gua have different environments of occurrence. The import of this section is to describe the vowels in terms of their production and distribution. Vowels are generally produced in relation to the tongue and the lips (since vowel production takes into account the lip posture). With respect to the tongue, a distinction is made when the body of the tongue moves forward (front vowels) against an instance where the body of the tongue moves backwards (back vowels). Another distinction that needs to be made in respect of the tongue is the tongue root feature. Where as in the case of advanced vowels are produced when the root of the tongue moves forward, in the case of the unadvanced vowels the root of the tongue moves backwards. A distinction is also made in respect of the height of the tongue during the production of the vowel. In view of that, high vowels are produced with the body of the tongue moving towards the hard palate while in the production of low vowels, the body of the tongue fall below the neutral level.

With regard to the lips, rounded vowel is produced when the lips become round and protrude in the production of the vowels while in the case of unrounded vowels, the lips are spread given the unrounded nature of the vowels concerned in their production. In this section, the various vowels in Gua would be described and

their distribution shown based on the tongue body features. A position of occurrence of the vowels would be added to the description with them being bolded to distinguish them from other sounds.

2.1.6.1 High Vowels

The high vowels are vowels produced with the body of the tongue moving towards the hard palate. The following are high vowels in Gua.

/i/ High Front Unrounded Advanced Vowel

The vowel occur word initially, medially and in word final positions. The example (17) below explain the positions of occurrence of the vowel.

- (17) a. **idzoji** ‘stalk’
b. **ibie** ‘market’
c. **æbie** ‘a chair’
d. **oni** ‘fish’

/ɪ/ High Front Unrounded Unadvanced Vowel

The /ɪ/ vowel occurs in word initial, medial and final positions. The illustrations in example (18) below confirm the position of occurrence of the vowel in Gua.

- (18) a. **ɪkpɔ** ‘chest’
b. **ɪfi** ‘rope’

- c. kɔtɪ ‘pluck’
- d. sɪ ‘sand/land’

/u/ High Back Rounded Advanced Vowel

The /u/ vowel occurs in only word medial and word final positions in Gua. It does not occur in word initial position. The examples below confirm the positions of occurrence of the vowel.

- (19) a. **ku**tɪ ‘pot’
- b. e**hu**rumi ‘intestines’
 - c. æ**hu**rututu ‘lungs’
 - d. **ku** ‘cut’

/ʊ/ High Back Rounded Unadvanced Vowel

In Gua, the /ʊ/ vowel occurs in word medial and final positions only. These have been exemplified in example (20) below:

- (20) a. ɔkɔkɔ ‘a wall’
- b. kɔʊɛ ‘lean against (something)’
 - c. ɔkʊk^wɪ ‘Childbearing’

2.1.6.2 Mid Vowels

Mid vowels are produced between the high and the low vowels. Mid-high vowels are produced with the body of the tongue rising a little above the neutral level

while the mid-low vowels are produced when the body of the tongue falls a little below the neutral level in the oral cavity. As far as distribution is concerned, the mid vowels in the examples have been bolded to show their uniqueness from other vowels.

/e/ Mid-High Front Unrounded Advanced Vowel

/e/ vowel occurs in vowel initial, medial and final positions. Example (21) sheds light on the assertions above.

- (21) a. **e**tɛ:mi ‘money’
b. k**e**ɪtɛ ‘clean/brush’
c. **æ**lɛbi ‘child’
d. **e**kɪtɪ ‘leprosy’

/ɛ/ Mid-Low Front Unrounded Unadvanced Vowel

The environment with which the vowel occurs is word initial, medial and final positions. The examples below affirm the above proposition.

- (22) a. **ɛ** ‘come’
b. **ɛ**bɔk^warɪ ‘ancestor’
c. **ɛ**hɔtɔ: ‘blood’
d. **ɲ**ɛɲɛ ‘grandfather’

/o/ Mid-High Back Rounded Advanced Vowel

In terms of distribution, the /o/ vowel occurs in word initial, medial and final positions. Examples to buttress these points include:

- (23) a. **okuro** ‘town’
b. **ose** ‘bowl’
c. **sobiasɪ** ‘kitchen’
d. **sobi** ‘pull’

/ɔ/ Mid-Low Back Rounded Unadvanced Vowel

The vowel can occur in word initial, medial and final positions. Examples below explain further:

- (24) a. **dɔ** ‘weed’
b. **fɔ** ‘wash’
c. **ɔkpɔɪ** ‘cleansing’
d. **ɔna** ‘leg’

2.1.6.3 Low Vowels

The low vowels are produced with the body of the tongue falling below the neutral level in the oral cavity during production.

/a/ Low Central Unrounded Unadvanced Vowel

/a/ vowel occurs in word initial, medial and final positions. The examples below show how the /a/ vowel occurs in Gua words.

- (25) a. **ɔta** ‘cloth’
b. **adɔɔɔ** ‘a hoe’
c. **akpakpɔ** ‘he-goat’
d. **amɪ** ‘stomach’

/æ/ Low Front Unrounded Advanced Vowel

The /æ/ vowel occurs in word initial, medial and final positions in Gua. Examples of the various occurrences of /a/ are indicated in the examples below.

- (26) a. **æpi** ‘night’
b. **æsiaæ** ‘in-law’
c. **bækũ** ‘elbow’
d. **ækpæbi** ‘servant’

Generally, as far as distribution is concerned, it is realised that the vowels of Gua occur in word initial, medial and final positions except /ɔ/ and /u/ which do not occur in word initial positions.

The table below summarises positions of occurrence of Gua vowels.

Table 3: Position of the occurrences of Gua Vowels

VOWEL	WORD INITIAL POSITION	WORD MEDIAL POSITION	WORD FINAL POSITION
/i/	+	+	+
/ɪ/	+	+	+
/e/	+	+	+
/ɛ/	+	+	+
/u/	-	+	+
/ʊ/	-	+	+
/o/	+	+	+
/ɔ/	+	+	+
/a/	+	+	+
/æ/	+	+	+

From Table 3, a plus sign (+) indicates where a vowel occurs and a minus sign (-) indicates the absence of the occurrence of the vowel in question.

2.2 Consonants in Gua

The consonants in Gua are thirty-two (32) in number. The consonants are /p, b, t, d, s, f, k, g, m, n, ɲ, ŋ, l, r, h, w, j, tɛ, dz, kp, gb, b^w, d^w, g^w, f^w, k^w, l^w, h^w, ŋm^w, ŋ^w, tɛ^w/. These consonants are made up of twenty-two (22) plain consonants with ten (10) labialised counterparts. These sounds occur in example (27) below:

/p/	pebi	small	pusi	cat
/b/	bɛ	come	æbobi	bird
/t/	ntɔ̃	feather	ætɔhi:	male-goat
/d/	adɔɔɔɔ	hoe	adanda	jaw
/s/	sɔ̃	burn	nsensemi	housefly
/f/	afintɪ	moon/month	fitɪ:de	shout
/k/	kɛ	show/teach	kɪsɪ:	monkey
/g/	ægumæ	naughty play	gɔɔ	‘cemetary’
/m/	masɪ	laugh	mɪtɛ	hide
/n/	nɛnɛ	grandmother	anɪ	who
/ŋ/	ŋu	head	naŋuni	knee
/ɲ/	æɲeti	morning	ɲɔ	lit
/ŋm/	ŋmkpa	bed	ŋmkpakɔ	liver
/l/	lɔl^wɛ	prepare/arrange	lɪ	pass
/r/	awurudu	chameleon	ɛfuri	lather
/w/	wɔrɛ	wear	wuri	steal
/h/	ahɛde	afternoon	ahɛ	wisdom
/j/	æjikpemi	stump	jɪrɛ	hide
/tɛ/	tɛa	dance	tɛu	take
/dz/	adzɔnku	groin	idzɔji	stalk
/kp/	ɔkpɔlɔ̃	table	ækpɔsɛ	ladder

/gb/	agbeli	cassava	gbei	dog
/b ^w /	b^wε	do	æb^wεhu	messenger
/d ^w /	od^we	a type of yam	d^wɪnɪ	think
/g ^w /	g^waw	beat (someone with cane)	g^wa	run
/f ^w /	af^wε	stranger	mf^wε	palm oil
/k ^w /	k^we	grind	k^wε	debt
/l ^w /	ɔl^wε	sickness/illness	al^wε	sore
/h ^w /	ah^wε	new	h^wεlε	water (v)
/ŋm ^w /	ŋm^wε	life/act of thanking	aŋm^wa	fist
/ŋ ^w /	ŋ^wa	to eat something greedily	aŋ^wa	nose
/tɛ ^w /	tɛ^wi	eight	eduɛtɛ^wi	eighty

With respect to the International Phonetic Alphabet, Gaa phonemic consonants can be put on a table as indicated on table 4 below:

Table 4: Gua Consonants

	Bilabial	Labiodental	Alveolar	Pre- /Palatal	Velar	Labial- velar	Glottal
Plosive	p b b ^w		t d d ^w		k k ^w g g ^w	kp gb	
Affricate				tʃ tʃ ^w dʒ			
Nasal	m		n	ɲ	ŋ ŋ ^w	ɲm ɲm ^w	
Lateral			l l ^w				
Trill			r				
Fricative		f f ^w	s				h h ^w
Approx/ Glide				J		W	

The table above summarises the consonants in Gua. It shows both the plain consonants with the labialised as well. There are some of the plain consonants

which are phonemic in contrast with the lebialised ones which have been discussed in section 2.3.8 table 5.

2.3 Description and Distribution of Gua Consonants

The various consonants in Gua would be described with their distributions specified. Voicing feature is assigned to the consonants when the vocal cords vibrate or otherwise. The voicing quality of the consonants would be indicated in the description below. The consonant would be voiced when the vocal cords vibrate in their production while the sound becomes voiceless when the vocal cords do not vibrate in their production.

2.3.1 Stops/Plosives

Stops/Plosives are produced when the airstream is blocked in the oral cavity plus a blockage in the nasal passage briefly with subsequent sudden release when the vocal apparatus which caused the closure is released. The name of the sounds is generated as a result of the place where the closure occurs in the oral vocal tract. Gua has a number of stop sounds. These stops have been described below:

/p/ Voiceless Bilabial Stop/Plosive

/p/ occurs in only word initial and medial positions in Gua. Examples include:

- (28) a. **pebi** ‘small’
b. **pusi** ‘cat’
c. **papa** ‘father’
d. **pani** ‘syringe/needle’

It must be noted that, even though /p/ has been identified in Gua, it seems to occur only in borrowed words. This appears to confirm Dakubu’s (1988) assertion about the Guan languages that most occurrences of /p/ appear to be loan words from Twi. Perusing through the data gathered, there were few instances where /p/ was used in words like pusi ‘cat’, papa ‘father’ and pebi ‘small’. There is a possibility that these words may have been borrowed from other languages like Akan and English. Pusi which means ‘cat’ for instance may have been borrowed from the English word pussy ‘cat’ while papa ‘father’ may have come from Akan. The reason for this position is that these words have other forms of representation in the Gua language. We can have ædzinæmoa ‘cat’, du:dubi ‘small’, and asi ‘father’ in Gua without resorting to the pusi, pebi or papa. Irrespective of the fact that the sound seems to be found in borrowed words, it qualifies as a Gua sound because it has now been nativised into the language. In fact we can hear people use the words in both monolingual and bilingual speeches in Gua. A word like pani ‘syringe’ and a few others do not have any form again in Gua contributing to the claim that /p/ has been nativised in Gua.

/b/ Voiced Bilabial Stop/Plosive

The /b/ sound in Gua can occur in word initial and medial positions only. It does not occur in word final position. Examples include the following.

- (29) a. **bɛ** ‘come’
b. **esibi** ‘an eye’
c. **ɔba** ‘arm’
d. **bã** ‘sew’

/t/ Voiceless Alveolar Stop/Plosive

In Gua, the /t/ sound occurs in word initial and medial positions only. The /t/ sound does not occur in the final position of a word. The following examples explain further:

- (30) a. **tei** ‘food’
b. **ætɔhi**: ‘male-goat’
c. **ɔjinti** ‘pregnancy’
d. **tu**: ‘black’

/d/ Voiced Alveolar Stop/Plosive

In Gua, /d/ occurs in word initial and medial positions only. In that sense, the /d/ sound does not occur in final position of words. The following examples clarify the occurrence of the /d/ sound in Gua.

- (31) a. **dr**: ‘sleep (v)’

- b. **adɔ** ‘machine/trap’
- c. **adami** ‘heart’
- d. **daŋɔa** ‘nail’

/k/ Voiceless Velar Stop/Plosive

/k/ in Gua occurs in word initial and medial positions only. It does not end a word.

The following examples testify about the situation in Gua.

- (32) a. **ɪkɔ̃** ‘fighting (n)’
b. **mɪkpakɔ** ‘liver’
c. **kalɪ** ‘count’
d. **kɔ:** ‘red’

/g/ Voiced Velar Stop/Plosive

In terms of the distribution in Gua, /g/ occurs in word initial and medial positions only. It does not occur in word final position. Examples are found in the following words in Gua:

- (33) a. **gɔw** ‘cemetery/burial place’
b. **gɔta** ‘gutter’
c. **ægumæ** ‘naughty play (especially by children)’

It must be indicated that, the occurrences of /g/ is very limited in Gua. Indeed Dakubu (1988) made a similar assertion concerning the /g/ sound (cf. Section 1.9).

It may be because of the presence of the /gb/ and /g^w/sounds. Indeed the various occurrences of the /g/ are normally before a rounded vowel.

/kp/ Voiceless Labial-Velar Stop/Plosive

The voiceless labial-velar stop/plosive /kp/ has two places of articulation which combines the features of bilabial and velar sounds. The sound occurs in only initial and medial positions of words in Gua. The sound has been attested for in Gua in the words below.

- (34) a. **kp**ɪlatɛɪ ‘vomit’
b. **kp**ɔtɔ ‘frog’
c. æj**kp**ɛmi ‘stump’
d. æ**kp**u ‘chin’

/gb/ Voiced Labial-Velar Stop/Plosive

Just like its voiceless counterpart, the voiced labial-velar stop/plosive occurs in word initial and word medial positions in Gua. Examples in Gua include the following.

- (35) a. **gb**ɛi ‘dog’
b. æ**gb**ɛli ‘cassava’

2.3.2 Fricatives

Fricatives are sounds produced with the free flow of the airstream through the vocal tract amidst hissy noise and without any blockade in the oral cavity.

/s/ Voiceless Alveolar Fricative

In Gua, /s/ occurs in word initial and medial positions. Just like other consonants described already, /s/ does not occur in final position of words. Examples include the following words:

- (36) a. sɪlɪ ‘fear (v)’
b. sɪsɛ ‘human being’
c. æsi ‘waist’
d. idu sã ‘thirteen’

/f/ Voiceless Labiodental Fricative

In terms of distribution in Gua, the /f/ sound occurs in word initial and medial positions. The /f/ sound does not occur in word final position. Examples depicting the above description include the following:

- (37) a. fanɪ ‘scar’
b. fui ‘open’
c. efuri ‘lather’
d. efu ‘wind’

/h/ Voiceless Glottal Fricative

/h/ occurs in word initial and medial positions in Gua. It does not occur in word final position. Examples include the following:

- (38) a. **ahɛ** ‘wisdom’
b. **ahɛdɛ** ‘afternoon’
c. **hɔlɛ** ‘water (v)’
d. **he** ‘fall (to fall down)’

2.3.3 Nasals

Nasals are sounds produced with the airstream exiting through the nasal cavity. Generally, all nasals are voiced which means that when it comes to a nasal description voicing is not indicated. Cross-linguistically, due to the sonorous nature of nasal sounds, they are normally able to occur in final position of words. In the case of Gua, only the alveolar nasal /n/ and the bilabial nasal /m/ can occur in word final positions.

/m/ Bilabial Nasal

The bilabial nasal /m/ in Gua occurs in word initial, medial and final positions. Examples of the occurrence of /m/ in Gua include the following.

- (39) a. **amɪ** ‘stomach’

- b. næmi 'toe'
- c. mkpalɪ 'rib'
- d. oɔzæmpim 'elephantiasis'

/n/ Alveolar Nasal

The segment in Gua occurs in both word initial and word medial positions only. It does not occur in word final position. Examples of the description above include the following:

- (40) a. nɛnɛ 'grandmother'
- b. na 'walk'
 - c. fanɪ 'scar'
 - d. afɪntɪ 'moon/month'

/ŋ/ Velar Nasal

/ŋ/ occurs in word initial and medial positions in Gua. The various occurrences of the velar nasal have been exemplified below.

- (41) a. ŋu 'head'
- b. naŋuni 'knee'
 - c. daŋõa 'nail'
 - d. ŋɔ 'farm'

/ɲ/ Palatal Nasal

The palatal nasal occurs in only word initial and medial positions in Gua. The examples below buttress the above assertion.

- (42) a. oɲinti ‘pregnancy’
b. ɲɛ ‘name’
c. aɲɛ ‘man’
d. æɲeti ‘morning’

/ŋm/ Labial-Velar Nasal

The voiceless labial-velar nasal /ŋm/ has two places of articulation which combines the features of bilabial and velar sounds. The sound occurs in only initial position of words in Gua.

- (43) a. ŋmkpa ‘bed’
b. ŋmkpakɔ ‘liver’
c. ŋmkpalɪ ‘ribs’

2.3.4 Affricates

Affricates are sounds that are produced with two strictures. During the production of affricates, there is a closure in the vocal cavity causing a blockage of the airstream for a while and then there is a gradual release of the airstream amidst hissy noise after the blockage has been opened.

/tɕ/ Voiceless Palatal Affricate

The palatal affricate can occur in word initial and medial positions in Gua.

Examples include:

- (44) a. **tɕ**ɪ ‘watch/see’
b. **tɕ**ɛ ‘dance’
c. n**tɕ**ɛ ‘change’
d. æjiri**tɕ**iɦɔ ‘madperson’

/dʒ/ Voiced Palatal Affricate

The sound occurs in word initial and word medial environments in Gua. Examples as typified by Gua include:

- (45) a. **dʒ**obini ‘vulture’
b. **dʒ**i ‘eat’
c. æ**dʒ**esi ‘smoke’
d. æ**dʒ**e ‘fire’

2.3.5 Trills

Trills are sounds that are produced by continuously hitting the tip of the tongue or the uvular (at the end of the velum) for several times in quick succession. They are generally voiced. There are only two trills which occur in known languages. Only one trill occurs in Gua.

/r/ Alveolar Trill

The alveolar trill is the only trill which occurs in Gua. It occurs in only word medial position. Examples include:

- (46) a. hɔrɔ: ‘finger/toe nail’
b. ehurumi ‘intestine’
c. æturu ‘gun’
d. æhuru: ‘navel’

2.3.6 Laterals

Laterals are sounds produced with the tip and front part of the tongue rising to touch the upper part of the oral cavity leaving the airstream to exit along the sides of the tongue. Gua data exhibits only the alveolar lateral which has been described below.

/l/ Alveolar Lateral

It occurs in word initial and word medial positions in Gua. Examples are the following:

- (47) a. le ‘song’
b. lɔb^wɪ ‘insult’
c. jeli ‘stand’
d. ælebi ‘child’

2.3.7 Approximants

They are consonants which are produced with vowel features. In Gua, /w/ and /j/ are the approximants identified. The approximants are generally voiced. In the area of distribution, /w/ occurs in word initial, medial and final positions whereas /j/ occurs in only word initial and medial positions.

/w/ Labial-Velar Approximant

- (48) a. wɪ: ‘chew’
b. wɔɛ ‘wear’
c. ɔwɛ ‘snake’
d. jaw ‘Thursday male born’
e. ɔhaw ‘distress’

/j/ Palatal Approximant

- (49) a. jie ‘remove’
b. æjule ‘strength’
c. jeli ‘stand/stop’
d. jiri ‘share’

2.3.8 Labialised Sounds

These are consonants that are produced with rounded lips without effect from a rounded vowel. Apart from the plain sounds identified in Gua, there also exist

some labialised sounds which are part of the sound systems. These sounds do not have any rounded vowel occurring after them causing them to be labialised. They are indicated by a superscript /^w/ diacritic. It must be indicated that all the labialised sounds occur in word medial positions but none occur in word final position. In the case of word initial position, only the voiceless labiodentals labialised fricative /f^w/ cannot occur. All the sounds that are labialised have been described (cf. Section from 2.3.2.1- section 2.3.2.8) In view of that, detail description would not be done here, rather examples as exhibited in Gua words are shown in the examples below.

/b^w/ Labialised Voiced Bilabial Stop/Plosive

- (50) a. b^wε ‘do (it)’
b. lɔb^wɪ ‘insult (v)’
c. ɔlɔb^wɪ ‘insult (n)’
d. b^wi ‘stone’

/k^w/ Labialised Voiceless Velar Stop/Plosive

- (51) a. ɪk^wa ‘neck’
b. k^wini: ‘quinine’
c. tɛuk^wi ‘uproot’
d. nɔk^wari ‘truth’

/d^w/ Labialised Voiced Alveolar Stop/Plosive

- (52) a. **od^we** ‘a type of yam’
b. **d^wɪnɪ** ‘think’
c. **ækurod^we** ‘hernia’
d. **od^we:ɖzi** ‘Odwira festival’

/g^w/ Labialised Voiced Bilabial Stop/Plosive

- (53) a. **g^waw** ‘to beat mercilessly with cane’
b. **g^wa** ‘run’
c. **ag^warɪ** ‘bathroom’
d. **og^wantrɪ**: ‘sheep’

/f^w/ Labialised Voiceless Labiodental Fricative

- (54) a. **af^wɛ** ‘visitor/guest/stranger’
b. **mf^wɛ** ‘cooking oil’

/l^w/ Labialised Alveolar Lateral

- (55) a. **al^wɛ** ‘sore’
b. **ɔl^wɛ** ‘sickness’
c. **ál^wɛ̀** ‘s/he is sick’
d. **l^wɛ** ‘get sick’

/h^w/ Labialised Voiceless Glottal Fricative

- (56) a. ah^wε ‘new’
b. h^wε ‘Saturday’
c. ih^wε ‘guilt’
d. ah^we ‘menstruation’

/ŋm^w/ Labialised Labial-Velar Nasal

- (57) a. aŋm^wa ‘fist’
b. ŋm^wε ‘life/thank’
c. æŋiŋm^wæbi ‘old man’

/ŋ^w/ Labialised Velar Nasal

- (58) a. aŋ^wa ‘nose’
b. ŋ^wa ‘take something greedily’
c. aŋ^wa ‘cooking oil’

/tɕ^w/ Labialised Voiceless Palatal Affricate

- (59) a. tɕ^wi ‘eight’
b. idu-tɕ^wi ‘eighteen’
c. eduetɕ^wi ‘eighty’

The distinction that exists between the plain consonants and the labialised ones have been summarised in the table below.

Table 5: Differences between Plain and Labialised Gua Consonants

Plain Sound	Example	Labialised Sound	Example
/b/	bɛ ‘come’	/b ^w /	b ^w ɛ ‘do/work’
/d/	adamɪ ‘heart’	/d ^w /	d ^w ɪnɪ ‘wait’
/g/	ægumæ ‘naughty play’	/g ^w /	gwau ‘to beat mercilessly with cane’
/k/	kɛ ‘spread mat/pay/show’	/k ^w /	k ^w ɛ ‘debt’
/f/	afi ‘an axe’	/f ^w /	mf ^w ɛ
/l/	alo ‘squirrel’	/l ^w /	al ^w ɛ ‘sore’
/h/	ahɛdɛ ‘afternoon’	/h ^w /	ah ^w ɛ ‘new’
/tɛ/	tɛɪ ‘see/watch’	/tɛ ^w /	tɛ ^w i ‘eight’
/ɲm/	ɲmɪpaku ‘liver’	/ɲm ^w /	ɲm ^w ɛ ‘life/thank’
/ɲ/	ɲũ ‘head’	/ɲ ^w /	aɲ ^w a ‘nose’

Generally, in the area of distribution, it is observed that all the Gua consonants can occur in word initial positions except /f^w/ and /r/. All the consonants can occur in word medial position. When it comes to syllable final position, only the bilabial

nasal /m/, the alveolar nasal /n/ and the labio-velar approximant /w/ can occur. This seems to be in consonance with what happens in Late (cf. Section 1.9 and Akrofi Ansah 2002). This may be because Gua and Late are Hill Guan languages.

It is also important to note that, the /tɛ, ɲ, dʒ, j/ sounds in the language are represented as “ky”, “ny”, “gy” and “y” respectively in the orthography of Gua. Labialised sounds are spelt with “w” sound following the plain sound that it has been attached to in the orthography. The same thing happens when a sound gets labialised.

2.3.9 Free Variation in Gua

Free variation is a phonological phenomenon where two different sounds can be used interchangeably without altering the semantic content of the words involved. Gua exhibits free variation involving the sounds in the words below:

(60) a. **ætɔhi**:/**ætɔci**: ‘male-goat’

b. **ahikɔ**/**acikɔ** ‘marriage’

(61) a. **wurɛ**/**wɔɛ** ‘wear’

b. **kɪrɪ**/**kɪɪ** ‘catch/tie (something)’

It can be seen in example (60) that even though /h/ and /ɛ/ alternate in the examples, no semantic change was realised. Similar situation can be found in example (61) where /l/ is alternating with /r/ in the words yet no meaning change was realised.

2.4 Syllable Structure of Gua

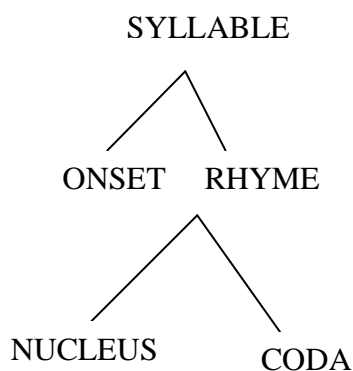
The syllable has been described by many in different terms. Some phoneticians have used the Chest-Pulse Principle while others also use the Sonority Hierarchy Principle to describe what a syllable of a language means. Both principles have their own challenges. Phonologists have accepted the use of both theories to describe what is meant by a syllable. For the purposes of this work, I shall discuss the syllable as a phonological constituent serving as a unit of pronunciation which is made up of vowels and some specific consonants at the center and consonants at the peripherals which serve as the domain for phonological properties such as tone.

Kenstowicz (1994), looking at the structure of the syllable, indicates that at the heart of the syllable are an obligatory nucleus and optional consonants onset and coda.

Onset-Rhyme Principle would be used to discuss the syllable structure of Gua in this section. The onset-rhyme principle is a phonological theory used to represent how syllable structures of languages are realised. This is done in a hierarchical order. In the Onset-Rhyme Principle, there is recognition and the use of the binary branching structure when it comes to the analysis of the syllable. Based on the requirement of the binary branching node, at the root of the syllable (the components of the syllable to be discussed) is the syllable type which is divided into the Onset and the Rhyme branching nodes. The rhyme is further divided into the Nucleus and the Coda as shown in figure 3. The Onset and the Coda positions are mostly filled by consonants while the nucleus position is either filled by

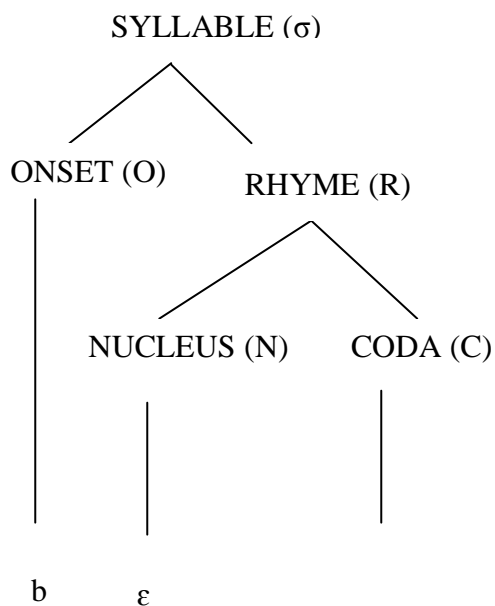
vowels or syllabic consonants. The nucleus is the only obligatory component of the syllable. The onset and the coda are optional components. This means that a nucleus alone can constitute a syllable but an onset or a coda will need a nucleus in order to qualify to be a syllable. One most important fact to note is that, unlike morphemes, a syllable does not necessarily have to be meaningful.

Figure 3: The Internal Structure of the Onset-Rhyme Principle



The above structure is experimented below in Gua.

Figure 4: Illustration of the Internal Structure of the Onset-Rhyme Principle



The Onset Rhyme Principle has been applied to Gua example bɛ ‘come’ above. The example above has an empty Coda position. This, however, makes bɛ, ‘come’ qualify as a pure CV – Syllable structure in Gua.

2.4.1 CV – Syllable Structure

Phonologists explain that the CV – Syllable type is the most preferred cross-linguistically. Jacobson (1962:526), as cited in Akanlig-Pare (1994:84), says “There are languages lacking syllables with initial vowels and/or syllables with final consonants, but there are no languages devoid of syllables with initial consonants or syllables with final vowels.” Blevins (1996) also acknowledges that all languages have the CV – Syllable type. Gua exhibits this kind of syllable as the most preferred. What seems to be a similarity between Gua and Late is the fact that they all have CV – Syllable structure as more dominant than any other. Examples of CV – Syllable structure in Gua are as follows (It must be noted that, the full stop sign is used within disyllabic and polysyllabic environments to indicate syllable boundary):

(62) a. ku.tu - pot

b. bɔ - mountain

c. fɔ - wash

d. tɛɪ - see/watch,

e. sɛ - fetch,

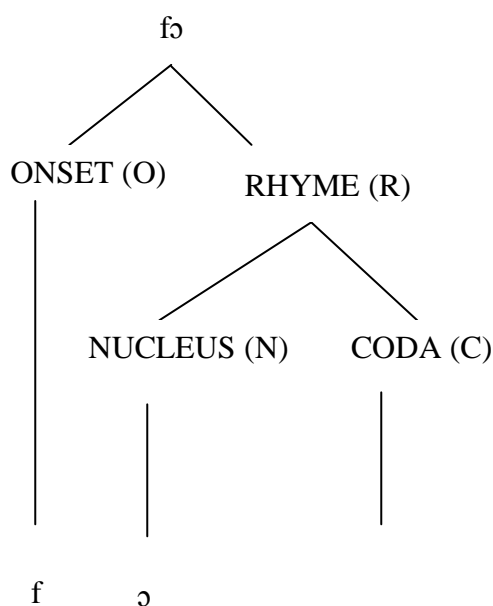
f. nɛ.nɛ – grandmother

g. ɲɛ.ɲɛ - grandfather

h. ma.ma – mother

The structure below shows how the onset-rhyme principle has been applied on the CV syllable structure of Gua.

Figure 5: Illustration of the CV-Syllable Structure



From figure 5, it is observed that the onset position is occupied, by the /f/ sound with /ɔ/ occupying the nucleus position while the coda position is left empty. The coda position being empty doesn't in anyway invalidate the onset rhyme principle. It must be said that, even though this gives a clear explanation to the CV syllable structure in Gua, it also fulfils the onset rhyme principle in phonological analysis.

2.4.2 V - Syllable Structure

In Gaa, V - Syllables occur as single elements. They are the next dominant syllable type after the CV – Syllables. Examples include;

- (63) a. a - Determiner
 b. a.bo.bi - bird
 c. ɔ.tɛʊ - cheek

Figure 6: Illustration of the V-Syllable Structure

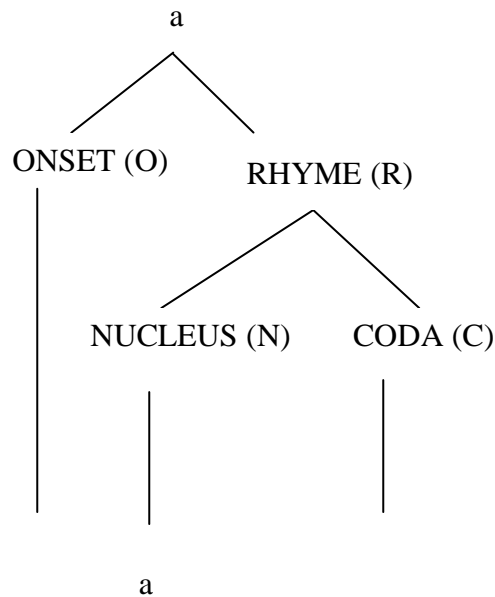


Figure 6 indicates that, it is only the nucleus position which has been occupied which gives credence to the onset-rhyme principle. The above example shows that the nucleus position of the syllable is obligatory, hence needs to be filled.

There are examples of V – Syllables occurring at word initial positions (as shown above) as well as at word final positions of CVV structures involving long vowels

and two vowels ending a word (which is not necessarily a diphthong). The following words are examples to explain the validity of the CVV type.

- (64) a. **tu.u** - tu: - black
b. **kpo.o.mo** – kpo:mo – big
c. **i.bi.e** – market
d. **æ.bi.e** – chair

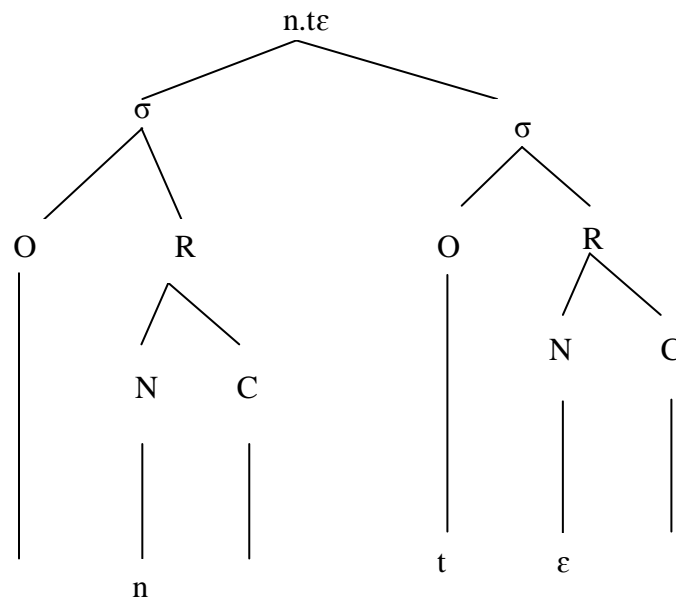
2.4.3 C – Syllable Structure

The C – Syllable is also the syllable with only a consonant. The consonants involved are phonologically referred to as syllabic consonants. Syllabic Consonants which can form C – Syllable in Gua according to the data elicited are the nasals. It is worth noting that all the C-Syllable types occur in word-initial position. These sounds are exhibited in words below;

- (65) a. **n.te** - alcoholic (beverage) drink
b. **n.te.bi** - things/items
c. **m.kpa** - bed
d. **m.mo.bi** - birds

Applying the onset-rhyme principle on the C syllable, we come by the structure in figure 7 below;

Figure 7: Illustration of the C-Syllable Structure



The word ntɛ ‘alcoholic beverage/drink’ which is a two-syllable word has the nasal n occupying the nucleus position of the first syllable while tɛ the other syllable has /t/ and /ɛ/ occupying the onset and the nucleus positions respectively. In this structure, the observation is that, in the first syllable, only the nasal which is a syllabic consonant forms a syllable on its own with the nasal occupying the nucleus position of the syllable. The second syllable however has the onset and the nucleus positions filled by the consonant and the vowel respectively. This observation validates the onset-rhyme principle.

The next issue with the syllable structure is what seems to be a CCV structure. The fact is a CVCV syllable structure can be reduced to just a single CCV syllable structure. This is believed to happen when V_1 is deleted from the first CV structure

in a CV₁CV₂ syllable forms. This means that a CVCV syllable form would be re-syllabified into what may seem to be a CCV structure where the CC would be occupied by consonants. Examples of such structure include;

- (66) a. wɔ.rɛ → wrɛ wear
 b. yɪ.rɛ → yrɛ hide
 c. sɪ.lɪ → slɪ fear
 d. bɪ.lɪ → bli collect

Usually, the V₁ that is deleted is a high vowel as shown in the examples above.

2.4.4 CVC - Syllable Structure

This is a syllable structure which is made up of consonant-vowel-consonant. It means that the syllable has a consonant at the onset position, vowel at the nucleus position and a consonant at the coda position. In this instance a consonant may be used to close an open syllable. In Gua, only the bilabial nasal /m/, the alveolar nasal /n/ and the labial-velar approximant /w/ can close a syllable. The CVC syllable type has been exemplified in the following words below:

- (67) a. ɔ.hɔ.nam – (human) body
 b. o.ɔzæm.pim – elephantiasis
 c. o.pɪn.ti – pregnancy
 d. fɪn.tɪ - jump
 e. ɔ.haw – distress
 f. gɔw – cemetery

The onset-rhyme principle has been applied on fɪn.tɪ 'jump' which is a two syllable word in Gua below.

Figure 8: Illustration of the CVC-Syllable Structure

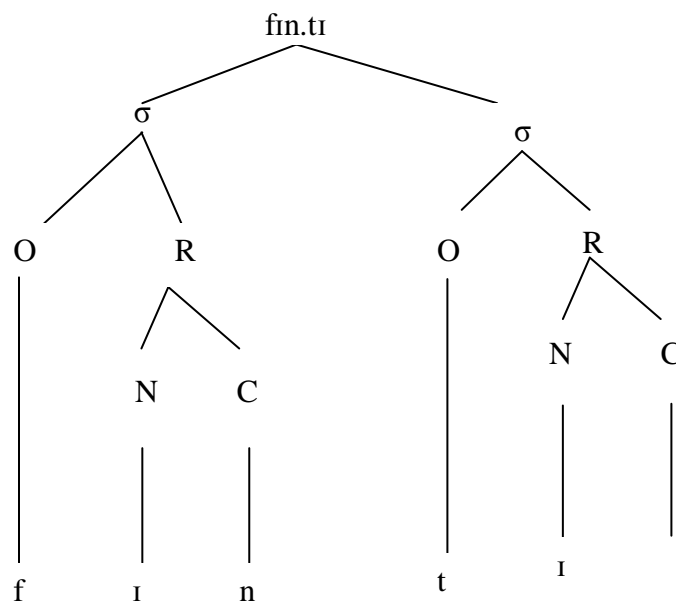


Figure 8 indicates how the CVC syllable type can be represented using the onset-rhyme principle.

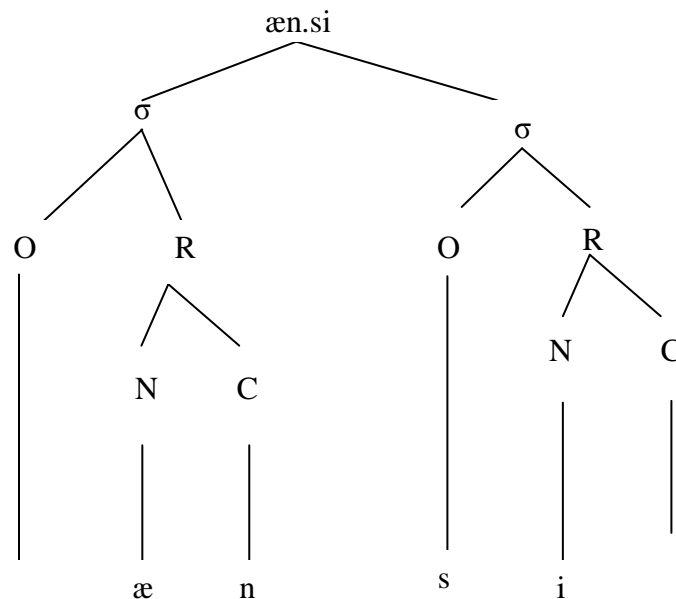
2.4.5 VC – Syllable Structure

Gua exhibits the VC syllable type. It must be noted that the VC syllable type is very minimal compared to the other syllable types. Indeed I found only one example from the data I elicited.

(68) **æn.si** 'back/behind'

The VC syllable type has been exemplified based on the Onset-Rhyme principles.

Figure 9: Illustration of the VC-Syllable Structure



Per the literature reviewed, Nkonya which is a Guan language does not exhibit this kind of syllable type in Gua (Asante 2009). It must also be indicated that, Akrofi Ansah (2002) also did not make mention of the VC type as a syllable type in Late.

2.5 Summary of the Chapter

The chapter has looked at the phonemic inventory and the syllable structures of Gua. It was realised that Gua has ten (10) oral vowels with seven (7) nasal counterparts. All the oral vowels can be nasalised when they occur before, between and after nasal consonants. In the case of distribution, apart from /ʊ/ and /u/, which cannot occur in word initial positions, all the Gua vowels can occur word initially medially and finally. In the case of the consonants in Gua, it is realized that Gua has twenty-two (22) plain consonants with ten (10) labialised

counterparts. With respect to their distributions, with the exception of /f^w/ and /r/, the rest of the consonants can occur in word initial and medial positions. However, the point must be made that only the bilabial nasal /m/, the alveolar nasal /n/ and the labial-velar approximant /w/ can occupy the coda position of the syllable in Gua.

The chapter also discussed the syllable structure of Gua. Using the Onset-Rhyme principle for the description, it was realised that there are five (5) basic types of syllable structures in Gua. These structures are the CV, V, C, VC and the CVC types.

CHAPTER THREE

PHONOLOGICAL PROCESSES

3.0 Introduction

In this chapter, I will discuss phonological processes. These are the processes that segments and suprasegmental features go through to change their forms to reflect the true state of the language under study. That is, changes that occur when sounds are put together. In this respect, the concentration would be on syllable structure processes and assimilatory processes.

3.1 Syllable Structure Processes

Syllable structure processes are processes which cause segments and syllables to change or adapt to a new form. This change can either be that a segment or a syllable gets deleted or a segment is inserted into the available structure in order to fulfill the required structure of the language involved. It may also be the loss or gain of some feature of a neighbouring sound. Syllable structure processes are applied on segments and to a large extent syllables. What this means is that sometimes the change may occur due to the presence of a particular segment or an entire syllable. These processes come in several forms. What these processes do is to either replace an entire segment, syllable, other suprasegmental features or modify these segments and the features in order that the structure will conform to

the expectation of the language under discussion. I discuss some of these processes that occur in Gua below.

3.1.1 Deletion/Elision

Deletion is a syllable structure process in which a segment gets elided. It is the realisation of a syllable or a word in the surface structure without a segment or a feature. In the event that a segment gets deleted, its feature may remain untouched. In another instance, a feature can be removed while the segment remains. For instance, if the sound /a/ with a low tone \wedge gets deleted, the segment will be no more but the feature low tone will remain.

3.1.2 Vowel Deletion

Vowel deletion is the elision of a vowel in a syllable or a word. This means that a vowel segment is barred from appearing in a particular environment. In Gua, vowel deletion can occur in several forms. In this section, we would discuss the various forms of vowel deletion in Gua and the circumstances that trigger their occurrences.

3.1.2.1 Vowel Deletion in Compound Words in Gua

One area where vowel deletion occurs in Gua is in the area of compounding. In the process of forming compound words, if it happens that the second word has an initial vowel, the vowel gets elided when the preceding word ends in a vowel. In that sense, it can be said that the final vowel of the initial word triggers the deletion of the initial vowel of the second word. The following examples indicate the phenomenon described above.

(69) a.	àɲé	+	ànûm	→	àɲénûm
	man		elder		elderly man
b.	tèí	+	ækósi	→	tèíkósi
	food		good		good food
c.	ésíbi	+	àlé	→	èsibilé
	eye		difficult/hard		courage/boldness

In the event that the initial vowel of the second word is not dropped, the word becomes ungrammatical. For example;

(70) a.	àɲé	+	ànûm	→	*àɲéanum
b.	tèí	+	ækósi	→	*tèiakósi

Examples (70a.) and (70b.) show the ungrammaticality of the failure to delete the initial vowel of the second word. This structure is ill-formed and it is highly unacceptable in Gua.

d. Karle + m ^ó + æsiæ	→	*Karle m ^ò -æsiæ
Karle POSS in-law	→	Karle POSS-in-law

In the above examples, example (71a and b) is grammatical and well structured because the initial vowel in the second noun was deleted when the possessive linker was attached, but in the case of (71c and d), the initial vowel has been maintained which violates the grammaticality of possessive constructions in Gua.

It is interesting to note that even though this particular deletion process occurs in possessive constructions in Gua, it only affects the kinship possessive construction. Both the non-kinship and the ‘linkless’ construction do not go through this deletion process. Examples include the following;

(72) a. gbèi á m ^ó ábiè	→	gbèi á m ^ó ábiè
dog DET POSS chair	→	dog DET POSS chair
‘The dog’s chair’	→	‘The dog’s chair’
(72) b. gbei ∅ adanda		gbei ∅ adanda
dog POSS jaw		dog POSS jaw
‘A dog’s jaw’		‘A dog’s jaw’

In example (72), (72a) indicates the non-kinship construction while (72b) shows the ‘linkless’ construction. Examples (72a) and (72b) indicate that the initial vowel of the second noun in non-kinship and the ‘linkless’ construction does not go through the deletion process as found in the kinship construction in example (71a).

3.1.3 Insertion/Epenthesis

Epenthesis is a syllable structure process which allows the addition of a segment in the body of a syllable or a word. Epenthesis in Gua is mostly employed to separate consonant clusters of borrowed words. Blevins (1996) acknowledges that all languages have the CV – Syllable type. Gua prefers CV syllable type. In view of that, any borrowed word which has a consonant cluster needs to be separated through epenthesis. Akanlig-Pare (2005:49) notes a similar thing that happens in Buli. He writes, “the occurrence of epenthesis is an indication that consonant clusters are not preferred in the syllable structure of Buli words.” He cites some examples of borrowed words from English whose clusters have been separated through epenthesis which have been listed below in example (73).

(73) /stri:t/	si.ti.ri:.ti./si.ti:.ti	(street)
/sku:l/	su.ku:l(i)	(school)
/teɪbl/	te:.bu.luk	(table) (p. 48)

In Gua, a similar phenomenon occurs. Since consonant clusters are not normally allowed in Gua, vowels are used to separate the cluster. The following examples indicate what happens in Gua.

(74). stri:t	sì.tì.rí.tì	(street)
sku:l	sù.kǔ:	(school)
teɪbl	té:.bù:	(table)
trein	tè.réì	(train)

3.1.4 Consonant Deletion and Vowel Mutation

Consonant deletion as the name suggests is the dropping of a consonant sound or a segment. Vowel mutation on the other hand is a syllable structure process which allows a vowel to change its form to another. In Gua, there are instances of consonant deletion and vowel mutation occurring together. This involves the second person singular subject pronoun wó with the high tone and a verb. What happens is that, the full form of wó is realised in present tense; but when it comes to past tense construction, the approximant /w/ in the pronoun is deleted while the rounded vowel /o/ mutates to either /o/ or /ɔ/ depending on the vowels in the stem based on the requirement of vowel harmony in Gua. The mutated vowel carries a low tone instead of the high on the pronoun while the verb in the past takes a rising pitch. Pitch has been discussed in section 4 of this thesis. Examples of such processes include:

Present Tense	Past Tense
(75) a. wó- dî:	ò- dî:
2SG.SUBJ sleep.PRES	2SG.SUBJ sleep.PST
‘You sleep’	‘You slept’
(75) b. wú- nù:	ò- nû:
2SG.SUBJ drink.PRES	2SG.SUBJ drink.PST
‘You drink’	‘You drunk’
(75) c. wó- wî:	ò- wî:
2SG.SUBJ chew.PRES	2SG.SUBJ chew.PST
‘You chew’	‘You chewed’

The above examples show how two phonological processes combine their forms to make pronunciation of words in Gua simpler. The description above shows how Gua speakers, whether consciously or unconsciously, modify sounds in their mental lexicon when speaking. Should the speaker fail to go by this phenomenon in the past tense construction, the construction would be rendered ungrammatical. Examples of ungrammatical construction per the above description include:

Present Tense	Past Tense
(76) a. wó- dî: 2SG-sleep.PRES 'You sleep'	* (c) wó- dî: 2SG-sleep.PST
(76) b. wó- wî: 2SG-chew.PRES 'You chew'	* (d) wó- wî: 2SG-sleep.PST

In example (76), all the (a) and (b) examples are grammatical while the (c) and (d) examples are ungrammatical. The (c) and (d) examples are ungrammatical because they do not go through the laid down procedure of consonant deletion and vowel mutation. It is okay if it appears to mean what is expressed in (a) and (b) but not in past tense as expressed in (c) and (d) examples.

3.1.5 Syllable Loss

This is where a syllable is deleted due to the presence of other morphemes attached to it. In Gua, a syllable can be deleted during the formation of compound words. It usually involves objects which need possessive linker to form a noun-

noun compound word. It is a process that allows you to form the young component of the older one. What it means is that this process allows you to get the name of an offspring relating to the name of the mother or the parent. It normally involves nouns.

(77) a.	ækírénì	+	mó	+	ábî	→	ækírénì-bì
	chicken		POSS		child	→	chick- child
						→	‘chick’
(77) b.	àtécí	+	mó	+	ábî	→	àtécí- bí
	woman		POSS		child	→	woman- child
						→	‘woman’s child’
						→	‘young girl’
(77) c.	ájì	+	mó	+	ábî	→	ájì- bí
	tree		POSS		child	→	tree- child
						→	‘tree’s child’
						→	‘chewing stick’

Drawing from example (77) one thing that is worth noting is that in Gua, one can form the smaller component of a larger or older one only when the possessive marker is deleted in constructions which need the linker. In this case, the -bí ‘child’ must lose its possessive linker mó ‘possessive linker’ in order to make the structure grammatical. It must be noted that the tone on the possessive linker also gets deleted. (tone deletion has been discussed in section 4.4.4). These constructions actually connote indefinite marking of the new word formed. In the event that the possessive linker is maintained, a definite structure is constructed and a definite marker is also required to make the construction grammatical.

3.1.6 Aspiration

Aspiration takes place when an extra force is exerted when producing a sound. Bodomo (1997:12 cited in Agoswin 2010:98) in talking about aspiration notes that, “voiceless plosives are usually aspirated when they occur in primary syllable initial positions.” Agoswin (2010:98) sharing his view on aspiration as a syllable structure process opines that in Kusaal, “the consonants [p, t and k] are the candidates which are produced with a greater degree of force when they occur at the beginning of syllables.” These views point to the fact that aspiration occurs on the voiceless stops/plosive at the initial position of a primary syllable. Aspiration in phonology is represented by the superscript /^h/.

Unlike Kusaal, as noted by Agoswin (2010:98), in Gua, aspiration of segments occur on only /t/ and /k/ since /p/, to a large extent, is found in borrowed words in Gua. The Gua data shows that when a /t/ or /k/ occurs at the initial position of a basic syllable with a high tone, the /t/ or /k/ becomes aspirated. However, when the same /t/ or /k/, occurs in the initial position of the syllable with a low tone, aspiration does not take place. This is espoused in table 6 below:

Table 6: A Table indicating Aspiration in Gua

Sound	Aspirated	Meaning	Unaspirated	Meaning
/t/	t ^h é	Oath	tè	cross a river/ weed (a bushy path)
/k/	k ^h ú	hole	kù	cut
	k ^h é	show/teach	kè	spread a mat

The above table shows the differences that exist between the aspirated and the unaspirated /t/ and /k/. The point must however be emphasised that anytime there is an aspirated /t/ or /k/, then there would be a high tone on the vowel.

3.2 Assimilatory Processes in Gua

Assimilatory processes are processes which cause segments to adapt to, change or modify part or all their features to look more like a neighbouring segment.

Katamba (1989:80) defines assimilation as “the modification of a sound in order to make it more similar to some other in its neighbourhood.” This means that assimilation is a phonological process where a sound copies or assumes the quality of a neighbouring sound. This is done so that pronunciation would be easier and friendly. Katamba points out that “the advantage of having assimilation is that it results in smoother, more effortless, more economical transitions from one sound

to another” (1989:80). Assimilation processes can be realised progressively or regressively. Progressive assimilation is a process where a sound copies the quality of a sound that follows it. Regressive assimilation on the other hand, is a process where a sound copies a quality of a sound that precedes it. In this section, I will show how some of the assimilatory processes take place in Gua.

3.2.1 Vowel Harmony

Vowel Harmony is both a segmental and an assimilatory process in phonology. Dolphyne (1988) treats vowel harmony as both a segmental and assimilatory phenomenon in Akan. The feature as realised in Gua is both segmental phenomenon and an assimilatory process. The segmental phenomenon has been discussed in section 2.1.5. As an assimilatory process, vowel harmony can be described as a process where vowels from one set copy the features of the other set when two words are merged to form a word in Gua. It is expected that by distribution, only vowels that belong to one set occur in a given word at a time. In a situation where this fails to happen in Gua, then vowel harmony as a process has taken place.

(78) a. mí- è- bìè

1SG PERF bath

(78) b. mí- è- bìè

1SG PERF bath.PERF

‘I have bathed’

- | | | | |
|-------------------------|----------|------------------------------|----------|
| (79) a . wó- sòbí | | (79) b. ò- sóbí | |
| 2SG pull | | NOM. pull | |
| | | ‘Pulling’ | |
| (80) a. wó-tɛ̀i | ɛ̀lèbí à | (80) b. ò-tɛ̀i | ɛ̀lèbí à |
| 2SG-watch/see child DET | | 2SG-watch/see.PST child DET | |
| | | ‘You looked after the child’ | |

From the examples above, example (78b) shows that because the vowels in the verb comes from Set I, the vowel in the pronoun has to change from /ɪ/ to /i/ based on the requirement of the vowel harmony. In the case of example (79b), /ʊ/ vowel in the pronoun has to mutate to /o/ in nominalising the verb. Example (80b) indicates that the vowel in the pronoun has to change to /ɔ/ because the vowels in the verb-stem are from Set II of the vowel harmony distribution. This is a clear case of regressive assimilatory feature of vowel harmony in Gua. However, unlike Akan where only set I or advanced vowels assimilate unadvanced vowels, these Gua examples show that both set I and set II vowels can assimilate vowels that precede them.

3.2.2 Homorganic Nasal Assimilation

This is an assimilatory process where a nasal consonant takes on the place of articulation feature of a neighbouring segment especially the initial consonant of the base. In Gua, the case of homorganic nasal assimilation is regressive. One way in which homorganic nasal assimilation occurs is after vowel deletion has taken

place. This can be realised when the first person subject possessive pronoun is attached to a verb in the past tense form. After the deletion of the vowel in the pronoun, the syllabic nasal assumes a low tone while the initial syllable of the disyllabic words changes the low-high tone to a high-low tone. However, in the present tense construction, the full form of the first person pronoun is realised.

Examples include:

Present Tense	Past Tense
(81) a. mí- sùmé 1SG.SUBJ send.PRES ‘I send’	n- sùmé 1SG.SUBJ send.PST ‘I sent’
(81) b. mí- kírí 1SG.SUBJ tie.PRES ‘I tie’	ɲ- kírí 1SG.SUBJ tie.PST ‘I tied’
(81) c. mí- kpíté 1SG.SUBJ clean.PRES ‘I clean’	ɲ- kpíté 1SG.SUBJ clean.PST ‘I cleaned’

Example (81) shows how homorganic nasal assimilation is realised. In example (81a), the bilabial nasal in the pronoun had to assume the alveolar quality of the voiceless alveolar fricative /s/ causing the bilabial nasal to change to alveolar nasal /n/. In (81b and c), the bilabial nasal in the pronoun copied the velar feature of the voiceless velar stop /k/ and the voiceless labial-velar stop /kp/ causing the bilabial nasal to change its form to become a labial-velar nasal /ɲm/. The tonal patterns on the past tense structure have been discussed in section 4.5.2.1.

3.2.3 Nasalisation

Nasalisation is an assimilatory process where non-nasal or oral sounds copy the nasal feature of neighbouring nasal sounds. Katamba explains that “Nasalisation is a process whereby an oral segment acquires nasality from a neighbouring nasal segment” (Katamba 1989:93). The oral sound takes on the nasal feature of the nasal sound before it or the one after it. In Gua, nasalisation occurs both progressively and regressively. Let us consider the following examples in (82).

- (82) a. ǎŋ^wǎ ‘fist’
 b. dǎ:nî ‘tongue’
 c. éjî ‘teeth’
 d. nǎmî ‘toe’
 e. fîñé ‘smell (v)’

The above words exhibit nasalisation in simple words in Gua. It is evident that, nasalisation takes place in three major environments in which the vowels occur. A vowel can be nasalised if it occurs before, between or after nasal sounds

3.2.4 Labialisation

According to Abakah (2012:67), “labialisation refers to secondary articulation formed by rounding and protruding the lips, the same gesture that is utilised in [+Round] vowels. This configuration can be superimposed on all consonants including labials”. In a sense, labialisation could be described as an assimilatory

process where an unrounded consonant becomes round due to the presence of a rounded vowel in its neighbourhood. When this happens, the unrounded consonant which is produced with spread lips is now produced with the lips rounded and protruded simultaneously even before the sound is heard in its production. Labialisation is marked with a superscript /^w/. The same process occurs in Gua. It must be noted that this process is different from how labialised consonants are realised. In the case of the labialised consonants, the roundedness of the consonant is part of it; there is no rounded vowel following the consonant causing it to be round as has been the case in labialisation (cf. Section 2.3.8 and table 5). Examples of labialisation in Gua include the following in (83);

- (83) a. ŋ^wú head
 b. ækp^wǔ chin
 c. k^wú hole
 d. ès^wùs^wú: saliva
 e. èh^wòt^wò: blood

3.2.5 Palatalisation

Palatalisation is an assimilatory process which causes non-palatal sounds to be produced close to the palatal region in the oral cavity. Dolphyne (1988:143) indicates that “Palatalisation refers to the raising of the body of the tongue towards the hard palate when a sound is being made.” She notes that, “/p/ in pɛ ‘like’ is pronounced pyɛ, that is palatalised, in Fante, but pɛ, not palatalised, in Akuapem and Asante.” (Dolphyne 1988:143) In the case of Gua, non-palatal consonants

assume the palatal features of high vowels which are perceived to be produced with the body of the tongue raised towards the palatal region. What happens is that, when these consonants are followed by the high front unrounded vowel /i/, it causes the consonants to be palatalised. Palatalisation is marked with a superscript /^j/ after the palatalised sound. Examples of this are provided in (84):

- (84) a. àtòh^ji: male-goat
 b. báébíkònt^ji: thumb
 c. èkpit^ji leprosy
 d. àt^jirid^ji: fever

3.2.6 Labial-Palatalisation

Writing on labial-palatalisation Ladefoged (1993:232, cited in Abakah 2012:78) notes that,

In some languages, (for instance Twi and other Akan languages spoken in Ghana), labialization co-occur with palatalisation. As palatalisation is equivalent to the superimposition of an articulation similar to that in [i], labialization plus palatalisation is equivalent to the superimposition of a rounded [i] – that is [y]. ... the corresponding semivowel is [ɥ]. Accordingly these secondary articulations may be symbolised by a raised [ʷ].

As noted above, labial-palatalisation is a secondary articulation process where in the production of a segment, the body of the tongue moves toward the hard palate

whiles the lips round and spread at the same time. The superscript /^h/ diacritic is used to indicate labial-palatalisation. The following are examples in (85);

- (85) a. kpui [kp^hi] pot for water storage
 b. akpokui [âkp^wók^hp^hi] pestle
 c. kului [k^wúl^hi] pig

It can be said that this process is possible when the labial-palatalised consonant is followed by /u/ and /i/ in succession.

3.2.7 Consonant Mutation

Segments sometimes give up their identity to take on the identity of another. This is the case of consonant mutation. Consonant mutation is an assimilatory process where a consonant takes on the qualities of another consonant which results in segment change. Bota (2002:93) describes consonant mutation as “an assimilatory process that takes place when a consonant changes some of its phonetic qualities under certain phonetic and/or grammatical conditions.” Bota (2002) is of the view that, “the only account of consonant mutation that occurs in almost all Akan dialects is a voiced plosive becoming a nasal after a preceding nasal.” However, in the case of the Jaman subdialect of Bono, she notes that, “another type of consonant mutation occurs which involves a voiceless consonant becoming voiced after a nasal.” A similar instance of the first phenomenon of consonant mutation described by Bota (2002) occurs in Gua. In Gua, consonant mutation occurs when the regular plural marker (a nasal consonant) is attached to a noun which begins with /a/. When the regular plural marker is attached to a singular noun, the prefix

a gets deleted; then the nasal takes on the place of articulation of the following consonant (thus, the initial consonant of the base) and the consonant of the base word also copies the nasality of the preceding nasal. Examples of consonant mutation in Gua can be found in the following words.

(86) a.	æbòbí	→	m + æbobi	→	m̃-mòbí
	bird		PL bird		PL-bird
	‘bird’				‘birds’
b.	àbí	→	m + abi	→	m̃-mî
	snail		PL snail		PL-snail
	‘snail’				‘snails’
c.	æbié		m + æbie		m̃-mié
	chair		PL chair		PL-chair
	‘chair’				‘chairs’

In example (86), (a), (b) and (c) indicate how the consonant mutation process works. The arrow shows the direction of the change. After the deletion of the /a/ vowel, the plural prefix is then attached to the noun stem. It is observed that all the examples which occurred involved the voiced sounds. This means that the consonant that mutates must be a voiced consonant. It is important to note that, consonant mutation takes place after homorganic nasal assimilation has been achieved.

In a situation where after the deletion the consonant that remains is voiceless, mutation will not take place. For instance, when the alveolar nasal is attached to a noun which begins with /a/ when vowel deletion takes place if the following

consonant is the voiceless alveolar stop /t/, the voiceless alveolar stop will remain unchanged. However, its voiced counterpart /d/ undergoes mutation. The example below attests to this fact.

- (87) a. àtèbí → n + ætebi → ñ-tébi
 animal PL animal PL-animal
 ‘animal’ ‘animals’ ‘animals’
- (87) b. àdámí → n + adamí → ñ-námì
 heart PL heart PL-heart
 ‘heart’ ‘hearts’ ‘hearts’
- c. àètùrú: n + æturu: ñ-túrù:
 gun PL + gun PL-gun
 ‘gun’ ‘guns’

3.3 Summary of the Chapter

The chapter has delved into the various phonological processes in Gua. The discussion has basically revolved around the various syllable structure processes as well as the assimilatory processes in the language. Specific discussion was made on processes like vowel deletion, epenthesis, aspiration, etc constituting the syllable structure processes whilst homorganic nasal assimilation, palatalisation, labial-palatalisation, labialisation, nasalisation, consonant mutation, among others are the various assimilatory processes discussed in this chapter.

The chapter in effect has shown how Gua segments and features go through some processes to modify their forms to conform to the structures accepted in the language.

CHAPTER FOUR

TONOLOGY OF GUA

4.0 Introduction

This chapter considers the subject matter of tone in Gua. Tone can basically be described as the relative contrastive realisation of pitch on words. Pitch is the rate of vibration of the vocal cords. Dolphyne (1988:54) explains that “a fast vibration of the vocal cords gives an auditory sensation of high pitch, and a slow vibration, low pitch.” It means that high pitch produces high tone while low pitch produces low tone. The point must be made that even though tone uses pitch, it employs relative pitch but not absolute pitch.

In describing tone, Yip (2002:5) is of the view that tone refers to “a phonological category that distinguishes two words or utterances, and is thus only a term relevant for language, and only for languages in which pitch plays some sort of linguistic role.” Tone is therefore a basic phenomenon in tonal languages. Pike (1948:3) [one of the earliest scholars who made a case for tonal studies] notes that, “a tone language may be defined as a language having lexically significant, contrastive, but relative pitch on each syllable.” This means that a tone language uses variation in pitch level to determine the differences that exist in words and utterances.

In the words of Zhang (2001:1), “The term ‘tone language’ usually refers to languages in which the pitch of a syllable serves lexical or grammatical functions.”

Tone is, therefore, a very important feature whose emphasis cannot be underestimated in tonal languages. Kratochil (1968:342) explains that, “since tones are minimal distinctive features differentiating syllables identical in segmental structure, they are phonemically distinctive features and we speak of tone phoneme (sometimes called tonemes).” Dediu and Ladd (2007:10944) also indicate that, “In tone languages, that is, pitch is organised into tone phonemes that are functionally comparable with consonant and vowel phonemes.” These views show that just as segments play significant role in phonological analysis, tone is equally a very important feature which needs special attention in describing phonological systems of tonal languages. Tone languages have been found and research work being carried out on them. It is estimated that over half of the world’s languages are tonal. For instance, Yip (2002:19) notes that, “at a very rough estimate as many as 60-70 per cent of the world’s languages are tonal.” His point seems to suggest that, tone languages exist so special attention should be given to the treatment of tone.

A tone bearing unit (TBU) refers to the linguistic element which carries the tone. Zhang (2001:2), gaining inspiration from other works notes that

The ubiquity of this type of contour-tone restriction prompts analysts to posit the following principles regarding tonal representation: first, the mora is both the contrastive segmental length unit and the tone-bearing unit (TBU); second, a contour tone is structurally composed of two level tones; and third, each mora can only be associated with one tone.

Yip (2002:74) is of the view that, “since there are cases in which the tone bearing unit must be the mora or the syllable, and no cases in which it must be the segment, it seems that tone always associates to prosodic entities.” Zhang (2001) suggests that, the tone bearing unit is the mora whereas Yip (2002) considers both the mora and the syllable as the tone bearing unit.

On the other hand, Hyman and Schuh (1974:82) explain that

In some languages there is instead a particular tone pattern which must be assigned to a whole morpheme or word. Thus, as reported in Mende (Dwyer 1971), a falling contour is realized as a falling tone on monosyllabic words, as a high tone followed by a low tone on bisyllabic words...

Gua shows this kind of falling tone in addition a rising tone in the sense of low and high. These tones would be realised as the discussion progresses. In the discussion on tonal patterns in Gua, the syllable would be considered as the tone bearing unit.

4.1. Basic Tones in Gua

Based on the relative pitch level, tone in Gua exhibits two basic forms. The basic tone levels are low and high. The low tone has been discussed in section 4.1.1 while high tone has been explained in section 4.1.2.

4.1.1 Low Tone

Low tone is a level tone which is realised on a relative low pitch. It is represented as // in the body of the work. Examples can be realised in the following words.

- (88) a. kḏ fight
 b. tɛ̀ take
 c. ɲè go
 d. dḏ bite
 e. kpḏ get out

4.1.2. High Tone

High tone is a level tone which is realised on a relative high pitch. The high tone is represented by /' in the body of the work. The following examples in (89) throw light on the high tone.

- (89) a. lé song
 b. bó mountain
 c. ɲm^{wé} life/thanks
 d. ɲé name
 e. kpḏ́ knot

It can be observed that examples (88) and (89) show how high and low tones are marked respectively. These markings are marked based on relative pitch levels. In

the fore-going discussion, the low tone and the high tone would be exemplified on other tonal patterns.

4.2.0 Gliding Pitches in Gua

Gua is a register tone language which makes use of the height of the pitch to distinguish words. As a register tone language, Gua tones are expected to be realised on relative low and high level pitches. However, it is possible to realise low-high or high-low level pitches (especially on disyllabic words), which are referred to as rising and falling pitches respectively. In register tone language analysis, it can happen that both high and low tones and vice versa are realised on a single syllable. This is what has been described as falling and rising tones in some West African languages (cf. Hyman and Schuh 1974:82). In some cases, the high-low or the low-high tones can occur on disyllabic words when they occur sequentially. In the case of Gua, due to the open nature of some of the syllable structures (cf. Sections 2.4.1), when there are two vowels ending a word, it is likely that a gliding pitch would be realised. In the sections that follow, rising and falling pitches have been discussed.

4.2.1 Rising Pitch

Rising pitch is said to occur when a sequence of low-high tones occur on a long vowel or a sequence of two vowels. In Gua, rising pitch can occur in monosyllabic

or disyllabic words which show tone polarity (cf. Section 4.4.3). The instance of a rising pitch thus occurs with the use of a long vowel or when a low-high tone sequence occurs in disyllabic words.

Rising pitch can also occur in some simple clauses in Gua. It normally occurs on the initial sound which is a long vowel in Gua. Examples of the realisation of rising pitch in Gua include;

(90) a. ǎ:-bè

3SG-come.PROG

‘she/he is coming’

b. ǎ:-dò

3SG-weed.PROG

‘She/he is weeding’

c. tèí food

d. bié ‘bath’

e. tǔ: ‘black’

The examples in (90) above show cases of a rising pitch on both monosyllabic and disyllabic words. In examples (a) and (b), it is realised that the rising pitch occurs on a single syllable, that is, an initial long vowel. In the case of examples (c), (d), and (e) it can be realised that the rising pitch arises as a result of the occurrence of low-high tone on a disyllabic words.

4.2.2 Falling Pitch

Falling Pitch occurs when sequences of high-low tones occur on a monosyllable. It can therefore be said that in Gua tonal analysis, it is possible to realise high-low tone sequence on a long vowel or a sequence of two vowels. In Gua, it is possible to find falling pitch on monosyllables due to tone stability after vowel deletion. The following illustrates the above assertion.

- (91) a. â:-wì: òní
 3SG-chew.PERF fish
 ‘She/he has chewed fish’
- b. â:-dò
 3SG-weed.PERF
 ‘She/he has weeded’
- c. ábíè chair
- d. àwóì calabash
- e. íbíè market

It must be noted that, the falling pitch in example 91 (a), and (b), the falling pitch occurred on only one initial syllable. In the case of (91c, d and e), the falling pitch occurred on disyllables which have a sequence of two vowels, CV_1-V_2 is a syllable that has no onset unlike the first syllable.

4.3 Tone in Major Word Classes in Gua

Tone shows different patterns of realisation cross-linguistically when it comes to the major word classes involved. In this section, tone within nouns, verbs and adjectives in Gua would be discussed.

4.3.1 Tone in Monosyllabic Nouns in Gua

Monosyllabic nouns in Gua are realised with high tones. Examples below attest to this fact;

- (92) a. kú hole
 b. ló hernia
 c. ɲé name
 d. té oath

It can be realised from the above examples that high tones are marked on all the monosyllabic nouns.

4.3.2 Tone in Disyllabic Nouns

Tone patterns in disyllabic nouns are such that their environments are difficult to predict. However, it can be realised from example 91 that, there can be L-H, H-Falling and H-H tones on disyllabic nouns. Examples below share more;

- (93) a. gbèí a dog
 b. áfí an axe
 c. kúrí pig
 d. sóbí cooking stove

4.3.3 Tone in Trisyllabic Nouns

Unlike the disyllabic nouns whose tonal markings are difficult to predict, in the case of trisyllabic nouns, the tonal patterns are such that they are not uniform.

There can be H-H-L, L-L-H and or L-L-L. The examples below illustrate further:

- (94) a. ásíàè in-law
 b. àfintì month/moon
 c. íbíè market
 d. ábíàè thigh
 e. àlèbí child

The point must be made that, apart from the monosyllabic nouns in Gaa, other types of nouns do not have a uniform realisation.

4.3.4 Tone in Monosyllabic Verbs

In Gua, monosyllabic verbs are characterised by low tone when they are not attached to any grammatical element. In other words, low tone is marked on monosyllabic verbs when they are in isolation. Examples below attest to this fact;

- (95) a. mì swallow
 b. tè weed (to weed a foot path)
 c. ɲè get
 d. bǎ sew

It can be realised from example (95) above that low tones are indicating verb forms. This opposes monosyllabic noun forms where they are marked by high tone.

4.3.5 Tone in Disyllabic Verbs in Gua

When it comes to tonal structure of disyllabic verbs in Gua, the case is such that low-high tones are realised. Example (96) below speaks to this phenomenon.

- (96) a. kùrí dig
 b. sòbí pull
 c. bìrí collect
 d. kpité clean

4.3.6 Tone in Trisyllabic Verbs in Gua

Tone in trisyllabic verbs in Gua shows a pattern of L-L-H. The words below attest to the above point.

- (97) a. bùrùfě urinate
 b. tɛ̀inàí sit
 c. kpìlàtɛ́í vomit

4.3.7 Tonal patterns in Adjectives in Gua

Gua as a language has few adjectives. Monosyllabic adjectives in Gua have low tone marking while disyllabic adjectives indicate high-high tonal patterns. Due to the few adjective forms in Gua, in a situation where an adjective is needed for clarity, phrasal expressions are rather used to describe the phenomenon under discussion. In this section, the tonal patterns in some of the adjectives have been discussed to buttress the point made above. Examples of the adjectives include:

- (98) a. tù: black
 b. kò: red
 c. fítá: white
 d. pébí small
 e. tímí short
 f. ténté tall

4.4 Tone Processes in Gua

Just as segments go through some phonological processes-(syllable structure and assimilatory processes) to modify their realisations, tone also goes through some processes to bring about differences in their realisations. Tone processes occur in several ways. In this section, my attention would be on downstep, downdrift, tone polarity, tone deletion and tone stability.

4.4.1 Downstep

Downstep has been referred to in various materials. It has been described based on the characteristics it portrays. In basic terms, downstep can be described as the lowering of a second high tone when there is high-low-high tone occurring sequentially. Downstep tone is of two kinds. The two kinds are automatic and non-automatic downstep.

Automatic downstep tone occurs where in a sequence of High-Low-High tones, the low tone causes the pitch level on the second high tone to be lowered. It occurs because of the lowering effect of the intervening low tone which is actually present in the construction. It must be indicated that the lowered pitch on the second high tone is not lowered to the pitch level of the low tone. The symbol for the downstep tone is the exclamation sign (!) which is placed in front of the downstepped tone to indicate the tone has been lowered. It may only occur in clausal domains. The automatic downstep tone is illustrated below; H-L-H \longrightarrow H-L-!H.

99. Kòfì **nè** **!mí** **n!teá**

Kofi give.PST 1SG change

‘Kofi gave me a change’

100. Kù **kú** **nè** **!mó**

dig hole give 3SG

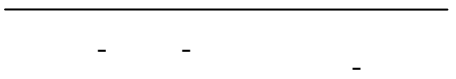
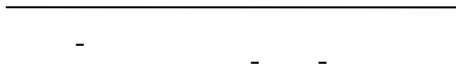
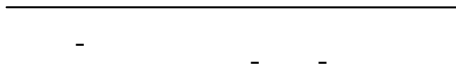
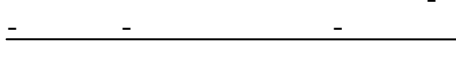
‘dig a hole for him/her’

In examples 99 and 100, it is realised that the second high tone in the structure is lowered because of the presence of the intervening low tone in the bolded part of the construction.

When it comes to the non-automatic downstep tone, it occurs when sometimes a low tone syllable in a H-L-H sequence is deleted, yet the lowering effect of the deleted low tone remains. In words, there will be a sequence of high-high tones, but with floating low tone intervening them. It is this phenomenon that Connell (2001:3) explains that the lowering was attributed to the influence of the intervening L or one that had been lost historically. However, the point must be made that, in Gua, the environment that leads to non-automatic downstep is not realised. This means that Gua does not exhibit non-automatic downstep based on the data elicited.

4.4.2 Downdrift

Downdrift is realised when downstep is realised on a longer utterance. In the words of Dolphyne (1988:57) downdrift is “[the] steady drop in the pitches of High tones preceded by Low tones in an utterance.” It means that Downdrift occurs when a high tone is lowered after a low tone because of the influence the low tone has had on it, and in a longer utterance where there are sequences of high and low tones, there will be steady lowering of the high tones. Dolphyne (1988:57) explains that downdrift is “a feature of intonation in Akan.” She comes to this point probably because downdrift is basically regarded as a feature that occurs in clausal domains. The situation is not different in Gua. The following examples in Gua explain further.

103. àné á bè dó	
man DET come.HAB here	-
‘The man comes here’	
104. Kòfi bè-bé dó àteí	
Kofi FUT-come here tomorrow	-
‘Kofi will come here tomorrow’	

The above examples indicate how downdrift is realised in Gua. The illustrations beside the examples indicate the representations of how the examples show the steady lowering of the high tone in the construction from a higher level to a lower one. The downdrift in Gua is actually an intonation feature in Gua just like the

case in Akan (Dolphyne 1988:57). One important issue is that, when it comes to the discussion on downdrift, the low tone which is causing the second high tone to be lowered is evident because it is represented.

4.4.3 Tone polarity

Tone polarity is a process where two adjacent tone bearing units possess tones whose value opposes one another. This means that in tonal analysis, it is possible for a language to exhibit tonal patterns where adjacent tones oppose one another when they occur sequentially.

In Gaa, there are cases of tone polarity. This can be realised in disyllabic verbs and some disyllabic nouns. Examples include;

105a. àsí	under
105b. àǹé	man
105c. mìtḗ	hide
105d. bìrí	talk
105e. tɛ̀ùk ^{wí}	uproot

It can be realised that the adjacent tone markings in examples 105a to 105e oppose each other and as noted in 4.4.3, tone polarity in some disyllabic words.

4.4.4 Tone Deletion

Tone deletion is a situation where a tone gets elided. It means that the tone would be there but depending on the environment in which the tone occurs, it can be deleted. In Gua, tone deletion occurs in possessive constructions. This can be realised when the construction which involves a possessive linker causes the initial vowel of the succeeding noun to be deleted, the tone deletes with the segment. In that instance, the deleted tone does not dock onto the next available tone bearing unit. Examples of tone deletion in Gua include:

- | | | | | | | | |
|----------------|-------|------|--------|--------|------------------|----------------------|-------------|
| (106) a. Kwasi | mó | ǎnî | Kwasi | mò- | ní | | |
| | Kwasi | POSS | mother | Kwasi | POSS-mother | | |
| | | | | | ‘Kwasi’s mother’ | | |
| b. ǎlèbì | á | mó | ásí | ǎlèbì | á | mò-sí | |
| | child | DET | POSS | father | child | DET | POSS-father |
| | | | | | | ‘The child’s father’ | |
| c. àtɛí | á | mó | ǎbí | àtɛí | á | mò-bí | |
| | woman | DET | POSS | child | woman | DET | POSS-child |
| | | | | | | ‘The woman’s child’ | |

Tone deletion can also occur in possessive constructions which use the subjective pronoun in Gua. In this case also, the initial vowel of the possessed noun gets deleted with its tone. Examples include.

(107) a.	mí	ásî	mí-sí
	1SG.SUBJ	father	1SG.SUBJ-father
			‘My father’
b.	wó	ǎbí	wó-bí
	2SG.SUBJ	child	2SG.SUBJ-child
			‘Your child’
c.	mó	ákê	mó-ké
	3SG.SUBJ	wife	3SG.SUBJ wife
			‘His wife’

From the above examples in (107a, b, c), it is realised that when the kinship noun is attached to the possessive linker, the initial syllable gets deleted with its tone while the falling tone on the kinship noun gets levelled and become a high tone. This happens because the construction deals with possession of a kinship noun which has a falling tone on its final syllable. The point is that, when these kinship nouns are produced in isolation, they maintain their final falling tone but when they are used in construction, after the deletion of the initial syllable, they falling tone gets levelled to become high. This similar phenomenon of the process which leads to the levelling of the falling tone in Gua is what Akanlig-Pare (2005:180) refers to in Buli as Simplification of Rising Contour. In the case of Buli, he explains that, “Simplification of the Rising Contour involves the delinking of the high edge of the rise. When this occurs, only the L tone portion of the rise will surface in the output. The motivation is to level up the contour tone” (2005:183).

4.4.5 Dissimilation

Dissimilation is a tone process where a syllable which has an underlying tonal representation, changes its tonal pattern when found close to a syllable which has an identical tone. In the words of Hyman and Schuh (1974:100), “dissimilation differs [from polarisation] in that a syllable assigned an underlying tonal representation, but when it is in proximity with a syllable of identical tone, its tone changes”. In Gwa, dissimilation occurs in constructions involving possession. What happens is that the high tone on the possessive marker changes to low when the possessor is close to a syllable with an identical tone. Dwyer (1971:120) identifies a similar situation in Mende where he asserts that, there are some unexpected results in which high tone of the possessive linker are changed to become low. Examples of dissimilation in Gwa include:

- (108) a. Kwame mó ání Kwame mò- ní
 Kwame POSS mother Kwame POSS-mother
 ‘Kwame’s mother’
- b. àlèbí á mó ásí àlèbí á mò-sí
 child DET POSS father child DET POSS-father
 ‘The child’s father’
- c. àtɛí á mó ábí àtɛí á mò-bí
 woman DET POSS child woman DET POSS-child
 ‘The woman’s child’

It must be noted that this process also affects the falling tone on the final kinship noun which changes to high before the tone on the possessive linker changes to

low. Dissimilation is used to cause adjacent tones of the same kind to change to their opposite tones. It was realised in section 4.4.4 that after the deletion of the initial tone bearing unit of the kinship noun leading to the levelling of the falling tone on the final tone bearing unit on the kinship noun to high, the adjacent tones on the possessive linker and the noun have the same high tone. However, in tonal analysis, dissimilation is used to cause adjacent tones of the same kind to oppose one another. So the process which causes the tone polarisation in Gua is dissimilation. This is seen to be a repair mechanism in tonal studies in phonology.

4.5 Functions of Tone in Gua

Different tone patterns in Gua indicate different functions. The way the tone is patterned has a particular role that it plays. It can be said that tone in Gua exhibits two broad functions. These functions are lexical and grammatical. The lexical function of tone makes a distinction between how two words with identical segments differ semantically based on the tones that occur on them. Grammatical function of tone is achieved when changes in tones lead to changes in grammatical functions. The words involved may belong to the same word class. These functions have been discussed in sections 4.5.1 and 4.5.2.

4.5.1 Lexical Function of Tone in Gua

As noted above, lexical function of tone indicates how the meanings of two or more segmentally identical words are distinguished depending on the tone patterns on the words. For example, the segments of two words may be the same but based on the tonal pattern, the word classes of the two words may change. I look at the examples within various types of words in the following sections.

4.5.1.1 Lexical Function of Tone in Monosyllabic Words

High tone

109. kú hole
 110. ló hernia
 111. mí 1SG
 112. té oath
 113. ɲé name
 114. bá a garden

Low tone

- kù cut/dig
 lò weave
 mì swallow
 tè weed-to weed foot path
 ɲè get
 bà sew

It can be realised from the above examples that a tonal change in the similar monosyllabic words brings about a change in meaning. It is observed that, the words which have the high tones are nouns while those with low tones are verbs.

4.5.1.2 Lexical Function of Tone in Disyllabic Words

When it comes to tonal marking in disyllabic stems in Gua, the case is such that if it occurs with low-high tone, then a verb is realised. However, when it comes to nouns, they have different realisations. The tonal pattern could be realised as low-high, high-high and high-falling. In the case of adjective, it is realised as high-high (cf. Section 4.3.7). Examples 115 to 118 below explain the above assertions further.

115. kùrí	dig	kúrí	pig
116. sòbí	pull	sóbí	cooking stove
117. bírí	collect	bírì	time
118. àsí	under/beneath	ásì	father

4.5.2 Grammatical Function of Tone in Gua

In the case of grammatical function of tone patterns in Gua, it can be said that tone can be used to indicate various grammatical functions in the language. Cross-linguistically, it is possible to find languages which use particles to express some grammatical functions. However, there are instances where other suprasegmental features like tone, intonation, stress, aspiration etc have been used to distinguish one grammatical function from another. In the case of Gua, it has been observed that, apart from particles, tone is also used in identifying some grammatical functions of the language. These are referred to as the grammatical functions of

language. The foregoing discussion will revolve around tense and aspect constructions in Gua.

4.5.2.1 Simple Present and Past Tense Tonal Marking in Gua

In Gua, simple present tense is marked using tone to distinguish it from other tense forms. The regular tone marking on a verb is usually low when dealing with a simple present while the tone becomes high on the verb when dealing with past tense construction. Examples include the following;

Present Tense	Past Tense
119. Kòfì kè èdídè	Kòfì ké èdídè
Kofì spread.PRES mat	Kofì spread.PST mat
‘Kofì spreads mat’	‘Kofì spread the mat’
120. lǎ:rì bè	lǎ:rì bé
car come.PRES	car come.PST
‘A car comes’	‘a car came’

When dealing with either disyllabic or trisyllabic verbs, the first syllable takes a high tone in the past tense construction but in the case of present tense constructions, the tones on the verbs remain the same as when the verbs are found in isolation. Examples are;

Simple Present Tense**Simple Past Tense**

(121) a. mí-sòtɛ̀ àékútù

1SG-catch.PST orange

‘I catch orange’

b. ò-sòtɛ̀ àékútù

1SG-catch.PST orange

‘I caught orange’

(122) a. wó- mì òhú

2SG swallow fufu

‘You swallow fufu’

b. ò- mì òhú

2SG-swallow.PST fufu

‘You swallowed fufu’

(123) a. á- kpítɛ̀ àébú dɛ̀ b. á-kpítɛ̀ àébú dɛ̀

3SG.SUBJ. clean.PRES house inside 3SG.SUBJ-clean.PST house inside

‘She/he cleans room’

‘She/he cleaned room’

The above examples indicate that, when the structure involves a second and third person singular pronoun, the full form of the pronoun with the high tone is realised but when it involves the first person singular pronoun, the high tone is realised as low on the initial vowel.

4.5.2.2 Functions of Tone in Aspectual Constructions

Tone patterns in Gaa also bring about some differences in aspect. These tonal patterns can be found in constructions involving habitual, progressive and perfective aspects. These constructions have been detailed below.

Habitual Aspect

The tone pattern in Gua in the habitual construction is such that, the tone pattern on the verb is changed from low to high in monosyllabic verbs and it becomes low-low in the case of disyllabic verbs. The examples below indicate habitual constructions in Gua.

(124). Amoah wòrè kòtó

Amoah wear.HAB cap/hat

‘Amoah wears a hat/cap’

(125). Gyau fí ntê

Gyau sell.HAB alcohol

‘Gyau sells alcohol’

(126). á yèrì dó

3SG.SUBJ stand.HAB here

‘she/he stands here’

Progressive Aspect

Progressive aspect construction in Gua is marked through the use of the progressive marker e/ɛ with a high tone attached to the verb depending on the vowels in the verb based on the requirement of vowel harmony (cf. Section 2.1.4). This happens when the construction involves first and second person or there is a construction to that effect. Another feature of the progressive marker is the lengthening of the third person singular marker /ǎ:/ /ǎ:/. When it involves a third

person pronoun, a rising tone is realised on the lengthened $\check{a}:/\check{\alpha}$:. In the instance where a proper name is used, a lengthened e-/ε is used with a rising tone on the progressive marker. The following examples authenticate the assertion above.

(127). Amoah \check{e} :-wòrè kòtó

Amoah PROG-wear cap/hat

‘Amoah is wearing a hat/cap’

(128). Gyau \check{e} :-fí ñté

Gyau PROG-sell alcohol

‘Gyau is selling alcohol’

(129). \check{a} :- yèrì dó

3SG.SUBJ.PROG stand here

‘she/he is standing here’

Perfective Aspect

The construction involving the perfective aspect is similar to the progressive construction. The only difference is that the progressive marker e-/ε- has a low tone. If the perfective marker uses a falling tone, then it means that the construction involves a third person.

(130). Amoah \hat{e} :-wóré kòtó

Amoah PERF-wear cap/hat

‘Amoah has worn a hat/cap’

(131). Gyau ê:-fí òtɛ́
 Gyau PERF-sell alcohol
 ‘Gyau has sold alcohol’

(132). â:- yéri dó
 3SG.SUBJ.PERF stand here
 ‘She/he has stood here’

4.5.2.3 Tone in Nominalised Verbs

Nominalisation occurs when a word which hitherto was not a noun is used as a noun. It can also occur when a noun is generated from a word which traditionally belongs to a different word class. In Gua, nominalisation occurs by attaching a prefix to a verb to derive a noun. This prefix has a low tone. Nominalised nouns in Gua are normally derived from verbs after attaching the nominalised prefix to the verb. The following examples attest to this;

Verb	Derived Noun
(133). hò mí	ò-hómì
rest	NOM-rest
‘rest (v)’	‘resting (n)’
(134). kpòtɛ́	ò-kpótɛ̀
separate	NOM-separate
‘separate’	‘separation’

(135). sòbí	ò-sóbì
pull	NOM-pull
‘pull (v)’	‘pulling’

The above examples show how nouns can be derived by attaching a nominaliser prefix which has a low tone to the verb.

There is also a tonal change in the verb stem when it is nominalised. Example 135 attests to this.

4.5.2.4 Noun-Adjective Compounding in Gua

The tonal patterns in noun-adjective compounding takes place when the two words are merged; the adjective that begins with the vowel loses its vowel in addition to the tone with the rest of the two words maintaining their tonal patterns. When the construction involves adjectives which begin with consonants, the tonal patterns remain the same. The examples below tell it all:

Noun-Adjective Compound			Derived Noun
(136). àṅé	+	àènúm	àṅénúm
man		older/elder	older/elder man
			‘elderly man’
(137). ésìbì	+	àlé	ésìbilé
eye		difficult/hard	eye hard
			‘courage/boldness’

(138). ésíbì + fólí	→	èsíbifólí
an eye cover		‘eyelid’
		‘an eyelid’

In Gua, when a noun-adjective compound occurs, when there is a vowel deletion, the tone also deletes.

It could be realised again that when the noun and the adjective have vowels from either of the two sets of vowel harmony (cf. Section 2.1.5) the vowels in the two words remain unchanged as would have been expected of the principles of vowel harmony in Gua. This is due to the idiosyncracies surrounding each of the words. Examples (136), (137) and (138) attest to the assertion above.

4.6.0 Summary of the Chapter

This chapter has looked at tonal patterns in Gua. Tonal types as well as the various tonal patterns in the major word classes have been discussed. The chapter later took a look at some tone processes like downstep, downdrift, tone polarity, tone deletion and dissimilation in Gua. Finally, the chapter showed how tone functions lexically and grammatically in Gua. This discussion has shown that Gua is rich in tonal distinction, which leads to major semantic changes that exist among word forms and grammatical structures.

CHAPTER FIVE

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

5.0 Introduction

This chapter presents the findings in line with the rudiments of the Basic Linguistic Theory as has been applied throughout the research. Since the theory maintains that effective fieldwork activity be carried out with the basic elements in the language described without recourse to any particular theory in linguistic analysis, the important tenets of the theory have been utilised in the thesis.

This chapter presents the summary of the findings, some suggestions and recommendations as well as conclusion to the entire thesis. The chapter has five main sections. Section one deals with summary of findings, two discusses contribution of the data while three looks at some of the limitations to the thesis. In section four, some suggestions and recommendations have been outlined while section five gives the conclusion of the entire thesis.

5.1 Summary of Findings

The presentations on the findings will encompass the four thematic areas of the thesis; these are phonemic inventory, syllable structure, phonological processes and tone. Based on the fieldwork conducted as per the requirement of the basic linguistic theory, chapter two of this thesis focused on the description of the phonemic inventory and the syllable structures of Gua. It was realised that Gua has

ten (10) oral vowels with seven (7) nasal counterparts. The ten oral vowels discussed include /i, ɪ, e, ɛ, a, æ, ɔ, o, ʊ, u/. Their nasal counterparts are /ĩ, ã, ẽ, õ, ã, ã, õ, ã/. It was again realised that all the oral vowels can be nasalised when they occur before and after a nasal consonant. In the case of distribution, apart from /ɔ/ and /u/, which cannot occur in word initial position, the rest of the Gua vowels discussed in chapter two occur word initially, medially and finally.

With regard to consonants, it was argued that, Gua has twenty-two (22) plain consonants with ten (10) labialised counterparts. These consonants are /p, b, t, d, s, f, k, g, m, n, ɲ, ŋ, m, l, r, h, w, y, tɛ, dʒ, kp, gb, b^w, d^w, f^w, k^w, l^w, h^w, m^w, ŋ^w, ŋm^w, tɛ^w/. With respect to their distributions, all Gua consonants can occur in word-medial positions. In the case of word-initial position, with the exception of /f^w/ and /r/ the rest of the consonants occur in word initial positions. Word final positions in Gua can only be occupied by the bilabial nasal /m/, the alveolar nasal /n/ and the labial-velar approximant /w/ consonants.

Syllable structures were discussed in chapter two. It was realised that there are five (5) main basic types of syllable structures in Gua. These structures are the CV, V, C, VC and the CVC syllable types. However, there are some resemblances of a CCV structure after the deletion of V₁ in CV₁CV₂ structure (cf. Section 2.4.3).

In respect of the phonological processes as discussed in chapter three, it was realised that vowel deletion can take place in compound word formation and possessive constructions while epenthesis occurs in borrowed words. Aspiration in Gua occurs when the voiceless sounds /t/ and /s/, with a high tone, begin a word

while palatalisation takes place when a bilabial and an alveolar consonant sound precede the /i/ vowel. It was realised in chapter three that, homorganic nasal assimilation occurs when a pronoun loses its vowel and the nasal in the pronoun copies the place of articulation feature of the consonant that follows it. On the other hand, nasalisation occurs when an oral sound acquires the nasal feature of a nasal consonant in its environment. It was also noted that labialisation in Gua occurs when a consonant is followed by a rounded vowel, where the consonant copies the rounded feature of the rounded vowel following it. Labial-palatalisation also occurs when the high vowels /u/ and /i/ are preceded by a consonant, where the consonant copies the round and palatal features of the high vowels.

The final theme that the thesis considered was tone, which has been espoused in section 4. In section 4, it was realised that monosyllabic nouns in Gua are marked by high tones while their verb counterparts are marked by low tone. Low-high tones are normally marked on disyllabic verbs where disyllabic adjectives are marked with high-high tone. Apart from monosyllabic nouns which exhibit high tone marking, the other types of the nouns do not show clear regular tonal patterns. It was also observed that, in terms of grammatical functions of tone, present tense maintains the normal tone markings on the verb while in the case of past tense, the initial syllable of disyllabic and polysyllabic verbs takes high tone; when the past involves monosyllabic verbs, the tone on the verb changes from low to high. When the construction involves nominalisation, the tonal markings take after the tonal patterns in nouns where the nominaliser, which is normally a vowel, takes a low tone. Finally, it was observed that when it comes to noun-adjective compounding

in Gua, when the adjective involves an initial vowel, the vowel together with its tone deletes with the tone marking on the rest of the syllables remaining same. It was also noted that in a situation where the adjective does not involve an initial vowel, the tonal patterns remain the same.

Tone Polarity occurs in Gua when opposite tones of high-low or low-high occur sequentially. It was observed that, all disyllabic verbs exhibit tone polarity. In respect of tone deletion, it was realised that tone can be deleted when an entire syllable is deleted (cf. Section 4.4.4) whereas in the case of dissimilation, a tone changes its form because it is identical to a neighbouring tone (cf. Section 4.4.5).

This discussion has shown that the different tonal patterns in Gua lead to some changes that exist among word forms and grammatical structures. Still on tone, it was noted that even though Gua is a register tone language, it shows resemblances of a contour tone on a monosyllable which could be referred to as either falling or a rising tone depending on the nature.

5.2 Contribution of the Study

This study has filled some important gaps in the area of the documentation of the Gua language, thus, the Boso dialect which is an unwritten Ghanaian endangered language has been given a detail description of its phonemic inventory, syllable structure, phonological processes, tone and tone processes. This is a contribution towards the documentation process of the language.

The thesis will serve as a document towards the development of the language in the area of dictionary writing, primers and grammar books. This is because it will provide an opportunity for future researchers to know what has been done on the language and what is left to be done. It is hoped that, upon the attainment of the grammar of Gua and other literary works on the language, the government's policy to use the indigenous languages as medium of instruction in the first three years of education in the basic schools Ghana will be possible for the people of Boso because, Gua is an indigenous language of the area.

In addition, Gua has contributed to linguistic theory by offering data to be tested through the use of the basic linguistic theory.

Finally, the study has produced a material which will be used as a point of reference in academia. Since the study has become a research material to which reference could be made.

5.3 Limitations of the Study

The study wished to have taken care of certain issues on the phonology of Gua. However, due to some constraints, there are some important things which were not dealt with. Some of the things which have constrained this study have been discussed below.

Firstly, time and space is one of the constraints that this thesis has suffered. Due to the fact that the Master of Philosophy degree course which made it possible for

this research to be carried out, it was not possible to write everything on the language. Besides, there are restrictions on the number of pages that the thesis can contain. In view of that, there are certain important aspects of Gaa Phonology which were not tackled. This is a fundamental issue which has constrained this thesis.

Secondly, there was not enough clarity on the various exceptions on vowel harmony due to the amount of data at my disposal during the study. Vowel harmony has been described but there were some observations of the vowels from the two sets of the harmony mixing which could be treated as exceptions to the principles of vowel harmony. However, due to the amount of data at hand during the study, some generalisations were made in respect of the principles of vowel harmony, it is clear that if further research is carried out additional exceptions can be made at the instance of the violation of the principles of vowel harmony.

Another limitation is on the case where nouns show different forms of realisation. This realisation made it difficult to indicate their actual environments.

Finally, there were other phonological processes and tone which could not gain space in the description due to limited space and time.

5.4 Suggestions and Recommendations

In section 5.3, it was observed that, there are some constraints which militated against the study. However, if the following suggestions and recommendations are

adhered to, it will help ameliorate some of the constraints that this study faced and also serve as direction for future research work.

In the first place, a grammar of Gua needs to be written. Dixon (1997:130) notes that “the ideal plan is to undertake original fieldwork on a previously undescribed (or scarcely described) language, and write a comprehensive grammar on it as a Ph.D dissertation”. Based on Dixon’s (1997:130) view on the need for a full description of every language, a full description of Gua in the form of ‘the Grammar of Gua’ is therefore a necessity. The grammar of the language would bring to bear the full details of the phonological, morphological, syntactic and the semantic elements of Gua. This will help in using data from the language to contribute to learning. It will also help to take care of the constraints dealt with (cf. Section 5.3).

Secondly, as a Hill Guan language, the work in Gua is now available for adequate comparison with other Guan languages. This could help in shaping the various existing linguistic theories. I suggest that some of these comparative exercises should be carried out in order to ascertain the contribution of Gua to knowledge.

In addition, tone which is an integral part of the language needs further study. It could be recalled that in chapter four Gua tonal systems were discussed. However, this discussion was not enough as far as the language is concerned especially where syntactic function was not fully addressed coupled with the fact that the environment for the realisation of falling and the rising tones were not discussed.

In view of that, I suggest that further study be carried out on the tonal system of Gua with particular attention given to the areas pointed out above.

5.5 Conclusion

In conclusion, this thesis has focused on describing the sound system and tonal patterns of Gua, which is a major step in the codification of the language.

It is a dream come true that the aims and objectives set out to be achieved have been fulfilled. The thesis has successfully applied the principles of Basic Linguistic Theory on the work by getting data on the field, transcribing and describing the data with the necessary explanation and examples to authenticate the description.

APPENDIX**WORD LIST ELICITED BASED ON THE SUMMER INSTITUTE OF LINGUISTICS COMPARATIVE AFRICAN WORDLIST (SILCAWL)**

1.0 MAN'S PHYSICAL BEING

1.1 BODY PARTS

0001	body	sìsé àjì/òhónàm
0002	skin (of man)	èjímì
1.1.1 Head		
0003	head	ɲú
0004	forehead	lǎ:nò
0005	face	èsírè
0006	eye	èsíbi
0007	eyebrow	èsíbi àm'è miénì
0008	eyelid	èsíbi f'òlí
0009	eyelash	èsíbi miénì
0011	nose	àŋ ^w á
0013	ear	òs'ó
0014	cheek	òte'ó
0015	mouth	àn'ó
0017	tongue	d'ò:n'ì
0018	tooth	èj'í
0021	jaw	àdándà/àdánà
0022	chin	ækpú
0023	neck	ìk ^w á
0025	throat	ækúróbì/ìk ^w á às'í
0027	hair (of head)	ɲú s'ò miénì
0028	beard	ækpú/àb'òdž ^w ís'è

0029 hair (of body) mǐěńǐ (sìsɛ́ jǒ mǐěńǐ)

1.1.1 Trunk

0031 shoulder bàkɔ́pɛ́

0033 chest ìkpó

0034 breast àhó

0035 side (of body) èkě:mǐ

0036 waist àsî

0037 navel àhùrǔ:/àhó ànó

0040 stomach (internal) òfùrò

0041 womb àwòtɛ^wǎ:

0042 back àensì

0044 buttock àtó

0045 anus àtó kú/àtó kǔ:

0046 penis àdú/àtótóbì

0047 testicle èhúróbì

0048 vagina bó

1.1.2 Limbs

0050 arm òbá

0051 armpit kèlídè

0053 elbow bàkǔ

0055 wrist òbá ànó sò

0056 hand òbá

0057 fist àŋm^wǎ

0058	palm (of hand)	ɔ́bádé
0059	finger	bàbí
0060	thumb	bàbíkóntĩ:
0062	finger nail	hòrǒ:
0063	leg	òná
0064	hip	àdzónkù
0065	thigh	àbíàè
0066	knee	nàṅũnĩ
0070	foot	òná èlè ikpílè s'ilé
0073	toe	nàemí

1.1.3 Internal parts and products

0074	bone	bǒ:
0076	skeleton	èbǒ:
0077	skull	ṅũ àwòì
0080	rib	ṅm̀kpálì
0081	brain	mǒmǒ/àhé
0082	heart	àdámì
0083	liver	ṅm̀kpákò
0085	lung	àhúrútùtù
0086	intestines	èhúrúmì
0091	vein	ètɛ̀ìní
0093	saliva	èsùsù:/ànǒ̀ ǹteú
0108	blood	èhòtǒ:
0101	urine	àbúrí
0102	excrement, faeces	bínì/̀m̀búámè̀

1.2 BODY PROCESSES, FUNCTIONS

0107	yawn	hòké
0108	snore	kpùní
0119	urinate	bùrùfě
0121	defecate	kò
0128	sleep (v)	dì:
0129	dream (n)	àdédi

1.2.1 Senses

0131	see	teì
0134	hear	kà
0135	listen	kà
0136	smell (v)	fĩné
0139	taste	dàteí

1.2.2 Ingestion

0140	eat	dzi
0141	bite (v)	dì
0143	chew	wì:
0145	swallow	mì
0146	choke	ě:lè wó
0147	lick	díé
0148	suck	fõ:
0149	drink	nũ:

1.2 BODY MOVEMENT

0150	sit	teinǎí
0151	rise up (intr)	kòsó jèlí
0154	walk	nà
0158	crawl	wòlí
0159	run	g ^w à
0160	swim	bié
0161	jump (v)	fíntí

1.3 BODY STATES AND CONDITIONS

1.4.1 Body positions

0169	stand	jèlí
0171	lean against (intr)	kpòsé
0172	bend down, stoop	bùtú
0173	bow (as in greeting)	wò wó ñǎ ásí
0175	squat	dzówě
0176	kneel	bùtú wó nàñǎni èsílè

1.4.2 Body conditions

0178	(be) hot (of person)	jò ɛ:teè
0179	(be) hungry, hunger (v)	òkó
0181	(be) thirsty, thirst (v)	ǎteúkò
0182	(be) drunk	òbó
0183	(be) tired	ìkpánǎ/òkpánǎ
0184	(be) sleepy	dí: wirè (mó) èsílè

0185 rest hòmí

1.4 IRREGULAR CONDITIONS

0189 hump (of hunchback) àtəátəà

1.5 Abnormal qualities (adjectival)

0190 (be) bald òkpóndè ɛ:kpè

0191 (be) blind ɛsíbì ɛfùrə

0193 (be) thin èlú òtè

0194 (be) impotent mú àpɛ̀ bɛ̀b^wè ɛ̀símí/àdú ɛ:wù

1.5.2 HANDICAPPED PEOPLE

0195 barren woman àtɛ́ àsé bɛ̀kòk^wì

0196 blind person àsé nì mú ɛ̀síbì ɛ:fùrə

0197 deaf (mute) person à̀sítí:hò

0199 cripple (n) àpátɛ̀

0200 dwarf mòátíà

0202 stupid person à̀dzímíh ò

0204 mad person à̀jírí tɛ́ihò

1.6 HEALTH AND DISEASE

0205 (be) healthy, (be) well à̀júlè

0207 hurt oneself ɛ̀:kpilè mɔ́ jò

0209 medicine à̀lí

0210 get well, recover jɛ̀ à̀júlè/nì wó jò tò wó

1.6.1 Abnormalities

0213	swelling	òhùmě
0216	burn (n)	òsǎ
0217	goiter	kòmkpó
0218	hernia (umbilical)	ækúród ^w è
0219	ulcer (leg)	àl ^w é
0220	wound, sore	àl ^w é
0222	scar	fǎní

1.6.2 Disease, malaise

0225	elephantiasis	òdzǎmpim
0227	leprosy	èkpíti
0228	malaria (fever)	ætírídǐ:
0230	pain (n)	ájósè
0233	vomit (v)	kpilàtèi
0234	stomachache, upset stomach	àmídétei
0235	headache	ɣũ dè òdimě
0236	diarrhea	àmídè òtèékírè

1.6.3 Life and death

0238	life	ɣm ^w é
0239	(be) alive	teinǎǐ
0240	menstrual period	àh ^w ébirì
0241	(be) pregnant	ójíntì
0242	miscarriage	ójíntì ɛ:sèí/a:kpǒ:

0244	bear (child), give birth	kòk ^{wí}
0245	(be) born	kòk ^{wí}
0246	(be) young	àlébì
0247	grow up	dè
0249	die	wù
0250	death	lèwú

2 MAN'S NONPHYSICAL BEING

2.1 KNOW, BELIEVE, TEACH

0252	think	d ^w iní
0253	believe	ɲè dzidí
0254	hope (n)	àenídásò/èsibì kàns ǒ
0256	knowledge	àwólì àhé
0257	wisdom	àhé
0258	(be) wise	àhě:hò
0262	learn	kàsí
0263	teach	kè
0264	show	bò òké/kè
0265	remember	kàí
0266	forget	tànsó

2.2 EMOTIONS

0269	laugh	màsí
0270	smile	màsí
0271	(be) sad	(dzì) àwíréhò

0272	cry, weep	sù
0273	sorrow (n)	àwíréhǒ:
0274	shame (n)	èsíbíwû
0276	fear (n)	òsíri/èfû
0279	(be) angry	ækpùfú
0280	calm (oneself)	bòkǒ:
0282	respect (v)	bù èdé
0283	honour (v)	wòré mó ànúójàèm
0284	love (v)	òdó

2.3 HUMAN WILL

0289	choose (tr), pick (tr)	teù àkó
0291	abstain	fǎí nǐ òb ^w é/nì wó jò tèù jò
0292	allow, permit	nè (jò) àkpé
0294	prevent	tì (jò) àkpé
0297	succeed	dè òb ^w é
0298	fail	bèdé òb ^w é
0299	pretend	sìb ^w é

2.4 HUMAN CHARACTER

0300	(be) kind	ǹú dè àbìrí
0301	(be) generous	àhúmóbò
0304	(be) corrupt	àbédzi nòk ^w àrí
0307	(be) jealous	ésíbi hìní èdé
0308	(be) shy	èdéhìlì

0309	(be) courageous, (be) brave	ìkpó àèdú
0313	(be) lazy	àfǔ:hò/èfò
0314	(be) patient	tòwóbúàsì
0315	(be) impatient	àbètó mú bú àsí/àmé búàsító
0317	(be) stubborn	àsódélé

2.5 DIFFICULTY

0319	hardship, distress	òháw/àd ^w índ ^w ínì
0321	suffer	àmánì/àjókírì

3 PERSONS

0326	human being, person	sìsé
0327	self	jò (mí jò)
0328	man (male)	àṣé
0329	woman	àteí
0330	white man	òbúrónì

3.1 STAGES OF LIFE

0332	baby	àlébì dǔ:dùbì
0333	twin	ntá:
0334	child	àlébì
0335	boy	àṣébì
0336	girl	àteíbì
0337	adult	àenûm
0338	young man	àbírántìbì

0339	virgin	ækæsínbì às é bèhú àṅě
0340	old person	æṅím ^w ábì/àteíkápàbì/àsókò àsé
ně:dè		

3.2 BLOOD RELATIONS

0341	relative (by blood)	òbúsúàèni
0342	ancestor	èbók ^w ári
0343	grandparent	ṅěṅě/něně
0344	father	ásî
0345	mother	áení
0346	brother (elder/younger)	àbírínsì àṅě
0347	sister (elder/younger)	àbírínsì àteí
0348	father's brother (uncle)	ásî nũm/ásîlèbí
0349	mother's brother (uncle)	wó wòfá
0350	mother's sister (aunt)	áení kùmăě/áení nnm/áenílèbí
0351	father's sister (aunt)	síwă
0352	cousin	áenímòbí
0353	firstborn	ábì àenũm
0355	son	ábì àṅé
0356	daughter	ábì àteí
0357	grandchild	àně
0359	name	ṅě

3.1 MARRIAGE RELATIONS

0361	in-law, relative by marriage	
0362	husband	ækúri

0363	wife	àkě
0365	father-in-law	ásíàè àpě
0366	mother-in-law	ásíàè àteí
0367	brother-in-law	àkóntà
0368	sister-in-law	ækùmă:
0369	son-in-law	ásíàè
0370	daughter-in-law	ásíàè àteí
0371	widow	ækúrukòhò àteí
0372	widower	ækúrukòhò àpě
0373	orphan	àwúsíàè
0374	fiance (betrothed boyfriend)	èhóbè àpě
0375	fiancee (betrothed girlfriend)	èhóbè àteí
0376	bastard, illegitimate child	àlébì àsé mè ásí

3.4 RELATIONS, EXTENDED AND SOCIAL

0379	family	àbúsúàè
0380	friend	àdámfò/bìràhù
0381	neighbour	àsé nì wó nì mó jì òbìtè
0384	guest, visitor	àf ^w é
0385	stranger (unknown person)	àf ^w é
0386	enemy	àtáhò
0388	thief	ækjù:
0390	messenger	àbǒ:hò/àsúm ^w éhò
0391	crowd	sìsè èkú
0392	chief, headman	ækwúlè

0393	elder	àenûm
0394	master	ádáhò
0395	slave	ækpæbì

3.5 PROFESSIONS

0396	farmer	òk ^w æni
0397	fisherman	àsé jìé òní
0398	hunter	àsé wè kpó dé
0399	blacksmith	æbíélìh ò
0400	potter	àsé lò sí
0401	weaver	àsé lò òtá
0403	trader	àsé dzì ìbié/ìbié dzìhò
0406	soldier	òsódzæni
0407	prostitute	æhúritælíhò
0408	midwife	àsé sò òk ^w ík ^w ì
0410	fetish priest	òkómfò
0412	witch (female)	òbónsàm àteí

4. PERSONAL INTERACTION

4.1 ASSOCIATION OFF PERSONS

0421	flee, run away from	g ^w à
0422	drive away	dzè mó
0426	resemble	òwóré

4.2 SPEECH, LANGUAGE

0430	language	m̀bíri/m̀mírì
0431	word	èsé
0433	say	jì
0434	voice	èbídé
0435	speak, talk	bírì

4.2.1 Greeting

0443	greet (v)	biàkéké
0444	call (someone)	tírí
0445	say goodbye, take leave of	nǎ:rì/òkírè

4.2.2 Information and questions

0446	announce	dè mó àdédwúràè
0448	news	èsé ènì ẽ:bè
0449	explain	kè àsí/kè dé
0451	gossip (v)	̀nsékú
0452	lie (falsehood)	ènùfú
0453	ask, request	bisé
0456	answer, reply (v)	nè m̀mùáì
0457	thank	nè ̀m ^w é

4.2.3 Promise

0459	oath	té
0460	swear	kè té

4.2.4 Strife and praise

0461	insult (v)	lòb ^w í
0462	insult (n)	òlób ^w í
0465	argue	teì òdʒí
0470	deny	bèsó òtúdè

4.2.5 Discourse genres

0480	story (tale)	àtĩ:
0481	proverb	bé

4.3 INTERPERSONAL CONTACT

0484	embrace, (hug) (v)	b ^w è mó àtũ:
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4.4 HELP AND CARE

0492	help	bòá
0494	look after	teì sò/òteí
0495	bring up (a child)	tàní mó

4.5 DOMINION AND CONTROL

0501	serve	sì (àèsókù)
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4.6 CONFLICT AND RESOLUTION

0508	quarrel	àbiéti
0509	fight	ikǝ
0510	stab	wò (mó) àteí

0511	kill, murder	mò mó
4.7	CRIME AND JUSTICE	
0517	steal	wùrí
0518	rape	tù (mó) mǎnǎ:
0519	judge (v)	ɖzi èsé
0520	law	m̀m̀ará
0522	(be) guilty	áɖzi ih ^w é
0523	(be) innocent	áɖzi bé
0524	punish	ásòbì mó òsó
0525	penalty, punishment	òsó òsóbi
5.	HUMAN CIVILISATION	
5.1	SETTLEMENT	
0529	move away, migrate	teùk ^w í n̄è
0530	country, ethnic area	òkùrò
0533	village	ækùràè
0535	market (n)	ibìè
5.2	CLOTHING AND ADORNMENT OF BODY	
5.2.1	Clothing	
0537	wear clothes	hi òtá/wòrè àtǎ:li
0538	dress (v)	wòlè àtǎ:li
0539	undress	kpè wó jò
0541	hat	kòtó
0542	shirt	sònsó àtǎ:li

0543	trousers	sìré àtá:li
0548	shoe, sandal	mpǎ:bòá
5.2.2	Adornment and accessories	
0549	bead	àk ^w ánsì
0552	necklace	ìk ^w á dè èdé
0554	ring (finger)	kǎ:
0555	earring	àsómkǎ:
5.2.3	Car for body	
0561	bathe, wash oneself	òbiè/fò wó yò
0563	wipe off (excreta)	fǎlí wó yò
0564	cut (hair)	sì wó miěni
0565	shave (v)	sì wó àèkpú
0567	comb (n)	njórófì
0568	tooth stick, tooth brush	àèjìbì/àèjìbì èní èbíri òkpítè èjí
5.3	FOOD AND DRINK	
5.3.1	Food	
0569	food	tèí
0570	meat	òní
0571	fat	sìrádì
0572	oil	m ^w f ^w é
0573	soup, broth	àèteú
0575	bread	bùródò

0577	flour	sám
0578	salt	mǎlì
0579	breakfast	ǎpǎtì tǎi
0580	evening meal	ǎdídì tǎi
0582	leftovers	tǎi ǎnǎ ǎ:dzì nì ǎ:kè ǎsì

5.3.2 Drink

0585	milk (n)	ǎhó dé nǎtǎu
0587	alcohol (general)	nǎtǎ
0588	beer (traditional)	nǎtǎ ǎ:fùrì
0590	palm wine	nǎtǎ ǎ:fùrì

5.4 FOOD PREPARATION

5.4.1 Kitchen preparation

0591	prepare (food to cook)	dǎi tǎi
0595	peel (v)	fǎrǎntǎi/sǎlì
0596	mix (v)	bò ǎsǎi
0597	stir	wùrǎdǎ
0599	pound	wò
0600	ground	k ^w ǎ

5.4.2 Cooking

0603	cook (v)	dǎi
0604	roast	tǎ
0605	fry	k ^w ǎlǎ
0606	bake (in ashes)	tǎ bò nǎsò dǎ

0607	(be) smoked	hǒ:
0608	boil (water), bubble up	dàí

5.5 DOMESTIC UTENSILS AND CONTAINMENT

5.5.1 Kitchen utensils

0610	cooking pot (earthenware)	sòbí/kòrópǒ:tò
0612	pot (chair)	kpí
0613	ladle	àkpólì
0618	pestle, pounding stick	àèkpúkúpí
0619	mortar, pounding pot	àkpókpò

5.5.2 Eating utensils

0620	plate	pìlétì
0621	bowl	òsé
0622	cup	kùrúwàè
0623	spoon (traditional)	àtírì/àkpólì

5.3 Containers and containment

0624	bag	òkótókù/bǎ:gi
0627	bucket, pail	bòkítì
0628	calabash	àwóì
0629	bottle	tùmpáì
0632	pour	teèkírè
0636	(be) full	ě:bǒ/nì ìbǒ
0637	(be) empty	teèkírè kǎ:nà/nì ìtè/ě:tè

0638	(be) open	fùí/bùtèí
0642	cover (v)	tì ànó/hè sò
0643	uncover	fùí sò
0653	rope	ifí
0654	knot	kpǒ
0656	tie (knot)	dè (mó) kpǒ
0657	untie	sàí

5.6 HABITATION

5.6.1 Parts of a house

0662	compound, house	àwí sò
0664	wall	òkpókpò
0667	window	mǎfènsírì
0670	floor	sìré
0671	room	àbúdè
0672	bedroom	piádè/àbúdè
0673	kitchen	sòbíásì
0676	fence (n)	òkpókpò
0680	bathing place	àbìé sí/àg ^w áíé
0681	latrine, toilet	òtèé
0682	garbage dump	mùnǒsò

5.6.2 Construction

0685	build	kpilé
0692	ladder	àkpósè

5.6.3 Furniture

0693	chair	àbíè
0694	stool	sòbíási-àbíè
0696	bed	ɲm̀kpá
0700	bell	dǎ
0701	ring (bell) (v)	wùsù (dǎ)

5.7 PROFESSIONS AND WORK

0703	work (n)	èsímì
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5.7.2 Pottery

0710	mould (pottery)	lò
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5.7.3 Wood work

0712	wood	àdzé
0713	cut down (tree)	kù àjì/tàké àjì
0716	axe	àfí
0724	nail (n)	dàṅóà

5.7.4 Tailoring and weaving

0725	sew	bǎ
0726	needle	pǎní
0729	pocket	òkótókù

5.7.5 Domestic work

0733	rag	tìnáńǎ
0734	broom	àfí
0735	sweep	fòtɛí
0737	wash (clothes and utensils)	fò
0738	draw water	sè ñtɛú
0739	fetch (firewood)	ɔzáí (ǎɔɔzé/ńɔɔébi)
0740	dig	kù
0741	rubbish	mũńó

5.8 AGRICULTURE**5.8.1 Cultivation**

0750	weed (v)	dò
0751	hoe (v)	àdódì
0752	hoe (n)	àdódì
0753	big hoe	àdódì kpõ:mò
0755	machete, cutlass	àdé

5.9.2 Fishing

0799	fish (v)	jié òní (bò ñtɛú dé)
0802	fishing net	ǎsǎwù

5.10 POSSESSIONS AND COMMERCE**5.10.1 Possessions**

0809	give	nè
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5.10.2 Money exchange, finances

0817 money	ètě:mì/siká
0820 buy	sò
0821 sell	fì
0823 (be) expensive	ìbíè àèlé
0825 price	ìbíè
0827 payment	k ^{wé} òké
0828 pay (for goods, services, etc.)	kè k ^{wé}
0832 borrow	hà
0833 lend	bò òhá
0834 debt	k ^{wé}

5.12 WAR

0866 war	òsé/ìkǒ
0867 peace	òsódè òwíri
0868 army	èsé wè òkǒ
0871 sword	àteí
0872 gun	àtúrǔ:

5.13 ARTS AND LEISURE**5.13.1 Music and dance**

0878 music	lé
0879 song	lé
0883 dance (n)	òteá
0884 dance (v)	teà

5.14.1 RELIGION AND THE SUPERNATURAL

5.14.2 Religion and witchcraft

0912 pray	dè mpái/b ^w è mpái
0913 blessing	ñeírà
0920 curse (v)	dòmí/dà
0921 curse (n)	mùsú/òdá
0930 pour libation	wòtèí nté

5.15 CEREMONIES

0935 circumcision (male)	ætæ:bi òtí/òtí
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5.15.1 Marriage

0939 marry	hò
0940 marriage (state of wedlock)	òhó
0944 bride	àtèí àsé wè àcíkò/àhíkò
0945 groom	àjé àsé nē:hò àké
0947 adultery	èhó òb ^w é
0948 divorce (v)	àkǒ

5.15.2 Funeral

0953 corpse	hùní
0954 bury	(hùní) òhúlè
0955 grave	(hùní) ìbǒ
0956 cemetery	gǒ:/kpódè

6.3 BIRDS

1041 bird	æbóbi
1056 hawk	àkpáli
1057 vulture	dzòbíni

Bird parts and things

1058 feather	ntó
1066 egg	bònó

6.3.2 Bird actions

1071 fly (v)	fùriteí
1080 lay (eggs)	tù (bònó)
1082 hatch	bòlí (bònó)

6.4 FISH

1083 fish	nteúdé òní
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6.4.1 Fish parts

6.4.2 Shellfish and mollusks

1091 crab	òkótò
1092 shrimp	èsá
1094 snail	æbî

6.5 REPTILES

1095 snake	òwé
1100 lizard	òkítì
1102 chameleon	æwúridù

1106 frog kpòtó

6.6 INSECTS

1122 cockroach àkpákpílàdzà

1123 ant òtúrótùròmì

1127 spider ànànsì

6.6.1 Flying insects

1142 mosquito òtómòm

6.6.2 Insect things

1156 honey àkǒ

7. PLANTS

7.1 TYPES OF PLANTS

7.1.1 Trees

1158 tree àjì

1168 oil palm èbí

7.1.2 Grasses

1173 grass ìsé

1174 bamboo kàmpúlò

7.2 PLANT PARTS

1188 flower òh^wírèi

7.3 PLANT PRODUCTS

7.3.1 Plant product parts

1197 juice	àjí dè òtèú
1202 seed	àjí èbí

7.3.2 Fruits

1207 fruit	èbí
1208 banana	k ^w ǎ:dù
1209 plantain	òbúródzò
1211 orange	àkútù
1213 pawpaw, papaya	àdúwàè

8. ENVIRONMENT

8.1 NATURE

8.1.2 Physical features

1262 mountain	bó
1268 hole	kú

8.1.4 Water related

1284 water	òtèú
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8.1.5 Fire related

1305 fire	àdzé
1308 smoke	àdzésì
1310 firewood	òdzébi
1311 charcoal	èdùdù:

8.1.6 Sky

1313 sky	èfũndè
1316 rainbow	òláli
1317 sun	àewí
1318 moon	àfĩntì

8.2 WEATHER

1330 wind (n)	èfũ
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8.2.2 Ambient Conditions

1348 sunshine	àewí ẽ:fà
1349 moonlight	àfĩntì ẽ:wáteì

8.3 TIME

1352 time	bírí
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8.3.1 Time periods

1367 day	ntéí/kókò
1368 month	àfĩntì
1369 year	àefiáen ò
1370 today	ndí
1371 yesterday	ìjńdì
1372 day before yesterday	ìńń nteísà
1373 tomorrow	áteì
1374 day after tomorrow	áteì-àmé
1375 olden times	títíbírì á/dzè ^w é

8.3.2 Times of the day

137 dawn (before sunrise)	dibǎ:teì
1378 morning	ǎpéti
1379 noon	ǎhéde/idú nǎ bí
1380 afternoon	ǎhéde
1381 sunset	ǎdidi ǎnú
1384 night	ǎpí

8.4 SPACE AND OBJECTS

1389 front (of something)	èsírè
1390 back (of something)	ámé

9. EVENTS AND ACTIONS**9.1 MOVEMENT (MOSTLY INTRANSITIVE)**

1399 come	bè
1400 go	nè
1402 arrive	bèfó
1403 remain, stay	kè/jèrí/teínáí
1407 enter, go in	nè dè/wòré dè

9.2 ACTIONS, EVENTS AFFECTING MATTER**9.2.1 General**

1422 take	teù
1434 pull	sòbí
1435 drag	sòbí
1436 push	piá

9.2.2 Percussion

1447 beat bɔ́rí

9.2.3 Creation and destruction

1458 create, make lɔ̀/b^wɛ̀

1461 destroy, spoil sɛ́í mɔ́/sɛ́í

9.2.4 Association of things

1465 gather bɔ́á ànú

1467 scatter (tr) wòràtɛ́í wòràtɛ́í dɛ̀

1468 throw away, get rid of tù òfí

9.2.5 Placement

1470 leave (something somewhere) sǐ́/sǐ̀ òtú/sǐ̀ ndè

1472 hide (tr) kpilɛ́/jirɛ́

1474 look for dzáí

9.2.7 Action with liquids

1480 flow ɛ̀:tè

10 QUALITY**10.3 COLOUR**

1555 (be) white fitǎ:

1556 (be) black tǔ:

1557 (be) red kǒ:

11 QUANTITY

11.1 CARDINAL NUMBERS

1590 one (1)	àkó
1591 two (2)	ɲɔ́
1592 three (3)	sá́
1593 four (4)	né́
1594 five (5)	ní
1595 six (6)	síé
1596 seven (7)	sùnɔ́
1597 eight (8)	te ^w í
1598 nine (9)	kpòlɔ́
1599 ten (10)	idú
1600 eleven (11)	idú àkó
1601 twelve (12)	idú ɲɔ́
1602 thirteen (13)	idú sá́
1603 fourteen (14)	idú né́
1604 fifteen (15)	idú ní
1605 sixteen (16)	idú síé
1606 seventeen (17)	idú sùnɔ́
1607 eighteen (18)	idú te ^w í
1608 nineteen (19)	idú kpòlɔ́
1609 twenty (20)	èdóɲɔ́
1610 twenty-one (21)	èdóɲɔ́ àkó
1611 twenty-two (22)	èdóɲɔ́ ɲɔ́
1612 thirty (30)	èdúésà
1613 forty (40)	èdúéné
1614 fifty (50)	èdúení

1615 sixty (60)	èdúésié
1616 seventy (70)	èdúésùnǎ
1617 eighty (80)	èdúéte ^w i
1618 ninety (90)	èdúékpòlǎ
1619 hundred (100)	òlófè
1620 two hundred (200)	òlófè nǎ
1621 five hundred (500)	òlófè ní
1622 thousand (1000)	ækpé

11.2 ORDINAL NUMBERS

1623 (be) first	èlé ñdzé ηm ^{wè}
1624 (be) second	èlé tù sò nǎ
1625 (be) third	èlé tù sò sǎ
1626 (be) last	èlé kù àtó

12 GRAMMATICAL ITEMS

12.1 PRONOUNS

1648 I	mí
1649 you (masc., sing.)	wó
1650 he (human)	mó
1651 we (incl.)	èní
1652 you (pl)	èni
1653 they (human)	èmó

12.2 RELATIONALS

1654 here	dó
1655 there	dá

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