UNIVERSITY OF YAOUNDE I
FACULTY OF LETTERS, ARTS AND SOCIAL SCIENCES

DEPARTMENT OF AFRICAN LANGUAGES AND LINGUISTICS

PHONOLOGY OF BUBIA

A dissertation submitted in partial fulfilment of the
requirements for the award of a Post-Graduate
Diploma **(MAITRISE)** in Linguistics.

By

AGNES FIENSONG S. CHIA
(B.A. English)

Project Supervisors :

Dr GERBAULT Jeannine
Senior Lecturer

Dr BITJAA KODY Zachée Denis
Lecturer

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DEDICATION

In memory of my late aunt Mrs. Agnes Chiabi née NAMBU.

Mama, it is three years since you left us, but you will ever be green in our memories. May God keep you near him in his heavenly compound.

This work is also dedicated to all the disabled and abandoned children of the world, and to the children of divorced parents. May they find happiness in some way.

ACKNOWLEDGEMENTS

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LIST OF ABBREVIATIONS AND SYMBOLS

V	Vowel
C	Consonant
L	Low tone
H	High tone
VV	Vowel cluster
CC	Consonant cluster
ATR	Advanced tongue root
--->	becomes or is realized as
/	slash
#	word boundary
C-C	between consonants
V-V	between vowels
Neu	neutral
/.../	phonemic data
[...]	phonetic data
con	consonantal
syll	syllabic
I.P.A	International Phonetic Alphabet
I.A.I	International African Institute
GACL	General Alphabet of Cameroon Languages

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CHAPTER I

GENERAL INFORMATION ABOUT THE WOVEA PEOPLE

1.1.1 Historical Situation

Bubia, commonly known as Wovea, is among the 248 languages or so spoken in Cameroon,(Breton Roland and Fohtung Bikia, 1991). It is spoken by the people of Bota Island which is on the west coast of Limbe district formerly known as Victoria district, in the South West Province of Cameroon. According to documents in the archives in Buea, Bota was formerly made up of Bota Island and Botaland. Due to some recent natural disaster, and over-population, the people had to migrate to Botaland.

Ardener, Shirley and Edwin Arderner, (1958), say the people of Botaland are the relatives of the Bubis of Fernando Po, in Equatorial Guinea. From information got from some elders in Botaland, Bota Island was discovered by three fishermen from Fernando Po (Santa Isabel). These three men Ekándà, Ikólí, and Mòwèlì, were brothers. They decided to make Bota Island their fishing base when they realized that the catch they made around the Island was more important than what they made around Santa Isabel. They first used the island as a base for catching and smoking their catch during the week, and on weekends, they carried everything to their island to sell and rest, preparing for the coming week. This not withstanding, they decided to

finally migrate with their families and settled in Botaland which was uninhabited.

Information got from the villagers says that when these three brothers and their families settled on Bota Island only the Bimbia people were their closest neighbours. The only other neighbours who were not very near were the Bojongo people and the Mokundas. For trade reasons, they started communicating with the Bojongo and Mokunda people. It is strongly believed that the Wovea people inter-married among themselves. They also inter-married with the Bojongo and the Mokunda people. Because of these inter-marriages, their language started taking a different turn. That is why they speak a Bakweri that is slightly different from the other Bakweris. The Wovea person perfectly understands when the Buea or Bimbia person speaks but these two do not understand what the Wovea person says at times. The change from Bubia to Wovea is a problem of pronunciation. If you listen well, b —> w is midway between b and w. It is the same with the v sound-in Wovea which when listened to carefully, we get an impression that Wovea is Wowea.

1.1.2 Geographical Situation.

Wovea today is situated on Botaland only because they had to leave the Island due to population growth and secondly because the Island started disintegrating. Botaland is on the extreme west coast of the Limbe district. It is bordered to the East and South by the sea, to the west by Bimbia and to the north by Buea.

1.1.3 Socio-Economic Situation.

The main occupation of these people is fishing, although they do some farming too. They are very hard-working as compared to the other Bakweri people. Their fish is either smoked or sold fresh to the surrounding villages from which they learnt how to farm. They farm cocoyams, cassava, plantains, yams and rear goats and pigs. Hunting is not their occupation although they do it from time to time. Other social activities outside work are games like canoe race, wrestling, game of seven stones which they call [mèɸè], and a game they play with a hook, a rope, and plantain stems which they call [èɸàtè]. Hierarchy exists in Botaland (Wovea). At the head of the people is the chief, after the chief, there are the elders, the fathers, housewives and children. The children are answerable to their parents, especially their mothers who stay at home when their husbands go fishing. These men are in turn answerable to the elders who are answerable to the chief. Their staple food is tìmbà mbúsà - grated cocoyams which is wrapped in plantain leaves and cooked. It is accompanied with palm oil soup cooked with smoked fish. Timbà mbúsà means "go and come back". This is because it is alleged that the food is so delicious that anybody who eats it will come back for more.

1.2 THE LANGUAGE.

1.2.1 Linguistic Situation.

This language is classified under the Congo-Kordofanian family, and more precisely equatorial Bantu. Guthrie (1967) classifies it globally as Bakweri and under Duala.

A20 Groupe Duala

A21 - mboko

A22 - kpel (bakweri)

A23 - Isu (Isubu)

A24 - duala

A25 - oli

A26 - poŋgo

A27 - malimba

ALCAM (1983) also gives the following classification.

GROUPE COTIER

A20		A30	600 .batanga
625 .bakɔlɛ			.batanga
622 .wumbuko			.banɔɔ
621 .mopkpwe			.bapuku
624 .Isu			
623 .bubia			
610 .duala			601 .yasa
.bodiman			
.oli			
.poŋgo			
.muuŋgo			
.duala			
.malimba			

The following classification is made of Bantu languages by Greenberg Joseph.

1. mboko

2. bpe-bubia

3. kɔlɛ

4. mungo, pongo, duala
   malimba - Isu.

5. oli - bodiman

6. batanga, banɔɔ, bapuku

7. yasa

Looking at these classifications, we realise that the language is an equatorial Bantu language. But for slight differences, these languages can be mutually understood by their various speakers. We can therefore classify Bubia as follows.

FAMILY   <u>Congo - Kordofanian</u>

                              |

                    <u>Bantoide - Bantu</u>

GROUP |

                    <u>Narrow Bantu</u>

                              |

                    <u>Equatorial Bantu</u>

SUB-GROUP |

                    <u>Coastal</u>

                              |

LANGUAGE   <u>Bubia</u>
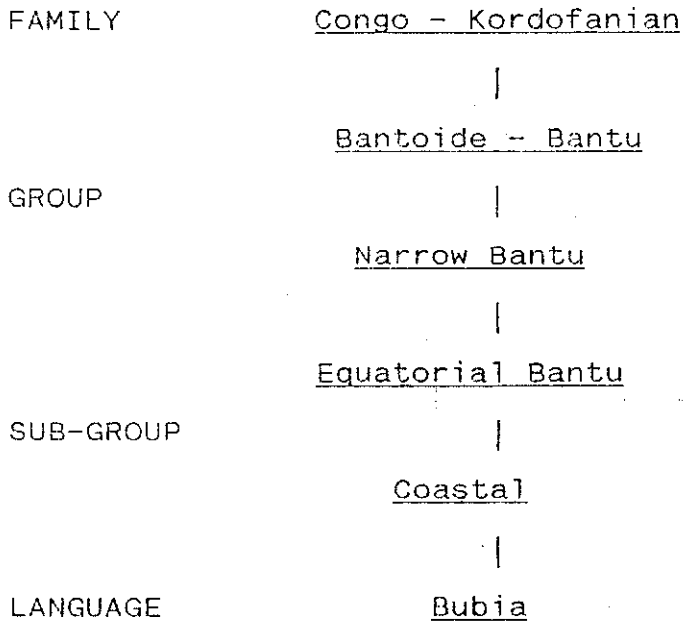
MAJOR LANGUAGE DIVISIONS OF AFRICA

FAMILLES ET GROUPES LINGUISTIQUES AU CAMEROUN

PHYLUMS	SOUS-PHYLUM	FAMILLES	SOUS-FAMILLES	SOUS-BRANCHES	SOUS-BRANCHES	GROUPES
AFRO-ASIATIQUE	SEMITIQUE					
	TCHADIQUE					
NILO-SAHARIEN	SAHARIEN					
	CHARI-NIL					
NIGER-KOR-DOFAN	NIGER-CONGO	OUEST-ATLANTIQUE				
		ADAMAWA				
		OUBANGUIEN				
		BENOUE-CONGO	BANTOIDE	JUKUNOÏDE		
				CROSS-RIVER		
				BENDI		
				MAMBILOÏDE		
			BANTOU		JARAWAN	
					TIVOÏDE	
					EKOÏDE	
					NYANG	
					BEBOIDE	
					GRASSFIELD	
					MBAM	
					TIKARI	
					EQUATORIAL	

LIMITE DU BANTOU

Map labels:

SEMITIQUE — T, T, T, T
TCH.
SA
O.A
TCHADIQUE
ADAM
A, A, A
JAR
O.A — T, T
CHA-N
ADAMAWA
O. ATL — A
A
OUBANGUIEN
A
JAR.
A
ka
kako
ma
maka
ma
OUBANGUIEN
m

BEBOÏDE
JUKUNOÏDE
TIVOÏDE
NYANG
BENDI
EKOÏDE
CROSS
MAMBICOÏDE
nord
menchum
ngemba
ring
momo
noun
tikari
GRASSFIELD
bamileke
central
baf.
côtier
MBAM
BANTOU EQUATORIAL
basaa-bati
maka
c
c
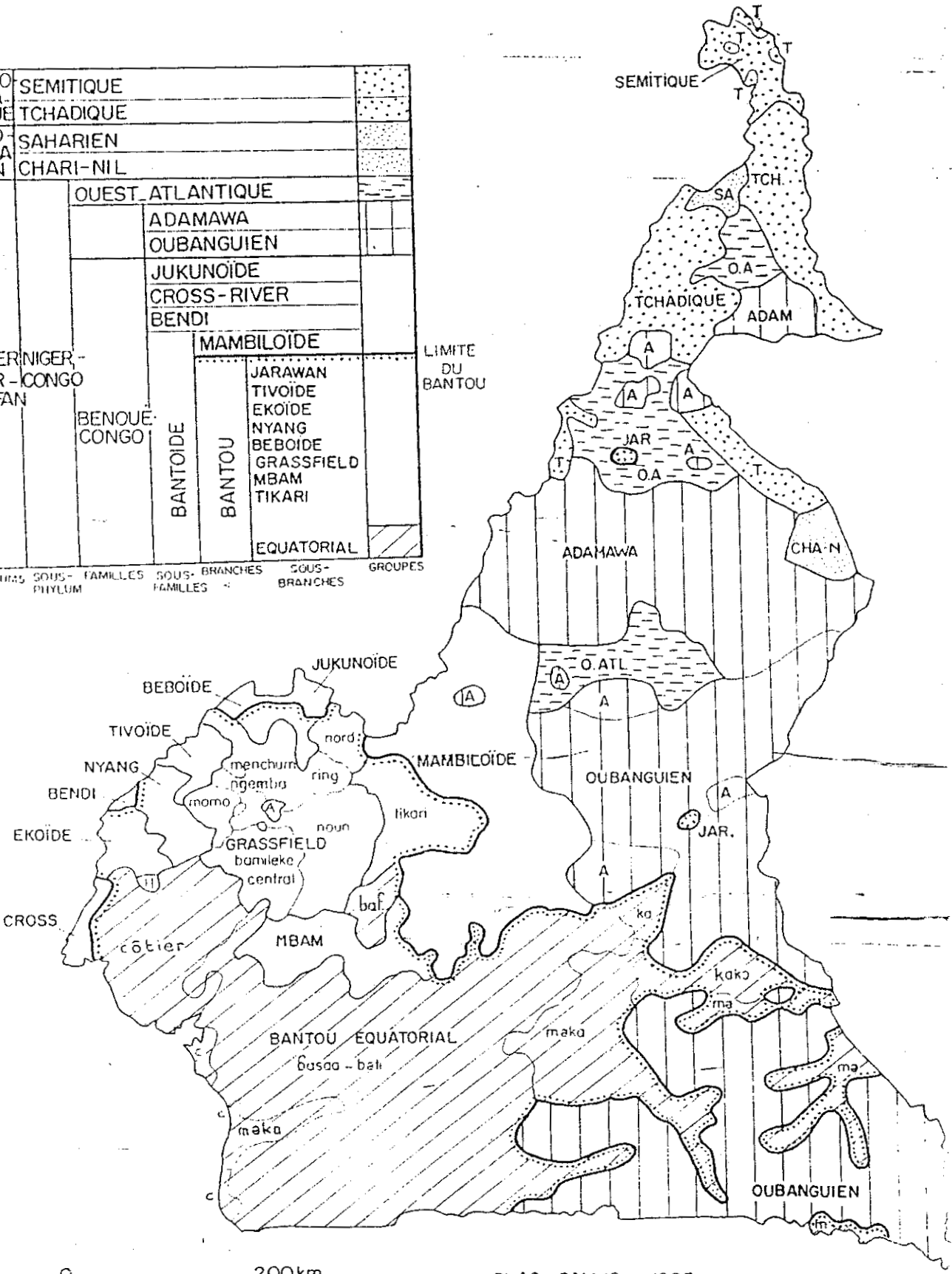
0   200 km

SLAC. CAM.12   1983

Cameroun: langues nationales: Province du Sud-Ouest

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NIGERIA

NORD-OUEST

OUEST

LITTORAL

OCÉAN ATLANTIQUE

1987
© ALCAM
CREA-ISH
R. BRETON

Bikia

limites	chef-lieu	
⊚		province
⊙		département
○		arrondissement
•		district

aires linguistiques de
langue	dialecte
akɔɔsɛ 652	bitieku

641: nhɔ
642: baloŋ
400: lombe
899: ihatum

0   50   100 Km

tiv
iyivɛ
ugar
802
891
AKWAYA
iceve 895
ipulo 897
beba' 912
893
evand 896
898 eman
caka
899
basho
bojwa
manta
882 denya
804
706 boki
bitieku
EYUMOJOCK
bas-kenyang
MAMFE
883 kendem
867 mundani
800 ejagham
881 kenyang
953 ŋwe
FONTEM
haut-kenyang
653 nsɔsɛ
NGUTI
704 korop
881 bakoni
631 oroko-ouest
BANGEM
652 akɔɔsɛ
MUNDEMBA
632 oroko-est
641
641
705 efik
TOMBEL
ISANGELE
KOMBO-ITINDI
400 nhɔ
KUMBA
EKONDO-TITI
400
642
KOMBO-ABEDIMO
IDABATO
400
DIKA
625 bakɔlɛ
622 wumbuko
621 mokpwe
642 baloŋ
MUYUKA
610: duala
BUEA
TIKO
623 bubia
624 isu
LIMBE

108

Langues nationales: Département du FAKO
Fako Division [S.W.]

NDIAN

M É M É

MUYUKA ⊙

642:
balon

M O U N G O

622:wumbuko

BUEA
⊙

610:duala

621:mokpwe

muungo

⊙ TIKO

623: bubia

Ⓞ LIMBE

624:isu

O C É A N

W O U R I

A T L A N T I Q U E

| | 0 | 5 | 10 | 20 | 30km |
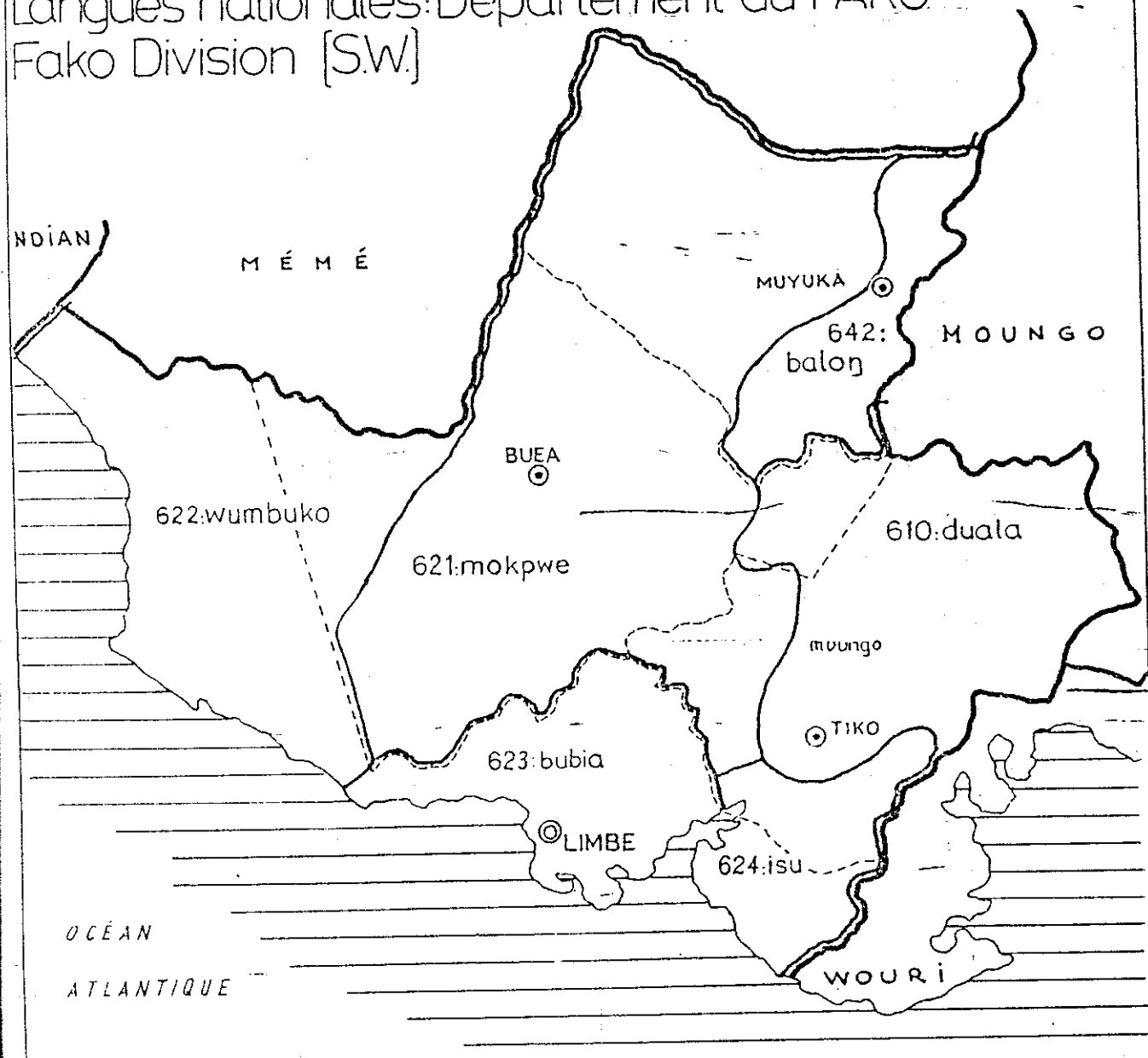
	département	arrondissement	district	aires linguist	langue	dialecte
limites:	————	--------	··········	limites:	————	
					ISU	muungo
chef-lieu:	◎	⊙	⊙	désignation:	624	

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ISH·CREA
ALCAM
R·BRETON

Bikia.

1.2.2 Related Languages.

This language is related to nearly all narrow Bantu languges for the Bubia people understand at least what the other speakers of other narrow Bantu languages speak, even though these other speakers hardly understand them. We will take the example of two Coastal Bantu languages that are close neighbours of the Bubia people.

Mopkpwe	Isubu	Bubia	English gloss
ɲátí	ɲátí	ndíwà	"wild bush cow"
élóàlóà	élúàlúà	ìwè	"sun"

Despite these differences, there also exist many similarities between and among these languages.

Mopkpwe	Isubu	Bubia	English gloss
kò	kò	kò	"rat mole"
kɔ̀	kɔ̀	kɔ̀	"snail"

1.3 Justification of Choice and Aim of Work.

Cameroonian languages are of three types. The first type is the group of languages that have already been strandardized like Duala, Lamsɔ etc. The second type is the group of languages in the process of standardization like Féfé, Kom etc., and the third type is the group of unidentified languages. These languages are treated as unidentified because no scientific work has been done on

them. ALCAM (1983) shows clearly that Bubia falls under this third category.

Bubia is one of the many languages that exist in Cameroon, with the difference that, whereas some or rather most of Cameroonian languages have taken a step towards standardization, it has been left on its own. Language, being a social institution, it will not be erroneous to create a writing system and an alphabet for Bubia. This would serve not only for alphabetisation. Bubia people would maybe one day be able to read bibles in their churches, written in their own language. They could also be able to speak and write their own mother tongue in the same way they speak and write English and French.

Another purpose for the choice of this language which is rather personal is the fact that I think I am just giving this people what I owe them. I grew up in Limbe. Making one of their languages standardized is just giving to this people what they gave me, for my stay in Limbe has been memorable.

Finally, this work will contribute to the linguistic research department because no scientific work has been done so far on Bubia.

1.4 Corpus and Informants

1.4.1 Corpus

This work is done on an inventory of 2000 words collected, translated and transcribed in and around Wovea. Our phonological analysis is based solely on our corpus.

1.4.2 Informants.

Our informants are five in number, and they speak and understand Bubia as well as the English language. We had to get one informant for a language related to Bubia like Mopkpwe to see how closely the two languages are related.

Label your chart

NAME	AGE	ORIGIN	OCCUPATION	PLACE OF RESIDENCE
Mr EKOKE SIMON	45	WOVEA	Headmaster, Government Primary School, Bota - Limbe	WOVEA
Mr NGOUMBAH ANDREW WOLLOH	40	WOVEA	Longman Representative Limbe. Delegate for Central African Region	WOVEA
SASS FRIDA MOLOMBO	29	WOVEA	English Language Teacher, Lycée De Jeunes Filles	DOUALA
Miss EPOSI	32	WOVEA	Typist	Limbe
Miss EPOSI LINONGE	30	BUEA	English, Language Teacher, Government Primary School Bota	Limbe

1.5 Methodology

The methodology used here is the structuralist aproach. The generative approach is used at times to solve certain problems. The basic item of analysis will be the lexical unit for the phonological identification of sounds.

> "A lexical representation must contain a distinctive feature matrix showing the representaton of the 'segments' which make up the word. In addition, it must contain any idiosyncratic information concerning the association of phonological elements at

[margin note: nothing is said of the methodology utilised]

different phonological tiers. For instance, in
a tone language, it must show any syllables
which do not get assigned to tone by regular
association principles".
                          (KATAMBA, F. (1989:255)

Another linguist puts it this way;

"Le début de toute description phonologique
consiste à découvrir les oppositions phoniques
existant dans la langue en question et y
différenciant des significations"
                          TROUBETZKOY (1976:45)

    The goal of phonology is to study the sound systems
that speakers must internalize in order to use their
language for communicative purposes. Besides studying the
phonology of Bubia, we will try to postulate an alphabet
which will facilitate putting the language into writing.

    Our concern here therefore is the sound system of
Bubia, its combination into syllables, morphemes, and words.
Supra-segmental phonemes will also be looked into. The word
is our unit of description and the reference alphabet that
we will use is the IPA[1] chart.

    This work is not exhaustive due to the many problems
encountered. Above other things, the intention of this
dissertation is to ensure that our efforts help to open this
area for further studies.

1.6 Outline of Work

    The work consists of three parts. The first part is
paradigmatic phonology. Part two deals with syntagmatic
phonology, and the third part deals with a proposition of an
alphabet for Bubia. Paradigmatic phonology covers part of

Chapter one and Chapter two. Syntagmatic phonology covers
Chapters three, four and five. Chapter six deals with the
alphabet.

Paradigmatic phonology unlike syntagmatic phonology
studies phonic units on a horizontal plan, while syntagmatic
phonology studies these same units on a vertical plan. Its
goal is to study the different oppositions between sounds.

1.7 Inventory of Sounds and Tones

1.7.1 Vowels

[i]

1) [ìwè]   "sun"

2) [ndíwà]   "wild bushcow" or "Buffalo"

3) [mòkòlí]   "mountain"

[e]

1) [èyòndí]   "island"

2) [èwûnɛ̀]   "wave"

3) [lìtèkè]   "mud"

[ɛ]

1) [ɛ̀sɛ́mbɛ́là]   "idol"

2) [kɛ́mà]   "monkey"

3) [lìnwɛ̀]   "lightening"

[u]

1) [mbúà]   "rain"

2) [ndʒɔ̀kù]   "elephant"

3) [mɛ́lɛ̂ŋgù]   "sheep"

[o]

1) [ètòlò]   "rat"

2) [mbóli]   "goat"

3) [òjámí]   "why?"

[ɔ]

1) [wósì]   "horse"

2) [ngʒɔ̂]   "Leopard"

3) [mbɔ̀mî]   "ɓoa"

[a]

1) [ndʒílà]   "Lion"

2) [èwàkî]   "chimpanzee"

3) [átɛ̀]   "swear"

[ii]

1) [ììdʒá]   "pus"

2) [lìínà]   "to urinate"

3) [ìíŋgó]   "threat"

[ee]

1) [wèémbé]   "mammals"

2) [lèéjà]   "to be shy"

3) [mòkéélì]   "shepherd"

[εε]

1) [ɛ̀ɛ̀mɛ̀]   "habit"

2) [lɛ̀ɛ́mbɛ̀]   "to blow one's nose"

3) [mɛ̀ɛ̀ndî]   "messages"

[uu]

1) [lúútù]   "rubbish"

2) [tùú]   "room"

3) [ndjùùwɛ̀]   "hyena"

[oo]

1) [jòómà]   "thing"

2) [mòòŋgó]   "caterpillar"

3) [mòòndó]   "tail"

[ɔɔ]

1) [wɔ̀ɔ̀mbɔ́]   "sugar"

2) [lɔ̀ɔ́wà]   "to speak"

3) [lɔ̀ɔ̀tɔ̀]   "to faint"

[aa]

1) [ndàá]   "macabo"

2) [lìβàálɛ́]   "to kindle fire"

1.7.2 Consonants

[b]

1) [búà]   "vegetables"

2) [lìbɔ̆]   "to rot"

3) [lìbálὲ]   "to lend"

[t]

1) [tùú]   "room"
2) [lìtútú]   "hump of cow"
3) [lìkàtówá]   "to nibble"

[d]

1) [lìdàŋgéâ]   "to scold"
2) [lìdûwíʒέ]   "to baptize"

[k]

1) [kɔ̀]   "rat mole"
2) [lòká]   "rabbit"
3) [kɔ́tɔ́]   "fence"

[kp]

1) [kpélí]   "death"
2) [ìkpá]   "salt"
3) [mǎkpà]   "bags"

[gb]

1) [gbàjò]   "canoe"
2) [ègbíjé]   "banana tree"
3) [gbéà]   "Buea"

[ɸ]

1) [ɸέ]   "viper"

2) [ɸíndî]   "gun powder"

3) [lìɸótà]   "to report"

[β]

1) [lìβɛ́]   "to boil"

2) [màòβá]   "door"

3) [lìβùβúá]   "to pluck chicken"

[s]

1) [sòwɛ̀]   "dust"

2) [sáwá]   "beach"

3) [mòsò]   "lake"

[ʒ]

1) [mòʒáî]   "shrimp"

2) [òʒò]   "parrot"

3) [èʒû]   "owl"

[tʃ]

1) [tʃóβì]   "speech"

2) [mútʃà]   "palmoil"

3) [tʃá]   "of"

[m]

1) [mòkòlí]   "hill"

2) [mòsò]   "lake"

3) [òjámí]   "why"

[n]

1) [èwûnɛ̀]   "wave"

2) [lǐéní]   "mirror"

3) [nà]   "and"

[ɲ]

1) [ɲáŋgàlù]   "sand"

2) [mòɲéá]   "frog"

3) [ɲàkà]   "cow"

[mb]

1) [mbàkà]   "fog"

2) [mbúà]   "rain"

3) [mbámbá]   "grandmother"

[nd]

1) [èjòndí]   "island"

2) [lìɸɔ̀ndì]   "hole"

3) [ndíwá]   "Buffalo"

[ŋg]

1) [ŋgùlɛ̀ndɛ̀] "rainbow"

2) [èlìŋgì]   "shade"

3) [ŋgɔ̀]   "wind"

[bw]

1) [bwítàkà]   "swelling"

2) [bwàm]   "fine"

3) [ilìbwànì]   "key"

[ŋw]

1) [ŋwàndʒà]   "sea"

2) [lŏŋwɛ̀]   "to murder"

3) [ŋwánà]   "child"

[w]

1) [wósì]   "horse"

2) [òwà]   "you"

3) [wô]   "them"

[y]

1) [lijá]   "hand"

2) [wèjòndí]   "islanders"

3) [jòtáŋgùlɛ̀]   "lizard"

[ndʒ]

1) [ndʒùmá]   "war"

2) [ndʒéyà]   "road"

3) [ndʒàŋgà]   "crayfish"

[l]

1) [lãná]   "to fight"

2) [mòlì]   "wealth"

3) [ɛ̀jàlà]   "word"

[dʒ]

1) [dʒàɛ́]   "no"

2) [dʒòŋgɔ́]   "pan"

3) [dʒɛ́mɛ̀]   "tongue

1.7.3 Tones

Tones occur on vowels and syllabic nasals. They consist of:

- Two punctual tones: The high (´) and The low (`) tones.
- Two modular tones: The high-low (^) and The low-high (ˇ) tones. Tones will be discussed more as we proceed.

Punctual tones

The high tone [´]

1) [ndókó]   "soup or pepper"

2) [líjá]   "palmtree"

3) [sáwá]   "shore"

The low tone [`]

1) [ŋgùlɛ̀ndɛ̀] "rainbow"

2) [mbàkà]   "road"

3) [lìtɛ̀kɛ̀]   "mud"

The high-low tone [^]

1) [wɔ̂]   "them"

2) [mɔ̂]   "him"

3) [ŋgû]   "hipopotamus"

The low-high tone [ˇ]

1) [lìʒíɛ̆]   "termite"

2) [lìwǎ]   "to slaughter"

3) [mǎkpà]   "bags"

1.8 Phonic Charts

1.8.1 Tones

´	`	^	ˇ
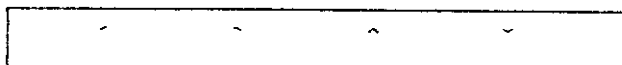
1.8.2 Vowels

i	ii		u	uu
e	ee		o	oo
ɛ	ɛɛ		ɔ	ɔɔ
	a	aa		

1.8.3 Consonants

		t		k		kp
b,	bw	d				gb
Φ		s				
β			ʒ			
			tʃ			
			dʒ			
m		n	ɲ		ŋw	
mb		nd	ndʒ		ŋg	
		l				
			j(y)			w

NOTE

1. I.P.A: International Phonetic Alphabet.

CHAPTER II

SEGMENTAL PHONOLOGY

2.1 Introduction

Our main concern in this chapter is to bring out the distinctive sounds of Bubia. These distinctive sounds are those that have a phonemic status. We will use the minimal pair approach propounded by Pike (1947), and Wiesemann et al (1983). In this case, we will examine pairs or even trios of words that are similar in all respects but for one phonetic difference. This method of analysis will examine from these pairs of trios, pairs of similar sounds as they contrast in identical contexts[1]. Where this proves inadequate to establish sounds as phonemes, we will examine their contrast in analogous contexts[2]. In cases where these two including the theory of symmetry cannot spell out the sounds as distinctive units, we will examine their general distribution in the words in which they occur to see if they exist in complementary distribution to establish them as allophones of the same phoneme.

2.2 Consonants

Bubia has a system of twenty-four (24) consonant sounds. We will now proceed to the analysis of these consonant sounds to see if some of them constitute distinctive units in this language, or if they are allophones of other phonemes. We have come to this

conclusion after a close examination of our data in chapter one.

2.2.1 Phonetic Inventory

Chart 1 below contains all consonant sounds that exist in Bubia. These sounds that are clasified according to place and manner of articulation were seen under inventory of sounds and tones in (Chapter 1:1.7.2). We have groups of suspicious pairs from the chart that show similarity in one way or the other. These suspicious pairs call for a close analysis in order to bring out the real nature of their similarities.

CONSONANT PHONETIC CHART IN I.P.A

Place of Articulation / Manner of articulation		Bilabial/ Labialized	Dental- Alveola	Palatal	Velar/ Labia- lized	Labio- Velar
Stops	VL		t		k	kp
	VD	b bw	d			gb
Fricatives	VL	Φ	s			
	VD	β		ʒ		
Affricates	VL			tʃ		
	VD			dʒ		
Nasals	VD	m	n	ɲ		
Pre-nasalized Stops	VL					
	VD	mb	nd	ndʒ	ŋw	
Liquids	VD		l		ŋg	
Glides	VD			j(y)		w

Chart 1:

What criteria did you use to treat mb, nd, ndʒ and ŋw as consonants of prenasalization? Are not sequents!?

2.2.2 Pairs of Similar Sounds

Bilabials: (b,bw) (Φ,ß) (b,m) (m,mb) (b,mb) (b,ß) (m,n)

Alveolars: (t,d) (t,s) (d,n) (n,ŋw) (d,nd) (d,l) (n,m)

Palatals: (ɲ,ndʒ) (j,w) (ndʒ,ŋg) (ɲ,j) (tʃ,dʒ) (ɲ,ŋw) (ɲ,dʒ)

Velars: (k, kp)

Labio-velars: (kp, gb).

2.2.3 Phonological Analysis

BILABIALS

i) The sound [b]

This sound is realized as a voiced bilabial stop. The sound [b] gains its phonemic status in Bubia through its contrast in identical context with [mb] in;

b/mb

1) [bwà]   "vegetables"   [mbwà]   "rain"

[b] also gains this phonemic status through its contrast in analogous context with [m] in;

b/m

2) [lìbó]   "seabed"   [lĭmà]   "to dig"

and with [ß] in:

b/ß

3) [lìbálɛ̀]   "to lend"   [lìßàálɛ̀]   "to kindle fire"

4) [lìbó]   "seabed"   [lìßà]   "to marry"

Looking at [b] and [bw], the examples

[búà] "vegetables"/[bwà] "vegetables" illustrate glide

formation. This will lead us to postulate the following

rule:

$$[b + u] \longrightarrow [bw]/–V \quad \textcircled{1}$$

The sound [b] is a phoneme in Bubia, thanks to its

contrast in identical environment with the sound [mb], and

in analogous environment with [m] and [ß]. The phoneme /b/

has no allophonic variant in Bubia, though it participates

in the glide formation process of w: [b+u]—>[bw]/–V.

ii) The sound [Φ]

The sound [Φ] is realized as a voiceless bilabial

fricative.

This sound gains its phonemic status through its

contrast in analogous context with the sound [ß] in the

following examples:

Φ/ß

5) [lìΦàΦà]   "broom"   [lìßùßà]   "to coagulate"

6) [lìΦìtê]   "hope"   [làßìtɛ́]   "wish"

Following this contrast, /Φ/ becomes a distinct phoneme

in Bubia.

iii) The Sound [β]

It is realized as a voiced bilabial fricative. [β] gains its phonemic status through its contrast in analogous environment with [Φ]; see examples (5) and (6) on the preceeding page above, but also;

β/Φ

7) [lìβóŋgá] "to forget"   [lìΦáŋgá] "to destroy"

and from its contrast with [b]

β/b

8) [lìβô] "to get lost"   [lìbó]   "seabed"

This contrast further confirms /β/, /Φ/ and /b/ as being three distinct phonemes.

iv) The Sound [m]

This sound is realized as a voiced bilabial nasal.
The sound [m] attains its phonemic status /m/ through its contrast in analogous context with [mb]; This contrast is analogous because the tones are different.

m/mb

9) [mòlì] "wealth"   [mbólí]   "goat"

and also in identical and analogous contexts with the sounds [n] and [b].

m/n

10) [lìtòmà]   "to break"   [lìtònà]   "mistake"

11) [lìmɛ̆]   "to swallow"   [lɛ́nɛ̀]   "to look"

m/b

12) [míà]   "palmtress"   [búà]   "vegetables

13) [lĭmà]   "to dig"   [lìbó]   "seabed"

Following this contrast, the sound [m] gains the status
of the phoneme /m/.

v) The Sound [mb]

This sound is realized as the voiced prenazalized stop.

[mb] gains its phonemic status through its contrast in
identical contexts with the sounds [b] and [m].

mb/m

14) [mbíà]   "palmnuts"   [míà]   "palmtrees"

mb/b

15) [mbwà]   "rain"   [bwà]   "vegetables"

This contrast further confirms /mb/, /b/ and /m/ as
three distinct phonemes.

ALVEOLARS

vi) The Consonant [t]

This sound is realized as a voiceless alveolar stop.

[t] gains its phonemic status through its contrast in identical context with the sound [s].

t/s

16) [mòtò]   "man"   [mòsò] "lake",

and from its contrast in analogous environment with the sound [d].

t/d

17) [lìtáŋgà]   "to pay"   [lìdàŋgéá]   "to scold"

These contrasts give the sound [t] the status of the phoneme /t/.

vii) The Sound [d]

This sound is realized as a voiced alveolar stop. [d] gains its phonemic status through its contrast in analogous environments with the sounds [t], [nd] [n] and [l].

d/t

See t/d (above: (vi:17).

d/n

18) [lìdàŋgéá]   "to scold"   [lìnàŋgá]   "sleep"

d/nd

19) [lìdúwìʒέ]   "to baptize"   [lŏndìzέ]   "to be full"

<u>d/l</u>

20) [lìdàngéá]   "to scold"   [lìlóngá]   "to build"

This contrast further confirms /t/, /d/, /nd/, /n/ and /l/ as five distinct phonemes.

viii) <u>The Sound [s]</u>

This   sound   is   realized   as   a   voiceless   alveolar fricative.

[s] gains its phonemic status from its contrast in analogous and identical environments with the sound [t].

<u>s/t</u>

21) [lìsákà] "to dance"   [lìtàmá] "doubt"

  [mòsò]   "lake"   [mòtò]   "human being"

This   contrast gives the sound [s] the status of the phoneme /s/.

xi) <u>The Sound [n]</u>

This sound is realized as an alveolar nasal. [n] gains its phonemic status through its contrast in identical and analogous contexts with the sounds [m] and [ɲ].

<u>n/m</u>

22) [mánà]   "names"   [mámà]   "ligaments"

23) [ndʒénê]   "which"   [ndʒèmɛ́] "sperms"

<u>n/ɲ</u>

24) [lànà]   "to fight"   [lã̀ɲà]   "to shave"

And also in analogous environment with the sounds [d] and [ŋw].

<u>n/d</u>

see d/n in (vii:18)

<u>n/ŋw</u>

25) [lɛ́nɛ̀]   "to work"   [lìŋwɛ̀]   "lightning"

26) [làná]   "to fight"   [lõ̀ŋwà]   "murder"

These contrasts further confirm /n/, /ɲ/, /m/, /d/ and /ŋw/ as distinct phonemes. When we look at the contrast between the phonemes /n/ and /ŋw/ we realize that what happens is glide formation. This makes us to postulate that the phoneme /ŋw/ is the phoneme /n/ plus the vowel [u];

$$[n + u] \longrightarrow [ŋw] /\text{---}V.$$

another phoneme?

<u>ŋw/ŋg</u>

27) [lúŋwà]   "to prick"   [lùŋgâ]   "thin"

This analogous contrast, further confirms the phonemic status of /ŋw/ and /ŋg/.

most of your phonemes are established on the basis of analoguous contrast

x) The Sound [ŋw]

This sound is realized as a labialized velar nasal. For its contrast, see n/ŋw (ix:25 and 26).

xi) The Sound [nd]

This sound is realized as a pre-nazalized alveolar stop.

nd/d See d/nd (vii:18).

This contrast showed /nd/ as a distinct phoneme, in its contrast in analogous environment with the phoneme /d/.

xii) The consonant [l]

This sound is realized as an alveolar liquid.

l/d See d/l in (vii:20)

In this contrast the sound [d] contrasted in analogous context with the sound [l], giving it the status of the phoneme /l/.

PALATALS

xiii) The Sound [tʃ]

This sound is realized as a voiceless palatal affricate.

<u>tʃ/dʒ</u>

28) [tʃá]   "of"   [dʒàɛ́]   "which?"

29) [tʃóβí]   "speech"   [dʒòŋgɔ́] "pan"

[tʃ] and [dʒ] contrast in analogous contexts. This gives /tʃ/ the status of a phoneme and confirms /dʒ/ as a distinct phoneme.

<u>dʒ/ʒ</u>

30) [lìdʒà]   "to come"   [làʒá]   "to want"

31) [èdʒà]   "matter"   [èʒù]   "wall"

These analogous contrasts further confirm the phonemic status of /dʒ/ and also give [ʒ] the status of the phoneme /ʒ/.

xiv) <u>The Sound [dʒ]</u>

This sound is realized as a voiced palatal affricate [dʒ] gains its status as a phoneme in its contrasts in analogous environments with [tʃ] and [ɲ].

<u>dʒ/tʃ</u>

See tʃ/dʒ in (xiii:28 and 29).

<u>dʒ/ɲ</u>

32) [lìdʒâ]   "to come"   [lìɲà]   to urinate"

This contrast gives the sound [dʒ] the status of the phoneme /dʒ/, and also confirms the phonemic status of /ɲ/ and /tʃ/.

xv) The sound [ɲ]

This sound is realized as a palatal nasal. The sound [ɲ] gains its phonemic status in its contrast in identical context with [n], and [ndʒ]; and in analogous environment with the sound [dʒ].

ɲ/n

33) [lìnɔ̀ŋgɔ̀]   "to breastfeed"   [lìnɔ̀ŋgɔ̀]   "bed"
34) [lìɲâ]   "to lay eggs"   [lìnà]   "name"

ɲ/ndʒ

35) [lɔ̀ɲɔ́]   "to groan"   [lɔ̀ndʒɔ́]   "to trick"
36) [ɲìɲì]   "fly"   [ndʒɔ̀ndʒì]   "whale"

ɲ/dʒ

37) [ɲɔ̀]   "drink"   [ìdʒɔ̂]   "sleep"

These contrasts give the sound [ɲ] the status of the phoneme /ɲ/, and also confirm the phonemic status of /n/, /ndʒ/ and /dʒ/.

xvi) The sound [ndʒ]

This sound is realized as a voiced pre-nasalized stop. [ndʒ], gains its phonemic status in its contrast in

identical and analogous environments with the sounds [ɲ] and
[ŋg].

nd͡ʒ/ɲ

See No. (xv:32 and 33), and also these below

38) [nd͡ʒɔ̂]   "leopard"   [ɲɔ̀]   "drink"

nd͡ʒ/ŋg

39) [nd͡ʒɔ̀nd͡ʒɔ́] "mushroom"   [d͡ʒɔ̀ŋgú] "gluttony"

40) [ŋwànd͡ʒà]   "sea"   [máŋgà]   "air"

This shows the phonemic status of /nd͡ʒ/ and also
confirms /ɲ/ and /ŋg/ an distinct phonemes.

xvii) <u>The Sound [j]</u>

This sound is realized as a palatal glide.
[j] gains its phonemic status in its contrast in identical
environment with the sound [w].

j/w

41) [líjà]   "palm oil tree"   [lĩwà]   "to slaughter"

42) [lĩjɔ̀]   "to smile"   [lĩwɔ́]   "neck"

These contrasts clearly show the phonemic status of the
phoneme /j/, and also confirm [w] as the distinct phoneme
/w/.

VELARS

xviii) The Sound [k]

This sound is realized as a voiceless velar stop.
[k] gains its status as a phoneme from its contrast with the
sound [kp].

k/kp

43) [lĭkà]   "to leave behind"   [lìkpâ]   "to fail"

44) [lìtókà] "to draw water"   [lìtákpà] "to explain"

[k] does not only confirm itself as the phoneme /k/ but also
confirms the phonemic status of /kp/.

xvix) The Sound ŋg

This sound is realized as a voiced velar prenazalized
stop.

[ŋg] confirms its phonemic status in its contrast in
analogous environments with the sound [ndʒ].

ŋg/ndʒ

See ndʒ/ŋg in (xvi:36 and 37), but also;

45) [ŋgɔ̀ndɔ̀]   "peanut"   [ndʒɔ̀ndʒɔ́] "mushroom"

46) [wàŋgá]   "bush"   [ŋwàndʒà]   "sea"

These contrasts confirm the phonemic status of /ŋg/.

LABIO-VELARS

xx) The Sound [kp]

This sound is realized as a voiceless labio-velar stop.

[kp] gains its phonemic status in its contrast in identical and analogous environments with the sounds [k] and [gb].

kp/k

47) [mǎkpà]   "bags"   [lǎkà]   "to succeed"

48) [lìkpéà]   "to enter"   [lìkèkà]   "to try"

kp/gb

49) [kpélí]   "death"   [gbélí]   "vomit bile"

50) [lìkpâ]   "to fail"   [líígbà]   "to steal"

The sound [kp] can be considered the phoneme /kp/ after its contrasts with [k] and [gb].

xxi) The Sound [gb]

This sound is realized as a voiced labio-velar stop.

It gains its phonemic status in its contrast in identical environment with the sound [kp].

gb/kp

See ((xx):46), but also;

51) [lìgbéà]   "to break"   [lìkpéà]   "to enter"

This contrast gives the sound [gb] the phonemic status of /gb/, and also confirms the phonemic status of /kp/.

xxii) The sound [w].

This sound is realized as a labio-velar glide.

[w] confirms its phonemic status as a phoneme in its contrast with the sound [j].

<u>w/j</u>

See j/w in (xvii:38 and 39), but also

52) [wómà]   "drunk"   [jŏmà]   "abcess"

53) [wòwê]   "badness"   [jòwá]   "ants"

These contrasts confirm the phonemic status of /w/ and /j/.

2.2.4 Definition and Classification of consonant Phonemes

Phoneme	Definition	Contrasts with
/b/	Voiced bilabial stop	[mb, m, and β]
/β/	Voiced bilabial fricative	[Φ, and b]
/Φ/	Voiceless " "	[β]
/m/	Voiced " nasal	[n, mb and b]
/t/	Voiceless alveolar stop	[d and s]
/d/	Voiced " "	[t, l, n, nd]
/s/	Voiceless alveolar fricative	[t]
/n/	Voiced " nasal	[m, ŋw, ɲ, d]
/ŋw/	Voiced velar labialized nasal	[n, ŋg]
/nd/	Voiced alveolar pre-nasalized stop	[n, and d]
/l/	Alveolar liquid	[d]
/ʒ/	Voiced palatal fricative	[dʒ]
/tʃ/	Voiceless palatal affricate	[dʒ]
/dʒ/	Voiced palatal affricate	[tʃ, ɲ]
/ɲ/	Palatal nasal	[n, ndʒ, dʒ]
/ndʒ/	Voiced palatal pre-nasalized stop	[ɲ, ŋg]
/j/	Palatal glide	[w]

/k/	Voiceless velar stop	[kp]
/ŋg/	Voiced velar pre-nasalized stop	[ndʒ]
/kp/	Voiceless labio-velar stop	[k, gb]
/gb/	Voiced labio-velar stop	[kp]
/w/	Labio-velar glide	[i]

Classification of consonant phonemes

The preceding classification of consonants in Bubia gives the following consonant phonemes chart.

Place of Articulation / Manner of articulation		Bilabial/ Labialized	Dental-Alveola	Palatal	Velar/ Labia-lized	Labio-Velar
Stops	VL		t		k	kp
	VD	b bw	d			gb
Fricatives	VL	Φ	s			
	VD	β		ʒ		
Affricates	VL			tʃ		
	VD			dʒ		
Nasals	VD	m	n	ɲ	ŋw	
Pre-nasalized	VL					
	VD	mb	nd	ndʒ	ŋg	
Liquids	VD		l			
Glides	VD			j		w

Chart 2:

2.2.5 Phonemic Inventory

All consonants in Bubia are distinct phonemes. These phonemes are grouped into stops, fricatives, affricates,

nasals, pre-nazalized stops, liquids, and glides. We used near minimal pairs in cases where these consonants could not contrast in identical environments to bring out their phonetic status. Chart 3 gives us the phonemic consonants in Bubia. It was rather unfortunate that we could not find many words with the /d/ sound during research. This was a great handicap to our phonetic inventory and phonemic analysis.

Place of Articulation / Manner of articulation		Bilabial/ Labialized		Labio- Dental	Palatal	Velar/ Labia- lized	Labio- Velar
Stops	VL			t		k	kp
	VD	b	bw	d			gb
Fricatives	VL	ɸ		s			
	VD	ß			ʒ		
Affricates	VL				tʃ		
	VD				dʒ		
Nasals	VD	m		n	ɲ	ŋw	
Pre-nasalized	VL						
	VD	mb		nd	ndʒ	ŋg	
Liquids	VD			l			
Glides	VD				j		w

Chart 3:

Consonant Phoneme Distribution

CONSONANTS	#—	‑V‑V‑	‑#
b	+	+	—
bw	+	+	—
Φ	+	+	—
ß	+	+	—
m	+	+	—
mb	+	+	—
t	+	+	—
d	—	+	—
s	+	+	—
n	+	+	—
nw	+	+	—
nd.	+	+	—
l	+	+	—
ʒ	+	+	—
tʃ	+	+	—
dʒ	+	+	—
ɲ	+	+	—
ndʒ	+	+	—
j	+	+	—
k	+	+	—
ŋg	+	+	—
kp	+	+	—
gb	+	+	—
w	+	+	—

Chart 5:
Column 1: – Consonants that occur initially
Column 2: – Consonants that occur medially
Column 3: – Consonants that occur finally

2.3 Vowels

A close examination of our data on chapter one shows
that Bubia has 14 (fourteen) vowel sounds.

2.3.1 Phonetic Inventory

These fourteen vowel sounds that exist in Bubia are
classified according to position of lips, height of the
tongue, horizontal movement of the tongue, and passage of
air. These vowel sounds can be seen on the chart below.

Phonetic vowel chart

Position of lips and tongue / Height of tongue	Front unrounded		Central unrounded		Back rounded	
High	i	ii			u	uu
mid-high	e	ee			o	oo
mid-low	ɛ	ɛɛ			ɔ	ɔɔ
low			a	aa		

Chart 4:

The position of vowels on this chart is not based on
standard phonetic principles, but on approximate oral
perception of acoustic distance between sounds.

2.3.2 Pairs of similar sounds

(i,e), (e,ɛ), (ɛ,ɛɛ), (a,aa), (u,uu) (o,oo), (ɔ,ɔɔ)

(i,ii), (e,ee), (ɛ,a)   (u,o) (o,ɔ)

(ii,ee), (ee,ɛɛ),(ɛɛ,aa)   (uu,oo), (oo,ɔɔ)

2.3.3 Phonemic analysis

i) The sound [i]

This sound is realized as the front, high, unrounded vowel. [i] gains its phonemic status in its contrast in identical environment with the sound [e], and in analogous environment with [ii].

i/e

1) [lìjà]   "hand"   [lèjà]   "to cry"

i/ii

2) [lìɲâ]   "to defecate"   [lììɲà]   "to urinate"

3) [lìdʒâ]   "to come"   [iìdʒá]   "pus"

The sound [i] can be considered the phoneme /i/ through its contrast with the sounds [e] and [ii]. This contrast further confirms the phonemic status of the phonemes /e/ and /ii/.

ii) The sound [e]

This sound is realized as the mid-high front, unrounded vowel.

The sound [e] gains its status as a phoneme in its contrast in identical contexts with the sounds [i], [ɛ] and [ee].

e/i

4) [lèwâ]   "to sharpen"   [lìwă]   "to slaughter"

e/ɛ

5) [lìkékà] "to prevent"   [lìkèkà] "to try"

e/ee

6) [lèjà]   "to cry"   [lèéjà] "to be shy"

These contrasts confirm the phonemic status of /e/, and also the phonemic status of /i/, /ɛ/, and /ee/.

ii) The sound [ɛ]

This sound is realized as the mid-low, front, unrounded vowel.

[ɛ] gains its status as a phoneme in its contrast in identical environments with the sounds [a], [e], and [ɛɛ].

ɛ/a

7) [lútɛ̀] "to hide oneself"   [lútà] "to hide something"

8) [lɛ̀ndɛ́] "to go"   [làndá] "to buy"

ɛ/e

9) [lìtɛ̂] "to scream"   [lìtĕ]   "sweet"

ɛ/ɛɛ

10) [lɛ́nɛ̀] "to look"   [lɛ̀ɛ́nɛ̀] "to shine"

These contrasts prove the phonemic status of /ɛ/, and also confirm the phonemic status of /a/, /e/ and /ɛɛ/.

iv) <u>The sound [a]</u>

This sound is realized as the low central unrounded vowel.

[a] gains its phonemic status in its contrast in identical context with [ɛ], and in analogous environment with [aa]

<u>a/ɛ</u>

11) [làná]   "to fight"   [lɛ́nɛ̀]   "to look"

12) [lìlókà]   "to row"   [lìlòkɛ̀] "respect"

<u>a/aa</u>

13) [lìbálɛ̀]   "loan"   [lìβàálɛ̀] "to kindle fire"

These contrasts give [a] the status of the phoneme /a/ and confirm the phonemic status of /ɛ/ and /aa/.

v) <u>The sound [u]</u>

This sound is realized as the back round vowel.

[u] gains its status as a phoneme in its contrasts in identical environments with the sounds [o] and [uu].

<u>u/o</u>

14) [mbúà]   "rain"   [mbóà]   "town"

15) [úwɛ́lɛ́]   "ask"   [ówɛ́lɛ́]   "question"

16) [ètùlù]   "lamp"   [ètòlò]   "rat"

<u>u/uu</u>

17) [lùmbà]   "to stink"   [lùúmbà]   "to close"

The sound [u] can be considered the phoneme /u/, due to its contrasts with the sounds [o] and [uu]. These contrasts further confirm the phonemic status of /o/, and /uu/.

vi) The sound [o]

This sound is realized as a back, mid-high, round vowel.

[o] gains its phonemic status as it contrasts in identical and analogous environments with the sounds [u], [ɔ], and [oo].

o/u

13) [ɲô]	"bodies"	[ɲû]	"body"	
19) [mòlòní]	"old age"	[mòlùní]	"to grow old"	
20) [wètòlò]	"rats"	[wètùlù]	"lamps"	

o/ɔ

21) [ɲô]	"bodies"	[ɲɔ̀]	"drink"
22) [kò]	"rat mole"	[kɔ̀]	"snail"

o/oo

23) [mòlí]	"wealth"	[mòòlí]	"mountain"
24) [jòmà]	"abcess"	[jòómà]	"thing"

These contrasts prove the phonemic status of /o/ and further confirm the phonemic status of the phonemes /u/, /ɔ/, and /oo/.

vii) <u>The sound [ɔ]</u>

This sound is realized as a low back round vowel.
The sound [ɔ] gains its phonemic status in its contrasts in
identical and analogous environments with the sounds [o],
and [ɔɔ].

...

<u>ɔ/o</u>

25) [lìwɔ̀]   "neck"   [líwò]   "beach"
26) [lɔ́kɔ̀]   "to wash"   [lòkò]   "game"
27) [ŋgɔ̀ndɔ̀] "peanut"   [ŋgòndò] "big gown for women"
28) [mòkɔ̀kɔ́] "branch"   [mòkókò] "sugarcane"

<u>ɔ/ɔɔ</u>

29) [lɔ̀tɔ̂]   "to be tired" [lɔ̀ɔ̀tɔ̂] "to faint"

These contrasts prove the phonemic status of /ɔ/, and
also confirm the phonemic status of /o/, and /ɔɔ/.

viii) <u>The sound [ii]</u>

This sound is realized as the front, high, long,
unrounded vowel.
Its constrasts with the sounds [i], and [ee], give it a
phonemic status.

<u>ii/i</u>
See i/ii in ((i):273)

ii/ee

30) [líínà] "to urinate"   [lèéyà]   "to be shy"

⸺ The sound [ii] gains it phonemic status through its contrasts with the sound [i] and [ee] in analogous environments. These contrasts give it the status of the phoneme /ii/, and also confirm the phonemic status of /ee/, and /i/.

ix)   The sound [ee]

Realized as the front mid-high, long, unrounded vowel, this sound contrasts in identical environment with the sound [e], and in analogous environments with the sounds [ii], and [εε].

ee/e

See e/ee in ((ii):6)

ee/ii

See ii/ee in (viii:30)

ee/εε

31) [wèémbé]   "mammals"   [wὲὲmὲ]   "habits"

These contrasts no doubt give [ee] the status of the phoneme /ee/ and also confirm the phonemic status of the phonemes /ii/, /εε/ and /e/.

x) <u>The sound [ɛɛ]</u>

This sound is realized as the mid-low, front, long, unrounded vowel.

To confirm its phonemic status, the sound [ɛɛ] contrasts in identical environment with [ɛ], and in analogous environments with [aa] and [ee].

<u>ɛɛ/ɛ</u>

See ɛ/ɛɛ in (iii:10)

<u>ɛɛ/aa</u>

32) [ɛ̀ɛ̀] "yes"   [ndàá]   "different types of macabo"

<u>ɛɛ/ee</u>

33) [lɛ̀ɛ́mbɛ̀]   "to blow one's nose" [wèémbé]   "mammals"

These contrasts confirm the phonemic status of /ɛɛ/, not leaving out that of /ee/, /ɛ/, and /aa/.

xi) <u>The sound [aa]</u>

Realized as the central, low, long, unrounded vowel, this sound contrasts in analogous environments with [a], and [aa].

<u>aa/a</u>

34) [ndàá]   "types of macabo"   [nà]   "and"
35) [lìβàálɛ́] "to kindle fire"   [lìbálɛ̀] "to stink"

<u>aa/ɛɛ</u>

See ɛɛ/aa in (x:32)

These contrasts confirm the sound [aa] as the phoneme /aa/, and also confirm the phonemic status of /a/, and /ɛɛ/.

xii) <u>The sound [uu]</u>

This sound is realized as the high, back, long rounded vowel. It contrasts with the sounds [aa] and [u] in both identical and analogous environments.

<u>uu/u</u>

See u/uu in (v:17), but also:

36) [lúútû]   "rubbish"   [lùtá]   "to preserve"

<u>uu/oo</u>

37) [lìkúùwà]   "diarrhea"   [lìkòówà]   "to pull"
38) [lùùŋgá]   "abdomen"   [tòóŋgà]   "round"

The sound [uu], through these contrasts, become the phoneme /uu/. These contrasts also confirm /u/ and /oo/ as distinct phonemes.

xiii) <u>The sound [oo]</u>

This sound is realized as the back, long, mid-high rounded vowel.

It contrasts in identical environment with [o], and in analogous environment with [ɔɔ] and [uu].

oo/o

See o/oo in (vi:23 and 24)

oo/ɔɔ

39) [wòòló]   "greatness"   [wɔ̀ɔ̀mbɔ́]   "sugar"

oo/uu

See uu/oo in (xii:37 and 38), but also;

40) [tòóŋgà] "round"   [lùùŋgá]   "abdomen"

These contrasts give the sound [oo] the phonemic status /oo/, and confirm /o/, /ɔɔ/, and /uu/ as distinct phonemes.

xiv) The sound [ɔɔ]

This sound is realized as the back mid-low, long, rounded vowel.

It contrasts in identical and analogous environment with [ɔ] and in analogous environment with the sound [oo].

ɔɔ/ɔ

41) [wɔ̀ɔ̀mbɔ́]   "sugar"   [wɔ́ŋgɔ́]   "fear"

ɔɔ/oo

See oo/ɔɔ in (xiii:39)

The sound [ɔɔ] becomes the phoneme /ɔɔ/ through its contrasts with [ɔ] and [oo]. It also through the contrasts confirm /oo/ and /ɔ/ as dictinct phonemes.

2.3.4 Definition and classification of Vowel Phonemes

Phonemes	Definition	Contrasts
/i/	front, high, unrounded vowel	[e,ii]
/ii/	front, long, high, unrounded vowel	[i,ee]
/e/	front, mid-high unrounded vowel	[i,ɛ,ee]
/ee/	front mid-high long unrounded vowel	[ii,e]
/ɛ/	mid-low front unrounded vowel	[e,a,ɛɛ]
/ɛɛ/	mid-low, front, long, unrounded vowel	[ɛ,aa]
/a/	central, low, unrounded vowel	[ɛ,ɛɛ]
/aa/	central, low, unrounded long vowel	[ɛ,aa]
/u/	back, high, round vowel	[o,uu]
/uu/	back, long, high, round vowel	[u,oo]
/o/	back, mid-high round vowel	[ɔ,u]
/oo/	back, mid-high long round vowel	[o,uu,ɔɔ]
/ɔ/	back, mid-low round vowel	[o]
/ɔɔ/	back mid-low round long vowel	[ɔ,oo]

2.3.5 Classification of Vowels

The vowel will be classified according to the height of the tongue, and its position in the mouth.

(a) Height of the tongue

High vowels	- i, ii, u, uu.
Mid-high vowels	- e, ee, o, oo.
Mid-low vowels	- ɛ, ɛɛ, ɔ, ɔɔ.
Low vowels	- a, aa.

(b) Position of the tongue

Front: i, ii, e, ee, ɛ, ɛɛ

Central: a, aa

Back: u, uu, o, oo, ɔ, ɔɔ

2.3.6 Phonemic Inventory

Vowel length in Bubia is phonemic. All the vowels we have seen so far are distinct phonemes. They occur only in open syllables because of the non-existence of closed syllables in Bubia. The vowel phonemes with their articulatory properties will be shown on Chart 5.

Position of the tongue / Height of the tongue	Front unrounded	Central unrounded	Back unrounded
High	i ii		u uu
Mid-High	e ee		o oo
Mid-Low	ɛ ɛɛ		ɔ ɔɔ
Low		a aa	

Chart 5:

2.3.7 Vowel Length

Vowel length is phonemic in Bubia. It is not compensatory. Long vowels occur initially, medially and finally, but not all of them appear in these positions anyway.

Vowels	#–	C–C	–#
i	+	+	+
ii	+	+	–
e	+	+	+
ee	–	+	–
ɛ	+	+	+
ɛɛ	+	+	–
u	+	+	+
uu	–	+	+
o	+	+	+
oo	–	+	–
ɔ	–	+	+
ɔɔ	–	+	–
a	+	+	+
aa	–	+	+

<u>Chart 7:</u>

Column 1:   Vowels that appear initially

Column 2:   Vowels that occur between consonants

Column 3:   Vowels that occur finally

2.3.8   <u>Vowel harmony</u>

The vowel system in Bubia is dominated by the phenomenon of vowel harmony. This feature is rampant in many African languages. This is the situation whereby vowels agree in certain features as backness, rounding etc. Vowels in Bubia can be classified into complete and incomplete systems. This is what Professor Chumbow (1982) postulates in vowel harmony. He says complete systems are

generally seen in those languages with a phonetic inventory
of nine or ten vowels divided into parallel mutually
exclusive sets distinguished by a phonetic feature, usually
the feature advanced versus retracted tongue root. In
incomplete vowel harmony systems, there is a generally
reduced phonetic inventory of seven or fewer vowels and
harmonical sets with two or more overlapping vowels that
co-occur with vowels of either set. Although Bubia has an
incomplete vowel system, it has some features of the
complete vowel system, for the short vowels co-occur with
themselves and vowels of either set.

					Set A	Set B
i	ii		u	uu	i	i
e	ee		o	oo	u	u
ɛ	ɛɛ		ɔ	ɔɔ	e	ɛ
	a	aa			o	ɔ
					a	a

In this incomplete vowel harmony system, that we find
in Bubia, [i] [u] and [a] in sets A and B are neutral. This
is because they co-occur with vowels of both sets. The
vowels [e], [o] and [ɛ] and [ɔ] are mutually exclusive.

Illustration A

A		B	
[wè-wàkì]	"chimpanzees"	[dʒɔ̀-ŋgú]	"gluttony"
[mà-tòká]	"rabbits"	[lɔ̀-íʒɛ̂]	"luck"
[wè-tòlò]	"rats"	[ndʒɛ́-mbú]	"to limp"

[mò-kòlí]	"mountain"	[tû-têe]	"to be sufficient"
[mo-kókó]	"sugarcane"	[mɔ̀-kɔ̀lí]	"hill"
[lì-lókà]	"finish"	[ŋgù-lɛ̀ndɛ̀]	"rainbow"
[lì-lókà]	"to row"	[sɔ̀-wɛ̀]	"dust"
[wè-jòndí]	"islands"	[sá-wá]	"shore"
[lí-wò]	"beach"	[è-wùnɛ̀]	"wave"

In data A, we notice the behaviour of the mid-high
vowels [e] and [o]. They co-occur with others and
themselves, but they do not co-occur with the mid-low vowels
[ɛ] and [ɔ]. The mid-low vowels [ɛ] and [ɔ] also almost
behave in the same way, but, they co-occur with themselves
and other vowels, except the back, mid-high rounded vowel
[o]. This may tempt us to postulate a harmonic rule for
short vowels in Bubia. Rule 1: mid-vowels hardly co-occur
with themselves in Bubia and have the feature ± ATR[3].
Another illustration like the one below will clarify this
rule.

1			2		
A	B		A	B	C
i	i		e	ɛ	i
u	u		o	ɔ	u
e	ɛ				a
o	ɔ		+ATR	-ATR	NEU[4]
a	a				

Only the mid-vowels have the feature ± ATR. Whatever the case, we could claim that the vowels [i], [u] and [a] are ambivalent as far as vowel harmony is concerned.

2.3.9 Vowel Harmony within Long Vowels

To be able to postulate a second rule for vowel harmony, we have to look at the harmonic system of the long vowels. The long vowels never occur with themselves, but they do occur with short vowels of their kind and other vowels. If we divide them into sets, we will have these two sets of vowels:

Set A	Set B
ii	ɔɔ
uu	ɛɛ
oo	
ee	
aa	

Set A is made up of vowels that can co-occur with any short vowel while set B is made up of vowels that co-occur only with short vowels of their kind.

Illustration

Set A		Set B	
[lìí-kà]	"to put"	[lɛ́ɛ́-nɛ̀]	"to shine"
[ìî-dʒá]	"pus"	[lɔ̀ɔ̀-tɔ̀]	"to faint"
[lùú-mbà]	"to close"		

[wùú-tú]   "shortness"

[jòó-mà]   "thing"

[lèé-dʒà]   "to be shy"

[lì-βàálέ]   "to kindle fire"

[wè-lééli]   "feast"

This pushes us to postulate a second harmonic rule for vowel harmony in Bubia.

Rule 2: In Bubia, the mid-high long vowels co-occur only with short vowels of their kind while the other long vowels are ambivalent.

2.3.10 Vowel harmony between roots and affixes

Another important point we must look into concerning vowel harmony is the relationship between roots and affixes of nouns and verbs.

NOUNS

Prefixes	Roots	Realization	Gloss
lì-	làlè	[lìlàlè]	"rock"
mò-	kòlí	[mòkòlí]	"mountain"
wè-	lìŋì	[wèlìŋì]	"shadows"
mò-	sò	[mòsò]	"lake"
ì-	wè	[ìwè]	"sun"
é-	kì	[ékì]	"area"
mbà-	kà	[mbàkà]	"fog"
mú-	ɲà	[múɲà]	"fire"
í-	tùtù	[ítùtù]	"smoke"

| kɛ́– | mà | [kɛ́mà] | "chimpanzee" |
| mɛ́– | lɛ̀ŋgù | [mɛ́lɛ̀ŋgù] | "sheep" |

VERBS

Prefixes	Roots	Realization	Gloss
lì–	ɲɔ̀	[lĩ̀ɲɔ̀]	"to drink"
lì–	tùwéá	[lìtùwéá]	"to satisfy"
lì–	túmbɛ̀	[lìtúmbɛ̀]	"to roast"
l'–	ɔ̀ŋgɛ̌lɛ́	[lɔ̀ŋgɛ̌lɛ́]	"to refund"
l'–	átɛ̀	[látɛ̀]	"to swear"
lì–	tàkpà	[lìtàkpà]	"to explain"

From this data, we still notice the first harmonic rule whereby if [e], [o] and [ɛ] and [ɔ], occur in the prefix or root of a word, it immediately excludes the occurence of the other pair. This means that each of the pair of vowels co-occur with each other. Our rule therefore stands.

This behaviour of the mid-vowels whereby the front mid vowels rarely co-occur with the back mid vowels is due to the feature ± ATR. We could not find any harmonic process that could show that certain vowels for example [i], [u], and [a] belong to a set, and another set of vowels [i], [u] and [a] belong to another set. This simply means that we could not find two kinds of vowels in the same vowel.

As to what concerns vowel length we suspect much has not yet been done because of the very few words that show length contrast. It is a very interesting area on which more should be done in future studies.

NOTES

(1) Identical context would mean that these sounds occur in the same position and their sole phonetic difference leads to a difference in the meanings of the words in which they appear.

(2) Two sounds contrast in analogous context when they appear in the same context in words. In addition to this phonetic difference, these two words also bring out another phonetic difference which is not linked to the context.

(3) ± ATR - ± ADVANCED TONGUE ROOT.

(4) NEU - NEUTRAL.

CHAPTER III

INTERPRETATION PROBLEMS

In most languages of the world, there are a number of sounds that are open to diverse interpretations, following the structure of the language in question. While analysing language, one comes across ambiguous cases which can only be interpreted following the internal organisation of the language under study. Some of these ambiguous cases in Bubia are:

- Sounds open to syllabic or non-syllabic interpretation.
- Sounds which can be interpreted as constituting a single unit or a sequence of units.
- Those sounds that do not constitute a single unit or a sequence of units.
- Sounds that can be considered as consonants or vowels.

This chapter therefore, will treat these ambiguous cases. We will use Pike's (1949) method.

3.1 Vowel/Consonant

Sounds that can be considered as vowels in some instances and consonants in others include those sounds that possess characteristics appropriate to vowels and consonants. This involves a case of using one symbol which can stand for two separate classes of sounds, depending on

the context of occurrence. The vowels i and u and the glides j and w have these features; i and u are similar to the palatal and velar glides j and w.

Since glides when compared with vowels can be considered higher than high vowels in language analysis, they can occupy both syllable onset and nuclei positions in some cases, and syllable coda in others.

Bubia, has all these sounds. When we consider the less ambiguous data in Bubia, we realize that its structure permits a VV sequence. In this VV sequence, V_1 is of a different quality from V_2, and a non-syllabic element at syllabic onset in every instance which is not suspicious is a consonant.

Examples:

[wômà]   "drunk"

[wòwé]   "various kinds of cures"

[jɔ́kí]   "ointment"

[jàlí]   "leaf"

These words by analogy have CVCV structures and not VVCV structures. This simply means that in words in which i or w occurs, where it is neither preceded nor followed by a consonant, it has the full qualities of a consonant.

3.2 Sound Sequences

Sound units which can be interpreted as single sound units or sequences of two or more sounds often exist in

languages. Such cases involve both vowels and consonants, where two sounds with different qualities are interpreted in some languages as single sound segments and in others as separate sound units.

3.2.1 Vowel Sequences

Two sets of vowels are attested in Bubia in which V₁ is often of a different quality from V₂. These sets of vowels which are attested both in nouns and verbs are a common phenomenon in this language. These sounds are: ai, eu, au, ea, io, oa, aɔ, ɔi, ie, ua, ae. Their occurence is as a result of collocating roots and affixes or compounding words as we find in other languages as in some cases in English. Although some of the words in which they occur cannot be broken into two parts and a meaning assigned to each part, some do behave thus. They cannot be considered diphthongs in anyway.

Sounds	Illustration	English Gloss
ai	liwàí	liver
eu	mèùbù	lip
au	màúŋgá	abdomens
ea	lìgbèá	to make
io	wóólê	badluck
oa	lìmóá	to awake
aɔ	màɔmbɔ	cold
ɔi	lɔízɛ̃	luck
ie	lìèmbá	witchcraft
ua	lìtûà mèndèŋgà	to discuss
ae	màèmbà	witchcrafts

Chart 8

3.2.2 Consonant Sequences

Bubia does not allow consonant clusters. In cases where two consonants occur, they are considered as a single sound. These include the consonants ŋg, nd, mb, kp, ndʒ and gb.

3.3 HOMORGANIC NASALISATION

It could happen in speech production that an oral sound is omitted when proceded by a nasal sound. As far as these sounds are concerned, it is often useful to determine whether they are single or separate sound units. This situation often varies with languages, for some people will consider that it is a case of prenasalisation of consonants and others, homorganic nasalisation. In the situation where such sounds are considered as separate sound units, the preceding nasal often carries a tone. Although Bubia has such sounds, they cannot be considered syllabic nasals, for there are no cases where the nasal sound precedes voiceless consonants. All the nasal consonants we have, precede voiced consonants.

Illustration

[ŋgɔ̀]   "wind"

[mbúà]   "rain"

[ndʒɔ̀kù]   "elephant"

3.4 HETERORGANIC SEQUENCES

A heterorganic sound is the sound produced with the superimposition of a secondary articulation. It often involves consonants produced with an accompanying vowel articulation. Such cases include palatalisation, labialization and aspiration.

3.4.1 Palatalized consonants

These are consonants produced with the superimposition of the articulatory qualities of a high front vowel. These types of consonants exist in Bubia, and they involve glide formation. It is a situation where a consonant precedes a sequence of two vowels at the underlying representation, where V_1 is the high front vowel i, and at the surface level, this vowel is realized as the glide j.

$$[C+i] \longrightarrow [C^j]/\text{—}V$$

Illustration

/líà/	—> [ljà]	"hand"
/làʒíówà/	—> [làʒjówà]	"to sigh"
/líémbâ/	—> [ljémbâ]	"witchcraft"

This leads us to postulate the following rule:

$$R_1 = [i] \longrightarrow [j] / - V$$

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

Looking at this illustration, we can represent [lʲ-], [ʒʲ-], as /li-/ and /ʒi-/.

3.4.2 Labialized Consonants

Labialization in general involves the super-imposition of the vowel quality of lip-rounding on a consonant during emission. It appears that in Bubia, consonant sounds are labialized through the process of glide formation. The consonants that are labialized at surface level occur at the level of deep structure, where they precede two sequential vowels of different qualities, the V_1 being the back high rounded vowel u. In CV.V(C-) which is realized as C^wV (C-), V_1 in the underlying representation is u which is realized at the surface level as the glide w.

Illustration

/èlùà/   ⟶ [elʷà]   "marker"

/èʒàʒùànì/   ⟶ [èʒàʒʷànì]   "comb"

/lìβùβúá/   ⟶ [lìβùβʷà]   "to pluck chicken"

This leads us to postulate the following rule;

R_1 = [u] $\longrightarrow$ [w] / — V

$$\begin{bmatrix} \text{—cons} \\ \text{+syll} \\ \text{—back} \\ \text{+high} \end{bmatrix} \longrightarrow [\text{+cons}] \ / \ — \ \text{+syll}$$

Analogically then, we can represent [lʷ-], [ʒʷ-] and [ßʷ-] as /lu-/, [ʒu-] and [ßu-].

3.4.3 Long Vowels

All vowels in Bubia are modified through lengthening. This can be seen in the examples below. It is rather unfortunate anyway that we could not have many examples with long vowels during research.

Illustration

[ììŋgó]	"throat"
[mèèmbà]	"corpses"
[ɛ̀ɛ̀mɛ̀]	"habit"
[ndàá]	"macabo"
[lùùŋgá]	"abdomen"
[lɔɔ̀tɔ̀]	"to faint"
[wòòló]	"greatness"

According to native speaker intuition, these long vowels cannot be considered as two vowels but single vowels affected by duration: We also realized that where a word is made up of a long vowel and another short vowel of the same

kind, sometimes, these vowels agree in tone height, and sometimes they do not.

Illustration

[wɛ̀ɛ̀mɛ̀]   "habits"

[ɸóóβó]   "to be distant"

[wòòló]   "greatness"

[wɔ̀ɔ̀mbó]   "sugar"

This chapter was out to interprete ambiguous sound segments in Bubia, and a lot of emphasis was laid on the fact that the structural pattern of Bubia neither permits consonant nor vowel clusters. The instances that could recieve the interpretation of consonant clusters are cases of glide formation, notably, cases of palatalization and labialization. But consonants affected by these phenomena simply prove that Bubia shows cases of consonant plus glide; [Cʲ] and [Cʷ].

CHAPTER IV

SYLLABLE, MORPHEME, AND WORD STRUCTURE

The phonemes of this language having been established, we now move to the next step, which will be to examine the various syllable, morpheme, and word structures that exist in Bubia. Alongside this, we will examine the phonemes that occur in the various positions of the attested patterns. This is deemed necessary because a close analysis of the patterns and phoneme distribution will help us review and confirm the conclusions arrived at during the interpretation of ambiguous sound segments and the phonemic analysis, and will also give us a view of the tones in the language.

4.1 Syllable Structure

Before we proceed to the analysis of syllable structure in Bubia, let us look first at the definition of the syllable given by Roach (1983), Wiesemann, Sadembouo, and Tadadjeu (1988), and Katamba (1989).

> "The syllable is the heart of phonological representations. It is the unit in terms of which phonological systems are organised. It is a purely phonological entity. It cannot be identified with a grammatical or semantic unit..."
>
> Katamba (1989:153)

> "Syllables are usually described as consisting of a centre which has little or no obstruction to airflow, and which sounds comparatively louder; before and after this centre, there

will be greater obstruction to airflow and(or)
less loud sound".
(Roach 1983:   )

"On peut définir la syllabe dans une langue
par le noyau (qui peut être une voyelle où
une consonne syllabique).

On peut la définir par le ton qu'elle
porte;

On peut la définir par la durée d'émission
de la séquence de son".
Wiesemann, Sadembouo, and Tadadjeu (1988:56)

Looking at these definitions and also at Bubia, we
realize that syllables in this language have a nucleus V or
VV, Which obligatorilly bears a tone.

Bubia, has an open syllable structure and it also has
features that are rare in other languages. It accepts
instances of two vowels of the same kind where V_1 and V_2
stand on their own yet are the same. In such cases, we
consider that these are cases of vowel lengthening, thus VV
—> V.

Examples:

[wɛ̀ɛ̀mɛ̀]   —>   /wɛ̀:mɛ/   "habits"

[ɛ̀ɛ̀]   —>   /ɛ̀:/   "yes"

[wɔ̀ɔ̀mbɔ́]   —>   /wɔ̀:mbɔ́/   "sugar"

[wö̀ö̀ló]   —>   /wɔ̀:ló/   "greatness"

We do not consider these two vowels as separate sounds.
We also find instances where vowels stand on their own and
have meaning in such cases, they are not parts of words, but
rather words on their own.

Examples:

[ò]   "on", "from", "or", "to"

[ɛ̀ɛ̀]   "yes"

All these structures consist of an obligatory syllable
peak and an optional marginal element which functions as
onset or nucleus. This structure will be summarized as;

     (C)V

This general formula includes the following syllables which
are attested in both root words and affixes.

Syllable Pattern	illustration	English Gloss	Word Pattern
V	ò ɛ̀ɛ̀	"at, from, to" "yes"	V VV
V-	è-sùndʒú ì-ìlì â-tɛ̀	"smell" "mercy" "swear"	V-CVCV V-VCV V-CV
CV	ɸɛ̂ kò	"viper" "rat mole"	CV CV
Cʷ V CV	èʒàʒʷànî	"comb" -	CV Cʷ V CV
Cʲ V	lʲà lʲémbá	"hand" "witchcraft"	Cʲ V Cʲ VCV

Chart 9:

This language does not have complex syllable patterns.
Homorganic consonants are realized as single sound units,
and not as separate consonants. The CV pattern which occurs
in prefixes, noun roots and verb roots are predominant. All
these syllable patterns are attested in verb and noun roots.

4.2 Morpheme Structure

A morpheme is described as a minimal distinctive unit that has meaning. We will look at definitions given by two linguists; Katamba (1989) and Sanford (1973).

> "...Minimal meaningful or distributional unit in a language which may be a simple word like (dog) or a suffix like (-s) plural marker in (dogs) or the negative prefix (un-) in (undo)..."
>
> Katamba (1989:81)

> "The component parts of words are morphemes (e.g. boxes, stems, prefixes, suffixes, plural endings, past tense endings.)"
>
> Sanford (1973:40)

Looking closely at the morpheme, we see some sort of similarity with the syllable with the simple difference that a syllable may not forcibly have a meaning, whereas a morpheme can contain more than one syllable. We will not go into extensive details here because much has been mentioned in the syllable structure section.

We will examine the distribution of vowel and consonant phonemes in the various morpheme structures. We will pay much attention only to *roots* and *affixes*. Compound words that stand alone will not be taken into consideration. The morpheme patterns that exist in Bubia are;

- V or VV

- CV

- CV CV

The CV pattern is made up of prefixes like [wé-] and [mà-] that function as plurals. At times, the V pattern is

a prefix that also denotes plurality with a prefix like
[i-]. The prefix [li-] is the infinitive marker. When we
look at these prefixes, we could likely take just [w-], [m-]
as plural markers and [l-] as the infinitive marker. Since
Bubia has an open syllable pattern, on their own as plural
markers, or infinitive marker we would be straying from our
idea. The following vowels must accompany them.

Illustration

Word	Gloss	Prefix/root marker	
[mòli]	"wealth"	CV	CV
[wàli]	"riches"	CV	CV
[gbáyò]	"canoe"	CV	CV
[máyò]	"canoes"	CV	CV
[lìnɔ̀]	"to drink"	CV	CV
[nɔ̀]	"drink"	CV	
[í-kɔ̀]	"snails"	V	CV
[kɔ̀]	"snail"	CV	
[mòsákɛ́lí]	"dancer"	CV CV CV CV	

Roots stand for the other part of the words that are
neither the plural nor the infinitive markers. As we have
seen above, there however exist cases where the <u>li-</u> prefix
does not denote infinitive.

Illustration

[lìβàkù]   "hoe"

[lìɸɔ̀ndì]   "hole"

[lìlàlè]   "rock"

✗ In some cases, the tone moves from low to high.

Illustration

[lítìtì]   "darkness"

[líwò]   "beach"

[líʒíɛ̃]   "termite"

Apart from these, there also exist some irregular forms in Bubia, whereby there is no change in words to mark plurality.

Illustration

[ɸájí]   "paddle or paddles"

[ŋgòá]   "pig or pigs"

[bwà]   "vegetable(s)"

4.3 Word Structure

A word is a "sound or combination of sounds (or the written or printed symbols) forming a unit of grammar or vocabulary of a language" Hornby (1974:991).

Looking at this definition of the word, the sole difference between the word and the morpheme is that the word has full lexical meaning, whereas a morpheme does not necessarily have full lexical meaning. Words are also usually larger than morphemes, and they consist of roots,

affixes, infixes, suffixes, and other morphological units unlike morphemes which can be made up only of one of these components. The following consonantal and vocalic patterns emerge from words of Bubia.

V

VV

CV

VCV

VCV

VCVCV

CVCVCV

VCVCVCV

CVCVCVCV

CVCVCVCVCV

VCVCVCVCV

In this language, vowels can stand on their own and have full meaning. Because of this, we will discuss such cases with consonants rather than separating them. They will not pose any problems for they are very few. The patterns above show that Bubia has monosyllabic, dissyllabic, trisyllabic and even up to four and five syllable words.

Monosyllabic Words

V

[ò]   "at", "for", "on", "at", "from" "by", "to".

VV or V

[ɛ̀ɛ̀]   "yes"

CV

[nà]   "and"

[wɔ̂]   "them"

[kò]   "mole"

[mbà]   "I"

Dissyllabic Words

CV.V

[ndʒàò]   "hunger"

[mbúà]   "rain"

[tùú]   "room"

CVCV

[mòsò]   "lake"

[sòwɛ̀]   "dust"

[sáwá]   "shore"

[lòká]   "rabbit"

VCV

[ì-kò]   "moles"

[òʒò]   "parrot"

[èʒû]   "owl"

Trisyllabic Words

CVCVCV

[lìkúùwà]	"diarrhea"
[lìsàkà]	"to dance"
[lìlàlè]	"rock"

VCVCV

[èwùnɛ̀]	"wave"
[èlìŋgì]	"shadow"
[èwàkì]	"chimpanzee"

Polysyllabic Words

CVCVCVV

[lìɲɔ̀kíá]	"to swim"
[lìwòtéá]	"beginning"
[lìdáŋéá]	"to scold"

VCVCVCV

[èʒɛ́lɛ̀ndɛ́]	"cricket"
[èjoŋgólì]	"chameleon"
[ìlìbwànì]	"key"

CVCVCVCV

[lìʒóʒómìà]	"to beseech"
[ŋgɛ̀ʒɛ̀ŋgɛ̀ʒɛ̀]	"gravel"

Five Syllabled Words

CVCVCVCVCV

[lìβùŋgúánɛ́lɛ]   "to mix"

VCVCVCVCV

[èkòlókòlò]   "butterfly"

This syllable structure brings out the peculiarity of Bubia, for in many Bantu languages it is difficult to get three syllable structure words.

4.4   Phoneme Distribution in root Morphemes

The phonemes of a language often have a pattern of distribution in morphemes and words. In this section, as we did with syllables, we are going to examine the morpheme positions that each phoneme can occupy.

4.4.1   Vowels

In monosyllabic root morphemes of the form CV, there is a wide range of both consonants and vowels that can occupy the consonant and vowel positions (CV).

In the case of disyllabic roots of the form CV-CV, V_2 position is occupied by any vowel of the language. There are no specific vowels that occur in specific environments. Vowels can also occur initially for this language has structures that start with a V or even structures that are just V or VV.

Illustration

[òʒò]   "parrot"

[èʒû]   "owl"

[kóndì]   "rice"

[mèkò]   "plantains"

[jàlí]   "leaf"

[ɲìɲá]   "louse"

In some cases in Bubia, there is reduplication of vowel sounds.   This simply means that there is repitition of the same vowel.

Illustration

[mòsò]   "river"

[móʒó]   "python"

[ŋgòndò]   "peanut"

[ŋgèʒèŋgèʒè]   "gravel"

Some structures begin with a V sound or are just V or VV.

Illustration

[ò]   "on"

[ɛ̀ɛ̀]   "yes"

[óní]   "where"

[ékí]   "area"

[òʒò]   "parrot"

[èjòndí]   "island"

4.4.2 Consonant Distribution

Bubia, having an open syllable, consonants occur only initially and medially. Apart from the [d] sound which occurs only two times in my data, the other consonants are mutually exclusive. As a matter of fact, this sound is almost inexistent, for in the neighbouring languages, it is represented by the [l] sound.

CHAPTER V

SUPRA—SEGMENTAL PHONOLOGY

In most African languages, prosodic features go along with sound segments for the transmission of messages. We will look at a definition of prosody by Wiesemann, Sadembouo and Tadajeu (1988:83), before we proceed. They define prosody as:

> «L'ensemble des phénomènes de hauteur musicale, d'intensité, et de durée qui accompagnent des sous-systèmes indépendants, des systèmes segmentaux, et ils caractérisent des séquences de sons. C'est à dire des unités plus étendues que les segments minimaux.»

Prosodic features have distinctive and expressive functions in all languages of the world. These functions play an important role in the transmission of messages. We are going to limit ourselves in this discussion to the distinctive function of certain important features like vowel length and tones.

5.1 Vowel Length

As has been shown previously, the contrast between long and short vowels in Bubia is pertinent although there are very few words in this language that show contrast between long and short vowels. The few words that follow indicate

contrast. Among these few words, tone differences can be
observed.

Illustration

[lɔ́tɔ̀]   "weak"   [lɔ̀ɔ̀tɔ̀]   "to faint"

[ɛ́mɛ́]   "debt"   [ɛ̀ɛ̀mɛ̀]   "habit"

[lɛ́mbɛ́]   "to hold"   [lɛ̀ɛ́mbɛ̀]   "to blow one's nose"

5.2   Tones

Tone deals with distinction of pitch in the flow of
speech. All languages have pitch phenomena. To native
speakers of tone languages, tone is a basic part of their
speech. Infact, it is as important as consonants and
vowels.

Welmers (1973) describes a tone language as one in
which both pitch and segmental phonemes enter into the
composition of at least some morphemes.

The basic tones in Bubia which are two in number are
register tones. In this type of system, tonal constructs
consist of different levels of steady pitch height that is
perceptually distinct. Tones in such systems neither rise
nor fall in their production. The function of the height of
the voice therefore is the fact that differences in pitch
height may alone be responsible for differences in meaning.
In Bubia, there are certain instances where the change of
tone changes the meaning of words.

5.2.1 Tone Classes

The principal tones that exist in Bubia are the high tone, [´] and the low tone [`]. A language with this number of tones has the following logical tone structures;

Monosyllabic Words

L - Low   [tὲ]   "if"

              [nà]   "and"

H - High   [ké]   "or"

              [ndí] "only"

Disyllabic Words

In   disyllabic   words,   we   have   the   following possibilities;

LL - low low

LH - low high

HH - high high

HL - high low

Illustration

Combination	Word	Gloss
LL	[òwà]	"you"
	[ndòkò]	"potatoes"
	[mòsò]	"lake"
	[sɔ̀wὲ]	"dust"
	[ìwè]	"sun"

	[ndʒèjà]	"road"
	[ndòkò]	"potatoes"
LH	[lòká]	"rabbit"
	[ɸàí]	"squirrel"
	[jàlí]	"leaf"
	[jònó]	"yam"
	[wòwé]	"tree"
HH	[ndókó]	"soup"
	[líjá]	"palm tree"
	[óní]	"where"
	[kpĕlí]	"death"
	[ɸäjí]	"paddle"
	[sáwá]	"shore"
HL	[gbájò]	"canoe"
	[mútʃà]	"palm oil"
	[bwà]	"vegetables"
	[ékì]	"area"
	[máŋgà]	"air"
	[líwò]	"beach"
	[múnà]	"fire"

Possible combinations in trisyllabic words

LLL	—	Low low low
LHL	—	Low high low
LLH	—	Low low high

LHH	–	Low high high
HHH	–	High high high
HLH	–	High high low
HLL	–	High low low

Illustration

Combination	Word	Gloss
LLL	[èlìŋgì]	"shadow"
	[lìlàlè]	"rock"
	[lìɸɔ̀ndì]	"hole"
	[èwùnɛ̀]	"wave"
	[ìɸɔ̀ɸɔ̀]	"pawpaws"
	[lìɛ̀mbà]	"witchcraft"
	[èwàŋgà]	"forests"
	[mèsàmbò]	"canoe race"
	[mèjòsò]	"rivers"
	[lìβàkù]	"toe"
LHL	[lìsákà]	"to dance"
	[lìlókà]	"to row"
	[lìjáŋgà]	"to read"
	[lìɸótà]	"to report"
	[èwándè]	"to couch"
	[lìnúkà]	"to paddle cane"
LLH	[èjòndí]	"island"
	[mokòlí]	"mountain"
	[màtòká]	"rabbits"

	[mòkɔ̀lí]	"hill"
	[mòkókò]	"sugar cane"
	[èwùlé]	"grass"
LHH	[mèóʒó]	"pimple"
	[ìídʒá]	"pus"
	[lìmóá]	"to awake"
	[wòtání]	"cleanliness"
	[lìjálí]	"birth or to bear"
	[mòkɛ́lɛ́]	"vaccination"
HHH	[tóŋgóŋgó]	"corner"
	[í-kɔ́tɔ́]	"fences"
	[mákóʒí]	"bows"
	[léŋgówá]	"to exchange"
	[ŋgókówí]	"needle"
HLH	[í-ŋgòmbá]	"porcupines"
	[í-ŋgàndó]	"alligatoes"
	[í-ɲòŋgá]	"trades"
HHL	[málánà]	"woman"
	[móɲánà]	"man"
	[móɲámì]	"husband"
	[wíólè]	"ill luck"

HLL   [éβùβà]   "rainy season"

           [líʒòŋgò]   "hunting"

This language possesses structures of more than three syllables and these syllables bear tones.

Illustration: Possible combinations.

   LHHL   - low high high low

Word   Gloss
[èsémbélà]   "idol"
[èsúŋgáɸà]   "cutlass"

LHLLL - low high low low low

   Word   Gloss
[ètáŋgàlàŋgà]   "garden egg"

These types of tone structures occur in Bubia in some cases.

Tonal Glide

   There also exist in Bubia the rising and the falling tones, but their occurrence is not very frequent.

   L-H   -   low-high-rising tone

   H-L   -   high-low-falling tone

Illustration

L-H (rising tone)

Word		Gloss
[mbǒ]	- L H	"banana"
[lǐmà]	- L HL	"to dig"
[lǐwǎ]	- L LH	"to slaughter"
[lòngělέ]	- L LH L	"to refund"
[mòsákέlì]	- L HL H L	"dancer"

Falling tones can also be illustrated as follows:

HL (falling tone)

Word	Gloss
[mô]	"him"
[wô]	"them"
[ŋgû]	"hipopotamus"
[ndʒô]	"leopard"

L HL (Low tone, falling tone)

Word	Gloss
[èʒû]	"owl"
[lìβâ]	"to marry"
[lìɲâ]	"to lay"
[lìlâ]	"to eat"

5.2.2 Phonemic Tone Contrast

Tone plays an important role in the distintion of meaning. We will illustrate how tone changes meaning in Bubia.

High Versus Low

[lìjà]	"palmoil"	[lìjá]	"hand"
[lătέ]	"to sweep"	[lătὲ]	"to swear"
[létí]	"fever"	[létì]	"hard"
[múlú]	"elder"	[mùlú]	"breath"
[ndókó]	"soup"	[ndòkò]	"sweet potatoes"
[èémbé]	"domestic animal"	[èèmbè]	"corps"

High-Low versus Low

[lîwó]	"neck"	[lìwó]	"market"
[eʒû]	"owl"	[èʒù]	"wall"
[lɔt̂]	"to be tired"	[lɔ́tɔ̀]	"weak"

Low-High versus High

[lŭlὲ]	"to subtract"	[lúlὲ]	"to remove"

These various tone contrasts of tones in identical position on the same words, change the meanings of these words. This simply proves that these tones are tonemes.

5.2.3 Functions of lexical tones

Lexical tones in Bubia mark differences in meaning between words of the same class that are identical at the

segmental level. This has been illustrated under phonemic tone contrasts. It is worthwhile to mention that some of these words on which the lexical tone occured were not of the same class, but they were identical at the segmental level.

5.3 DOWNDRIFT

This is a type of tone-lowering in which a sequence of homotones is affected. In Bubia, when two high tones are separated by a low tone, the second high tone is phonetically lower than the first. This phenomenon by the way is natural, for as one continues to speak, the tone descends. Although in writing we write with all the tones be they high or low, the natural phenomenon will be that as the sentence continues, the tones become lower. This being a natural phenomenon, we do not find it necessary to give any illustrations, for our illustrations may not warrant downdrift.

5.4 Affixes and Tones

Some languages exhibit instances where affixes bear tones, but some do not. In certain cases, when the affixes collocate with the root morphemes, the affixes especially those that bear no tone, derive their tones from those of the root morphemes by tone copying or polarization.

Illustration

[mɔ̀kɔ̀lí]   "hill"

[lìtèkè]   "mud"

[ŋgùlêndɛ̀]   "rainbow"

[lìwɛ̌kà]   "to create"

In Bubia, the nominal prefixes bear low tones even in cases where the root is monosyllabic.

Illustration

[làŋgà]   "to fry"

[mɔ̀ɸɔ̀]   "head"

[lɔ̌kɔ̀]   "to wash"

What happens in the morphology of these examples above is that a consonant representing the prefix is followed by a low tone in front of a root begining with a high tone vowel.

Examples:

[l'-áŋgà]   "to fry"

[m'-óɸɔ̀]   "head"

[l'-ókɔ̀]   "to wash"

We also realize that the nominal suffixes in this language carry low tones.

Illustration

Prefix	Root	Suffix	Gloss
mò	sákɛ̀	lì	"dancer"
mò	kéè	lì	"herder"
mò	jóŋgà	lì	"builder"
mò	wèkè	lì	"creator"

5.5 Syntactic tone

Register tones in isolation usually undergo a modification of one kind or the other when they are put in sentences or phrasal constructions.

5.5.1 Tone On Nominal Constructions

When a noun bears a high tone on the penultimate syllable and a low tone on the last syllable of a word, the last tone of the word changes to a high tone when it is followed by a possessive article.

Illustration

[gbájò]	"canoe"
[gbájó jáʒú]	"our canoe"
[bwà]	"vegetables"
[bwá jáʒú]	"our vegetables"
[ndáwò]	"house"
[ndáwó jáʒú]	"our house"

When nouns occur with adjectives, there is no tonal change on them (nouns). The presence of adjectives does not

influence the tones on nouns as in other Bantu languages.
In Bubia, when an adjective is put in collocation with a
noun, there is a concordial morpheme inserted before the
adjective, which has its own inherent tone.

Illustration

Adjectives		Nouns	
[lòngà]	"beautiful"	[wálánà]	"woman
[lìtá]	"heavy"	[kpà]	"bag"
[mànéá]	"stubborn"	[wánà]	"children"
[indà]	"black"	[mónánà]	"man"

When these adjectives have to qualify these nouns, they
become;

[wálánà mó-lòngà]   "beautiful woman"

[kpà mó-lìtá]   "heavy bag"

[wánà mó-mànéá]   "stubborn children"

[mónánà mó-índà]   "black man"

5.5.2 Tone on verbs

Imperative verbs with monosyllabic roots in Bubia
usually bear the high-low tone (H-L).

Examples:

[nô]   "drink"

[ßâ] ... "marry"

[lâ]   "eat"

[kpâ]   "fall"

[kɛ̂]   "cut"

When these imperative verbs appear before an object, the low tone disappears.

Examples:

[liɲɔ̀ màlíβà]   "to drink water"

[ɲɔ́ màlíβà]   "drink the water!"

[limɛ̀ mòléli]   "to swallow food"

[mɛ́ mòléli!]   "swallow the food!"

[likɛ̀ màyè]   "to cut trees"

[kɛ́ màyè]   "cut the trees!"

Dissyllabic words bear either high low or low-high tones on their first syllables.

Illustration

[lúlâ]   "to eat"

[líβâ]   "to marry"

[lìkɛ̂]   "to cut"

[lìɲɔ̀]   "to drink"

[látɛ́]   "to swear"

[lăŋgà]   "to count"

[lɔ̆mbɔ̀]   "to beg"

[lùtâ]   "to hide"

Mostly, the fundamental structure of a verb comprises two syllables. By suffixation, we can derive a good number of verbs with three or more syllables from the original ones

which can be made of one or two syllables.   These suffixes
generally bear a low tone.

The rules of the tonal changes in the language have not
been quite exhaustive due to lack of time and means for
research.   This area needs to be looked into for further
studies on this language.

CHAPTER VI

ALPHABET AND ORTHOGRAPHY

6.1 Alphabet and Orthography

The establishment of an alphabet and a writing system of any language is of prime importance to its development, and subsequent standardization. This chapter is dedicated to the establishment of a writing system for Bubia. We will use the working method of Pike (1947) and Wiesemann (1981). The establishment of the alphabet and orthographic principles will take into consideration the ease of teaching and learning of the postulated symbols, their availability on the typewriter keyboard, native speaker intuition, and simplicity.

6.2 Choice of Graphemes

6.2.1 Consonants

The consonant sounds that we will put forward present problems in the orthography because they are not directly available on common typewriters.

The consonants Φ and ß

These symbols, because of their absence on the typewriter keybord, will be represented by the graphemes "p" and "b" which are already existing on the typewriter keyboard. This will not only facilitate their

pronunciation, but will also be convenient for future learners of Bubia.

The consonants ɲ and ŋg

These sounds will be represented by the graphemes "ny" and "ng" respectively because of their familiarity.

The consonants ʒ and ɲw

These are represented by the graphemes "ʒ" and "nw". These sounds are frequently used in the language, and it would be inappropriate not to use already existing symbols.

The consonants tʃ and dʒ

These sounds are represented by the graphemes "c" and "j", which are already existing in English and can be found on the typewriter.

6.2.2 Vowels

These do not pose any problems in the establishment of an alphabet, for all the vowels in Bubia a can be found in the already existing English vowel chart, and on the keyboard of the typewriting machine.

6.3 The Alphabet

Having already done the phonological analysis of the language, we can now come out with the sounds existing in Bubia. We will propose the following alphabet. The arrangements and order, but for slight differences, is

similar to that of the English language alphabet. We will
first of all give an inventory of these phoneme symbols,
their orthographic counterparts and illustrative words.
After this, we will put forward the order in which these
phonemes should occur in the alphabet:

IPA	IAI[1]	GACL[2]	BUBIA GRAPHEMES	BUBIA WORDS	ENGLISH GLOSS
/ɸ/	/f/	p	p	pɔ̀pɔ́	"pawpaw"
/β/	/ʋ/	b	b	lìbálɛ̀	"loan"
/bw/	/bw/	bw	bw	bwâm	"fine"
/m/	/m/	m	m	mòsò	"lake"
/mb/	/mb/	mb	mb	mbwà	"rain"
/w/	/w/	w	w	wɔ́sì	"horse"
/t/	/t/	t	t	tɛ̀	"if"
/d/	/d/	d	d	lìdàŋéá	"to scold"
/n/	/n/	n	n	nɛ̂	"how"
/ŋw/	/ŋw/	ŋw	nw	nwánà	"child"
/nd/	/nd/	nd	nd	ndòmí	"shark"
/l/	/l/	l	l	lîlɔ̀	"voice"
/s/	/s/	s	s	sáwá	"shore"
/tʃ/	/c/	c	c	cóbí	"speech"
/dʒ/	/j/	j	k	jâɛ́	"no"
/ʒ/	/zh/	zh	zh	èzhɛ́lɛ̀ndɛ́	"cricket"
/ndʒ/	/nj/	nj	nj	njɔ̀njì	"whale"
/ɲ/	/ny/	ny	ny	nyɔ̀	"drink"
/k/	/k/	k	k	kɔ̀	"snail"
/ŋg/	/ŋg/	ŋg	ng	ngà	"crab"

/j/	/y/	y	y	yàlí	"leaf
/kp/	/kp/	kp	kp	kpélí	"death"
/gb/	/gb/	gb	gb	gbáyò	"canoe"
/a/	/a/	a	a	átɛ̀	"swear"
/e/	/e/	e	e	èjàlà	"word"
/ɛ/	/ɛ/	ɛ	ɛ	ɛ̀ɛ̀	"yes"
/i/	/i/	i	i	ìtùtú	"smoke"
/o/	/o/	o	o	óní	"where"
/u/	/u/	u	u	úwɛ́lɛ̂	"ask"
/ɔ/	/ɔ/	ɔ	ɔ	kɔ́tɔ́	"fence"
/a:/	/a:/	aa	aa	ndàá	"macabo"
/e:/	/e:/	ee	ee	wèémbé	"mammals"
/ɛ:/	/ɛ:/	ɛɛ	ɛɛ	ɛ̀ɛ̀mɛ̀	"habit"
/i:/	/i:/	ii	ii	ììjá	"pus"
/o:/	/o:/	oo	oo	mòòndó	"tail"
/u:/	/u:/	uu	uu	tùú	"room"
/ɔ:/	/ɔ:/	ɔɔ	ɔɔ	wɔ̀ɔmbɔ́	"sugar"

(1) IAI: International African Institute   Chart 10:
(2) GACL: General Alphabet of Cameroon Languages.

The alphabet in Bubia will have the following order;

a, b, c, d, e, ɛ, g, h, i, j, k, l, m, n, o, p, s,

t, u, v, w, y, z. (23 letters)

6.4 Tones

The symbols for marking tones are;

      ˊ   -   high tone

      ˋ   -   low tone

      ˇ   -   rising tone

      ˆ   -   falling tone

Tones are marked as they are percieved but in writing, only the high and low tones will be used. This is done in order to avoid complications. This will be seen in the illustrative text that comes at the end of this chapter.

6.5 Word Division

Many problems are usually encountered in working out word division in languages. Bubia is one of those Bantu languages that have these problems. This is because many lexical and grammatical items in a language undergo varying modifications like deletion and insertion.

It is a normal phenomenon that phonemes be considered as separate words if these two can be separated by a word. Pike (1977). This phenomenon exists in Bubia.

Illustration

[wálánà mo-lòngà]   "Beautiful woman"

[wánà mo-lòízê]   "Lucky children"

The genetive - like prefix mo- comes in this position after the adjective. If it were not there, we would rather

say ["wálánà lòngà"] or ["wánà lòízê",] which would make no sense.

Another idea is that two morphemes cannot be considered separate words, for they cannot be separated such that each one can be collocated with quite a different morpheme, giving birth to a new meaning. These morphemes are prefixes marking the nominal classes to which the nouns belong. Having this in mind, the prefixe e cannot be separated from the nouns they designate.

Illustration

[èngà]   "crab"   not   [è ngà]

[èkέmà]   "monkey"   not   [è kέmà]

[èŋwánà]   "child"   not   [è ŋwánà]

Consequently these nouns can be collocated with demonstratives, this and that which in Bubia, are ónó and òngó respectively.

Illustration

[ónó ngà]   "This crab"

[òngó ngà]   "That crab"

[ónó kέmà]   "This monkey"

[òngó kέmà]   "That monkey"

[ónó ŋwánà]   "This child"

[òngó ŋwánà]   "That child"

[ónó wánà]   "These children"

[òngo wánà]   "Those children"

These demonstratives have full meanings in themselves, thus they cannot be linked to the nouns. They are very different from the nominal prefix e-.

6.6 Illustrative Text

The text below constitutes our illustration of some of the alphabet graphemes and orthographic principles that have been postulated in Bubia. The text is represented in four lines. The first line the phonetic transcription of the story; the second, the phonemic. The third line gives the orthographic form of the story, and the fourth, a word for word translation of the text in English. After this exercise, we will write out a free translation the story.

[wòkítò]

/wòkítò/

wòkítò

Stóry

[wòkítò	wó	wòlì-ɲàmɛ̀	wá	ŋwàndʒà]
/wòkítò	wó	wòlì-ɲàmɛ̀	wá	ŋwàndʒà/
wòkítò	wó	wòlì-nyàmɛ̀	wá	nwànjà
Story	of	kingdom	fish	the sea.

1) [wóɲá wókó ndʒɔ̀ndʒà-ɲàmɛ̀ á má sùngéjà]

/wóɲá wókó ndʒɔ̀ndʒà-ɲàmɛ̀ á má sùngéjà/

wónyá wókó njɔ̀njà-nyàmɛ̀ á má sùngéyà

Day one whale animal he them told

2) [wòlì-ɲàmɛ̀   élímá   wá   wɛ́nɛ̀   ndòŋgàméní   sí   á]

   /wòlì-ɲàmɛ̀   élímá   wá   wɛ́nɛ̀   ndòŋgàméní   wí   á/

   wòlì-nyàɛ̀   élímá   wá   wɛ́nɛ̀   ndòŋgàméní   sí   á

   Kingdom animal   that   them have   meeting   but he

3) [wɛ́nì   lìkpá   jà   lìwàsùŋgéjà   ékì   èndòŋgàméní   jó wɛ́]

   /wɛ́nì   lìkpá   jà   lìwàsùŋgéjà   ékì   èndòŋgàméní   jó wɛ́/

   wɛ́nì   lìkpá   yà   lìwàsùŋgéyà   ékì   èndòŋgàméní   yó   wɛ́

   Has   to come there to inform them place   meeting hold will

4) [èwṹɲá   wò   mùká   ò   wéjá   wòlìɲàmɛ̀]

   /èwṹɲá   wò   mùká   ò   wéjá   wòlìɲàmɛ̀/

   èwṹnyá wò   mùká   ò   wéyá   wòlìnyàmɛ̀

   day   of   reached it asked kingdom fish

5) [élímá   wá   mòbíjé.   òwí   nɛ   á   màwɛ́   lìwà]

   /élímá   wá   mòbíjé.   òwí   nɛ   á   màwɛ́   lìwà/

   élímá   wá   mòbíyé.   òwí   nɛ   á   màwɛ́   lìwà

   That   him   to follow. As   how he was   with them

6) [sìwà nà à lìbò sájí tʃá ì-ɲàmà tʃá ŋwɛ́ɲá màlíβá í màtìmbéjà ò ŋgèjá]

   /sìwà nà ò lìbò sájí tʃá ì-ɲàmà tʃá ŋwɛ́ɲá màlíβá í màtìmbéjà ò ŋgèjá/

   sìwà nà ò lìbò sáyí cá ì-nyàmà cá nwɛ́nyá màlíβá í màtìmbéyà ò ŋgèyá.

   Going deeper seabed, many of [plu-] fish of shallow water

   they returned on the way.

✗ 7) [wéŋgà i-ɲàmà tʃá lìbò sí í má lìjà èŋgé ndòŋgà-méní]

/wéŋgà i-ɲàmà tʃá lìbò sí í má lìjà èŋgé ndòŋgà-méní/

wɛ́ŋgà i-nyàmà cá lìbò sí í má lìyà èŋgé ndòŋgà-méni

So [s-plural marker] fish of seabed there they hold that meeting.

8) [ò téni wó si i-ɲàmà tʃá kpàlà élímá wá la i-ɲàmà tʃá ŋwɛɲà màlíßá]

/o téni wó sì i-ɲàmà tʃá kpàlà élímá wá la i-ɲàmà tʃá ŋwɛɲà màlíßá/

ò téni wó si i-nyàmà cá lìbò cá kpàlà élímá wá la i-nyɛ̂mà cá nwɛnyà

màcíßà

There that [plu-] fish of seabed say that they [aux] eat [plu-] fish of

shallow water.

9) [wó sí éŋgéli wówíà wá kpálá élímá]

/wó sí éŋgéli wówíà wá kpálá élímá/

wó sí éŋgéli wówíà wá kpálá élímá

That is why   Wovea people they say that.

10) [jámí i-sùmè íkóá ò lìbò è-mìá:ndʒá msá wèlì lì éwíjá]

/jámí i-sùmè íkóá ò lìtò è-mìá:ndʒá mésá wèlì lì éwíjá/

yámí i-sùmè íkóá ò lìbò è-mìáànjá mésá wèlì lì éwíyá

what [plu-] grouper discuss on seabed [plu-] exocet never can know.

Free translation of the story

The story of the meeting in the fish kingdom

(1) One day, the whale came and told

(2) The fish kingdon that they would have a meeting, but he,

(3) has to come and inform them of the place of the meeting

(4) On the day of the meeting he asked the fish kingdom

(5) to follow him. As he was with them,

(6) going deeper towards the seabed, many shallow water

   fishes returned on the way.

(7) So the deepsea fishes held the meeting

(8) and they decided that the deep sea dwellers would feed

   on shallow water fishes.

(9) That is why the wovea people say that

(10) what is discussed on the seabed by groupers, the

   exocets can never know on shallow water.

Free Writing of the story

The story of the meeting in the fish Kingdom

Once upon a time, fishes decided to hold a meeting. The whale, the spokesman of the fishes informed all the fishes of this meeting and promised to come and inform them of the date and venue of this meeting. When the day was at hand, he told the fishes that the proposed meeting would take place on the seabed. This was an impossibility because the shallow water fishes could not swim to the seabed. They followed the whale anyway, but had to return on the way

because of the impossibility for them to swim at that depth. The whale finally arrived at the seabed alone.

Despite the absence of the shallow water fishes, the meeting took place, and the deepsea dwellers decided that they would feed on the shallow water fishes, since there was no food. When the shallow water fishes heard of this decision, they protested. Their protest was ignored by the deepsea fishes who asked them to come and present whatever grievances they have on the seabed. This of course was an impossibility.

That is why it goes without saying in Botaland (Wovea) that what is discussed on the seabed, can never be known on shallow water. This is because some deepsea dwellers if not all of them can come up and swim on shallow water, but the shallow water dwellers can never swim to the seabed.

CONCLUSION

This work is a contribution to the description and development of the national languages of Cameroon.

The field work on which it is based was done mostly in Wovea, and around Limbe. Our objective was to study the sound system of this language, bringing out the distinctive sounds in order to put up a writing system for Bubia.

We had to trace and situate the Wovea people's history, their geographical location and their socio-economic activities. We also looked at the linguistic situation of the language, its relationship with other languages, and its review of literature. Since nothing linguistic has been written on it, we looked at what has been written on a neighbouring language. After this, we did an inventory of the sounds and tones that exist in Bubia.

Chapter two dealt with segmental phonology. We looked at suspicious pairs that exist in Bubia and realized that all the sounds could form suspicious pairs. We also discovered that the sound /d/ is very rare in the language.

Chapter three looked into interpretation problems. Here, we interpreted ambiguous sound segments in Bubia, and a lot of emphasis was laid on the fact that the structural pattern does not permit consonant clusters (CC), but does permit vowel clusters (VV) at morpheme boundary. In such cases, it permits a VV structure where V_1 is of a different quality from V_2. We also realized that all the vowels of Bubia could be lengthened.

Chapter four treated the syllable, morpheme and word structures. After the examination of the language, we noticed that the structure can permit a VV structure even if V_1 is different from V_2 at morpheme boundary. We also realized that we can have up to five syllable words. The first four chapters dealt with the Syntagmatic part of the work.

Chapters five and six dealt with Paradigmatic phonology. Here, we have been concerned with the Supra-Segmental analysis of tone and vowel length. We found out that Bubia has four tone markers (high, low, rising, falling). It was difficult for us to determine if vowel length was pertinent or not, despite the examples we got, illustrating vowel length. We dealt with lexical tones, an area on which we will like further studies to be carried on, for despite our work we did not come to a conclusion or give any authentic tonal rule. As a matter of fact, a lot of further studies has to be done on tones of this language.

Chapter six tried to establish an alphabet and a writing system of the language. This step is of prime importance to any language for it will lead to the subsequent standardization of the language. We also realized that in working out word division in a language, many problems are encountered. This is because many lexical and grammatical items in a language undergo various modifications like deletion, insertion of sound units or any other modification depending on the contexts in which they

are put. The illustrative text follows this part and concludes our work on the phonology of Bubia.

There remains anyway areas in this language that call for further studies. Good examples are tones and their placement, tone harmony, vowel harmony. Most of all it would be necessary to get a rule for tonal changes, for this was one of our handicaps. All these problems have arisen because so far, no scientific work had been done on Bubia. We hope this work will pave the way for further studies into various areas of Bubia. In any case, we hope we have contributed in one way or the other to the field of linguistics.

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