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# **STRUCTURAL PHONOLOGY OF BAMUNKA**

**A Dissertation Presented in Partial Fulfilment of the Requirements  
for the Award of the Post-graduate Diploma (maîtrise) in Linguistics**

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## **DEDICATION**

**This work is dedicated to my late Dad,  
Mr. Augustine Takwe Tantoh and to my Mum**

**Mrs Concilia Takwe**

**And**

**To all my brothers and sisters not  
Forgetting Bih Na'omi and Grand Mum**

**Mami Regi.**

## ACKNOWLEDGEMENT

I would like to acknowledge all those who helped me morally, spiritually and financially in the realisation of this work. We all know a work like this cannot be of one man's effort.

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Thanks also to Mr. Beseka Michael, Isaac Boubou and the Bamunka community.

**LIST OF ABBREVIATIONS AND SYMBOLS**

GACL:	General Alphabet of Cameroonian Languages
SIL :	Summer Institute of Linguistics
ALCAM:	Atlas Linguistic du Cameroun
C <sup>w</sup> :	Labialised Consonant
C <sup>j</sup> :	Palatalised Consonant
C:	Consonant
V:	Vowel
VD:	Voiced
VL:	Voiceless
N :	Syllabic Nasal
ˊ:	High Tone
ˋ:	Low Tone
ˌ:	Mid Tone
ˆ:	Falling Tone
˘:	Rising Tone
TBU:	Tone bearing Unit
∅:	Null Element
→:	Becomes
#:	Word Boundary
/:	Environment of occurrence
//:	Phonological Representation
[ ]:	Phonetic Representation
α:	Alpha
[+ ]:	Possible Occurrence
I.V :	International Vaccine

① not done

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## CHAPTER I

### GENERAL INTRODUCTION:

#### 1.0 INTRODUCTION:

This work is a sketch of the phonology of the Bamunka language spoken in Ndop plain in the Ngoketunjia Division in the North West Province of Cameroon.

In this chapter, we are going to locate Bamunka geographically and linguistically. We are also going to spell out aim of the study and describe the socio-economic activities of these people.

#### 1.1 AIM OR OBJECTIVE OF STUDY:

The aim of this study is to establish a writing system for the language. By so doing, we contribute to the development of the language and the Literacy of the native speakers since they will be able to read and write in their own native language. This development and literacy will help them to preserve their culture in writing. It will also enable them better communicate amongst themselves in reading and writing without the help of an interpreter.

This work is limited to the description of sounds, tones, syllable structures and phonological processes involved in the formation of ~~new~~ words.

#### 1.2 GEOGRAPHICAL AND HISTORICAL LOCATION:

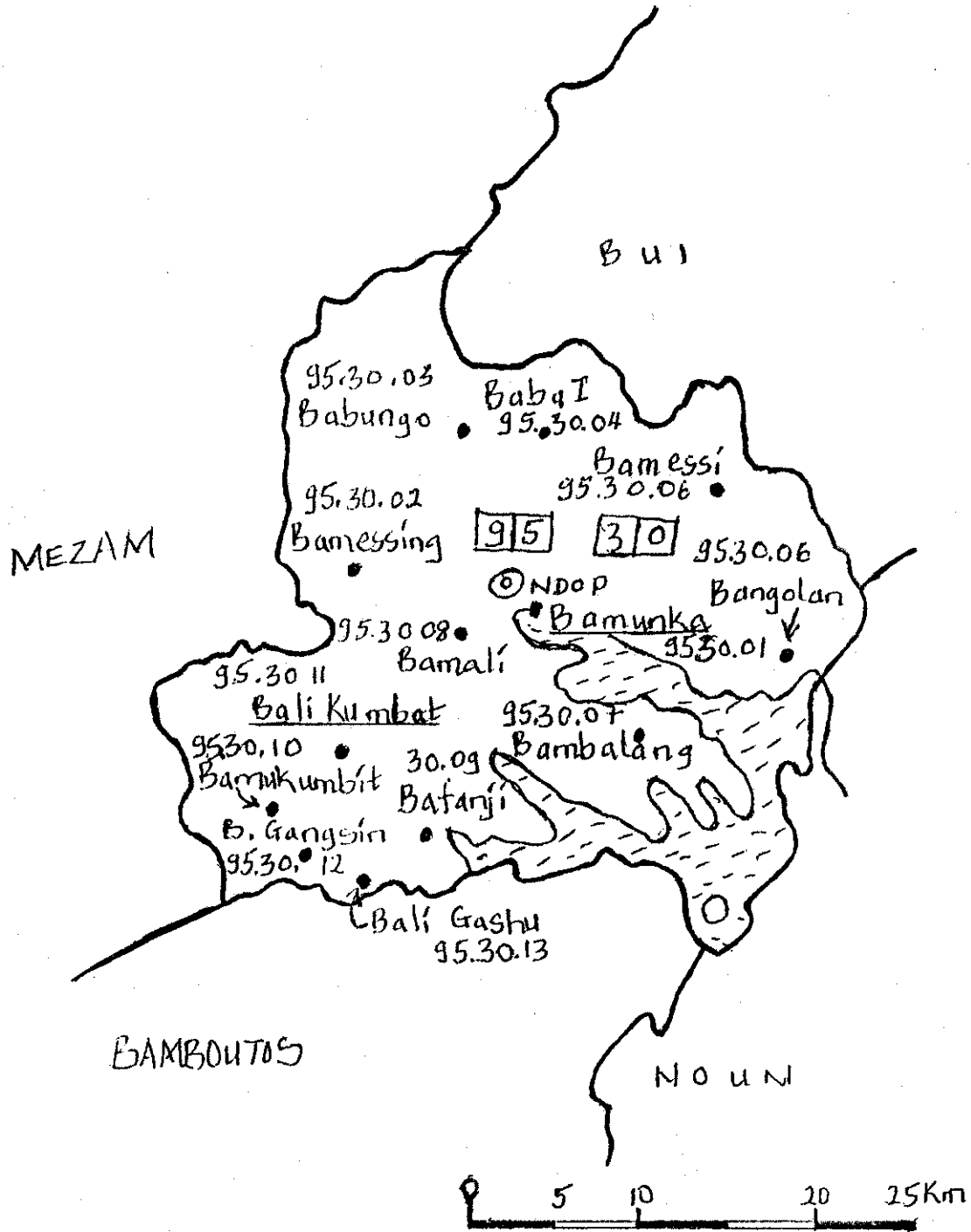
Bamunka is located in the Ndop plain, some 26 miles or 40 km away from Bamenda in the North West Province of Cameroon, on the way to Bui Division. The population of Bamunka has grown drastically due to the creation of Ngoketunjia Division. The people of Bamunka migrated from Ndobu in Douala in the littoral Province of Cameroon led by Fon Chengfong. Bamunka is one of the villages that make up the Ngoketunjia Division and the most central in Ndop

having the seat of administration. The village is bounded to the North by Babessi, Babungo, and Baba I, to the South by Bamessing, Balikumbat, Bambalang and Bamali, to the East by Bangolan, and to the West by Bikom. The actual name of the village known to the natives is "Mekoh".

Bamunka has eight quarters namely Bekiew, Mbongko, Mbehmbong, Messi, Meboh, Mesaw, Ngwalla and Teloh all named after those who accompanied the first Fon Chengfong from Ndobbo to the present site to give them credit

# GEOGRAPHICAL LOCATION OF BAMUNKA

MAP A : NGOKETUNJIA DIVISION NDOP



⊙	Chief town of Division
•	Chiefdom
—	Divisional Boundary
—	LAKE

Source :  
Adapted from ALCAM 1991

### 1.3 SOCIO-ECONOMIC ACTIVITIES

Bamunka is a low land area and flat as a whole with very fertile soil for the cultivation of all kinds of crops. Part of Bamunka is swampy and this permits the cultivation of the popular "Ndop Rice".

The main occupation of the people of Bamunka is agriculture. The natives do large and small scale cultivation. The large scale cultivation is done mostly for commercial purposes and the left over is reserved for household consumption. The inhabitants grow crops like rice, maize, cocoyams, groundnuts, yams, beans, cassava, tomatoes, vegetables, okro, potatoes, etc. They also rear cattle, do poultry farming, fish farming and keep rabbits.

The common drinks found in Bamunka are palmwine and cornbeer. The staple food is corn fufu and vegetable or fish soup. The natives produce palmoil and kernel which is exported for the production of kernel oil used in the production of soap. Palmwine taping is also a very common occupation amongst the natives. This is also a source of income.

### 1.4 THE LANGUAGE

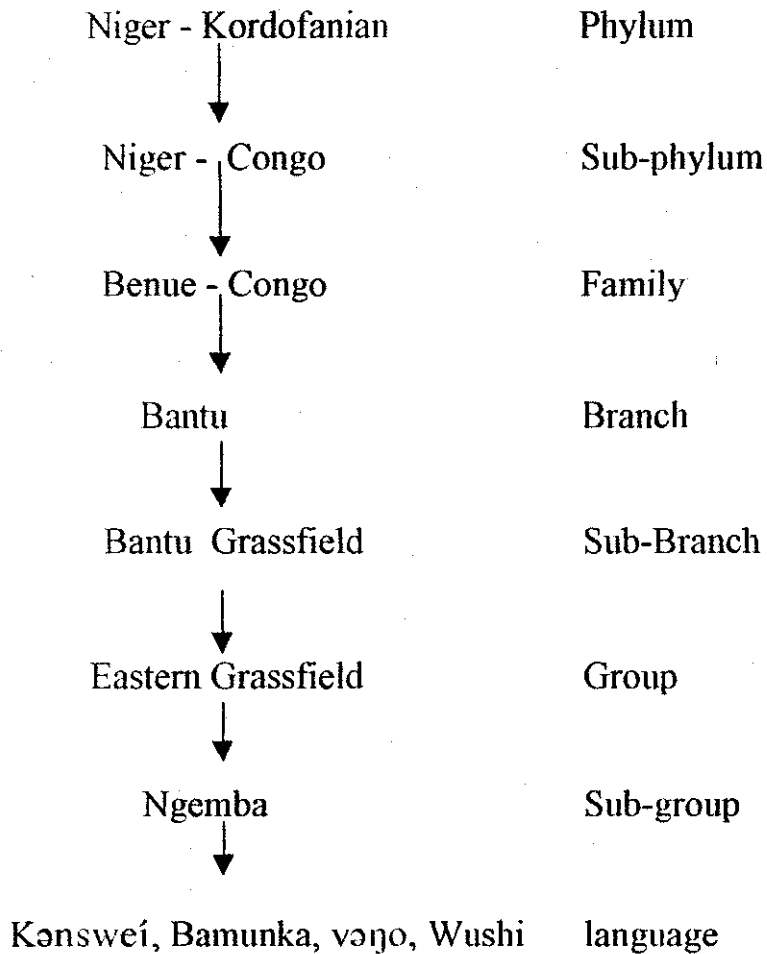
The native language of Bamunka is called Ngiemekokeh. The Bamunka people show signs of returning to their native names Mekoh (to refer to the village) and Ngiemekokeh (to refer to the language). Administratively, both the people and their language are known as Bamunka but presently, the natives want to separate the village from the language.

#### 1.4.1 LINGUISTIC LOCATION OF BAMUNKA

According to the classification of DGRST in the linguistic Atlas, Bamunka is located along the ring road of the North West Province. It belongs in zone 8 and has as reference number 842. The Bamunka language has five neighboring

languages namely kənsweí nseí (code 841), vəŋo (code 843), bapakum (code 900), wushi (code 844) and shupaməm (code 901).

The Bamunka language is linguistically classified as follows:

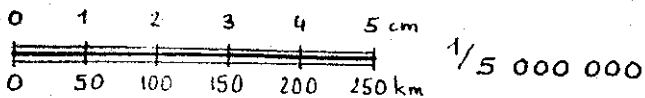
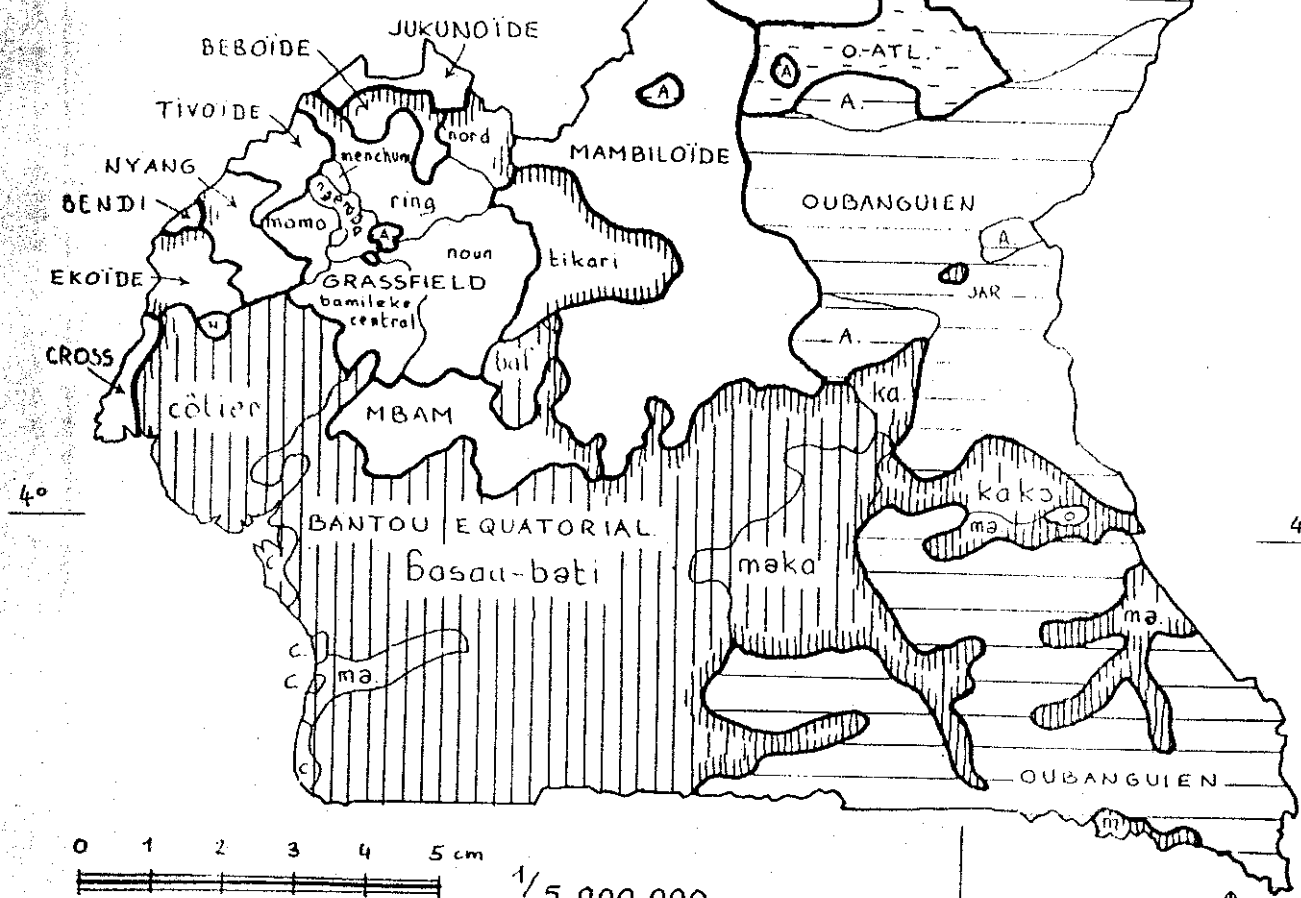


ALCAM'S classification (linguistic Atlas of central Africa)

# FAMILLES ET GROUPES LINGUISTIQUES AU CAMEROUN

phylums	sous-phylums	familles	sous-familles	branches	sous-branches	groupes
AFROASIATIQUE	SEMITIQUE					
	TCHADIQUE					
NILO-SAHARIEN	SAHARIEN					
	CHARI-NIL					
NIGER-KOR-DOFANI	NIGER-CONGO	OUEST-ATLANTIQUE				
		ADAIL- OUBANG	ADAMAWA			
			OUBANGUIEN			
			JUKUNOÏDE			
			CROSS-RIVER			
			BENDI			
			BANTOÏDE	MAMBILOÏDE		
				JARAWAN		
				TIVOÏDE		
				EKOÏDE		
				NYANG		
				BEBOÏDE		
	GRASSFIELD					
	MBAM					
	TIKARI					
	EQUATORIAL					

limite du bantou



14° SLAC CAM. 12 1983

SOURCE : ALLAM 1991

MAP C :

NATIONAL LANGUAGES OF NGOKETUNJIA DIVISION



⊙	Divisional Head Quarter
—	Divisional Boundary
~	Village Boundary

▨	Language of study
▨	LAKE
▨	Neighbouring languages

SOURCE : ALCAM (Adapted)

## 1.5 SOURCE OF DATA:

Our study is based on a data of one thousand five hundred words collected from Bamunka with the aid of some of the natives of this village. The data include names of things, nouns, verbs, adjectives and events. These words were written in English and later on translated into the Bamunka language.

Seven informants, all native speakers of Bamunka based in Ndop and Yaounde, contributed in the realization of the data used. Following is information about the informants:

No	Names of informants	Age	Occupation	Residence
1.	Beseka Michael	56	Teacher	Ndop
2.	Boubou Isaac	24	Student	Yaounde
3.	Njoya Inocent	27	Student	Yaounde
4.	Abanda Henry	27	Student (polytec)	Yaounde
5.	Njoya Jacob	27	INJS	Yaounde
6.	Bomuva Martin	31	Police officer	Yaounde
7.	Godfred Bar	45	Chief of service	Bamenda

(I.V. Preventive Medecine)

## 1.6 LITERATURE REVIEW:

The Bamunka language has been studied in Nashipu (1989). This is a socio-linguistic study which is out to establish a lexicostatical matrix of all the languages in the Ndop plain, the relationship which exists between these languages and to classify them into groups. The main objective of the study is to determine whether the languages of Ndop plain are languages on themselves or dialects of the same language. The languages studied are: Bamili, Bafanji, Babal, Bangolan, Bambalang, Bamuka, Bamukumbit, Bali-Kumbat, Babungo, Babessi, and Bamissing. The methods used are the dialectometrical method assisted by mass



comparison and the reconstruction or comparative methods. The study classified the languages as languages on themselves and not dialects of the same language.

This work has served as a base for the reconstruction of the linguistic history of the Bamunka language.

## 1.7 METHODOLOGY

The data for the present study was collected through direct contact with the natives. A list of about one thousand five hundred words was established in English and was latter translated into the Bamunka language. A tape recorder was used to tape record the pronunciation of the words. This tape helped in cross-checking the transcribed forms.

The data was analysed using the structural approach. The structural approach as defined by (Martinet and Troubezkoy permits us to first of all provide an inventory of all the sounds which exist in the language. These sounds are next opposed to each other to determine if they are phonemes or variants of phonemes. In order to determine if they are phonemes or variants of phonemes, the sounds are compared in identical context (that is minimal pairs) and analogous contexts (that is near minimal pairs). Examples of these words are as follows:

[nó] "excrete "	[nà] "cow"
[mó] "one"	[nà] "animal"
[nó] "excrete "	[fi'] "there"
[ŋô] "pepper"	[vi'] "fire"

Contextual variation was also used to establish the status of sounds. This means the context or environment in which these sounds occur. The structural method therefore consists in the identification of sounds, the classification of these sounds and the study of the distribution of these sounds in words.

The transcription system used is the IPA (the International Phonetic Alphabet). The proposed alphabet for the orthography of the Bamunka language will be based on the general Alphabet of Cameroon languages, proposed in Tadadjeu and Sadembouo (1984).

## **1.8 ORGANISATION OF WORK**

This work is organised in five chapters.

Chapter one is the general introduction of this study which presents the geographic, linguistic and socio-economic background of the study. It also presents the language, our aim of study, the methodology used in this study and the literature review.

Chapter two deals with segmental phonology. This involves identification of the sounds of this language and attributing them to their various phonemes.

Chapter three focuses on the syllable structure of words and interpretation problems.

Chapter four examines the tones, tonal processes and survey of morpho-phonology.

Chapter five consists of a proposed alphabet and orthography and the general conclusion drawn from our study.

## CHAPTER TWO

### SEGMENTAL PHONOLOGY

#### 2.0) INTRODUCTION:

In this chapter, we are going to establish the phonemic sounds of Bamunka. The discussion will begin with an inventory of phonetic sounds. Next we define the sounds and classify them to their various phonemes. This classification will be done using the minimal and near minimal pairs approach proposed by Troubetzkoy (1970;49-50) and Saussure (1972).

The transcription system used is the IPA (the International Phonetic Alphabet).

#### 2.1 IDENTIFICATION OF PHONEMES:

The Bamunka language contains forty-eight phonetic consonants, nine phonetic vowels, and five tones. In the sections that follow, we will determine the phonemic status of these sounds.

##### 2.1.1) DISTRIBUTION OF CONSONANTS:

The forty-eight phonetic consonants of the language are listed below:

$$\left( \begin{array}{l} b \ b^w \ b^j \ w \ m \ mb \ f \ f^j \ v \ v^j \ t \ t^w \ t^j \ d \ d^w \ d^j \ n \ n^w \\ l \ l^w \ nt \ nd \ s \ s^w \ \int \ \int^w \ 3 \ 3^w \ t\int \ d_3 \ t \ k \ k^w \ k^j \ g \ g^w \ g^j \\ \gamma \ j \ \eta \ \eta^w \ \eta^k \ \eta^{kw} \ \eta g \ \eta g^w \ ' \ h \ kp \ j \end{array} \right) \quad \times \text{ arrange}$$

These consonant sounds exhibit different distribution patterns which we present below:

1) [b], [b<sup>w</sup>] and [b<sup>j</sup>] present the following distributions:

[b]	[b <sup>w</sup> ]
[bú] "pumpkin"	[bwó] "carmwood or dust"
[bêŋkó] "wooden spoon"	[m̀bwé] "body"
[bâkó] "corn fufu"	[vábwó] "children"
[m̀bò] "fish or meat"	[fóbwáká] "blood"
[Sibó] "huckle - berry"	[bwú] "hole or cave"

[b <sup>j</sup> ]
[bjǎ] "boundary or pear "
[kəmbjá] "beside"
[m̀-bjátó] "to meet or to follow"

All the above sounds occur in word initial and medial positions. However, they differ with respect to the sounds that follow them.

[b]	[b <sup>w</sup> ]	[b <sup>j</sup> ]
-u	-ə	-a
-ə	-u	
-a	-a	
-ə		

2) [m] presents the following distributions :

[mú'] "water"	[m̀] "me"
[m̀-] "to"	
[ŋkó'mó] "fire wood "	

The above sound occurs in word initial and medial positions. It is followed by the following vowels:

[m]

- u

- t

- ə

- ɔ

3) [w] presents the following distributions :

[w]

[wó] "person"

[wú] "rain or gutter"

[béwóná] "around"

It is followed by the following vowels at word initial and medial positions:

[w]

- ɔ

- u

- ɔ

4) [f] and [f'] present the following distributions:

[f]

[yâfú] "catridge"

[váfi] "a ring"

[mĩ fé'] "rot"

[fôŋ] "leg"

[ifá] "way"

[f']

[f'àhó] "frighten"

[séf'â] "road"

[váf'â] "foot path or narrow path"

[mĩ-f'àhó] "to force"

[fɔŋ] "eight"

Both sounds appear in word initial and medial positions. They are followed by the following vowels:

[f]                      [fʲ]

-ε                        -a

-u

-i

-o

-a

4) [v] and [vʲ] have the following distributions:

[v]                        [vʲ]

[váʹ]                    "child"            [vʲákó]            "part of"

[vébé]                "kernel"           [vʲákó]            "half"

[víʹ]                    "fire"

[kívíʹ]                "charcoal"

The sounds are followed by the vowels below:

[v]                        [vʲ]

-a                        -a

-i

-ε

5) [t], [tʷ] and [tʲ] present the following distributions:

[t]                        [tʷ]                      [tʲ]

[tô]                    "navel"            [m̩t-twóŋgí]            "to whisper"            [tʲó]            "father"

[tíkó]	"stick"	[líŋt'ó]	"uncle or Aunt"
[tâŋkó]	"calabash"	[mĩ-t'â]	"to entertain"
[màtú]	"car"	[tók'wít'â]	"seven"
[ŋtâŋ]	"message"		

These sounds above are followed by the vowels as presented below:

[t]	[t <sup>w</sup> ]	[t <sup>j</sup> ]
-ə	-ə	-ə
-i		-a
-u		

6) [d], [d<sup>w</sup>] and [d<sup>j</sup>] are represented in distributions as follows

[d]	[d <sup>w</sup> ]	[d <sup>j</sup> ]
[dòŋ] "barren"	[sóndwó] "hook"	[d'ó] "weight"
[dúdú] "art"	[dwó] "now"	[ŋd'òŋó] "water snake"
[mĩ-dáhó] "to teach"	[mĩ-dwòŋ] "old"	

These sounds however, differ with respect to the vowels which follow them though both sounds occur word initially and medially. They are followed by:

[d]	[d <sup>w</sup> ]	[d <sup>j</sup> ]
-ə	-ə	-ə
-a	-ə	
-u		

7) [n] and [n<sup>w</sup>] are represented in distributions as follows:

[n]	[n <sup>w</sup> ]
[nó] "excrete"	[nwíkó] "greed or selfish"
[nènènè] "groundnut"	[kènwó] "bird"

[nó'] "dull"

[nwônəká] "armpit"

[nú'] "custom/tradition"

[mĩ-nwĩtá] "to sprinkle"

Though these sounds occur word initially and medially, they differ with respect to the sounds that follow them. They are represented as follow:

[n]

[nw]

[nó] "excrete"

[nwíká] "greed or selfish"

[nènè] "groundnut"

[kènwá] "bird"

[nó'] "dull"

[nwôbàkã] "armpit"

[nú'] "custom/tradition"

[mĩ-nwĩtã] "to sprinkle"

Though these sounds occur word initially and medially, they differ with respect to the sounds that follow them. They are presented as follow:

[n]

[nw]

-o

-í

-ε

-o

-u

-o

8) [l] and [l<sup>w</sup>] present the following distributions:

[l]

[l<sup>w</sup>]

[kwílí] "banana"

[kəlwílwí] "yellow yam"

[lúhə] "dim"

[lã] "sweet yam"

[l] appears in word initial and medial positions while [l<sup>w</sup>] appears in word medial position. They are however followed by the following vowels:

[l]

[l<sup>w</sup>]

-u

-i

-ə



-i

9) [s] and [s<sup>w</sup>] present the following distributions in word initial and medial positions:

[s]	[s <sup>w</sup> ]	[s <sup>w</sup> ]	
[sĩbá]	"huckle-berry"	[swó']	"murder, injector stab"
[mĩ-sòŋ]	"to sigh"	[mĩ-s <sup>w</sup> â]	"to be tough"
[mĩ-sènè]	"flat"	[swóŋkâ]	"frog"
[sò']	"injection"	[s <sup>w</sup> â']	"antelope"

However, they differ with respect to the vowels that follow them.

[s]	[s <sup>w</sup> ]
-i	-o
-u	-ə
-ɔ	
-ɛ	
-ə	

10) [ʃ] and [ʃ<sup>w</sup>] present the following distributions

[ʃ]	[ʃ <sup>w</sup> ]		
[ʃikâ]	"basket"	[ʃwâ]	"anus"
[ʃúp]	"soup"	[ʃwâ]	"vein"
[ŋkâŋbâʃĩ]	"captain"		

These sounds occur in word initial and medial positions and are followed by the vowels below:

[ʃ]	[ʃ <sup>w</sup> ]
-i	-o

-u

-ə

11) [ʒ] and [ʒ<sup>w</sup>] can be presented in the following distributions:

[ʒ]

[ʒ<sup>w</sup>]

[ʒíká]

"bitter-leaf"

[ʒ<sup>w</sup>ó]

"sky"

[mĩ-ʒíhó]

"to breathe"

[mĩ-ʒ<sup>w</sup>ólû']

"to sing"

[ʒōwóká]

"young"

They occur in word initial and medial positions and are followed by the vowels below:

[ʒ]

[ʒ<sup>w</sup>]

-e

-o

-i

-o

-u

12) [tʃ] and [dʒ] present the following distributions:

[tʃ]

[dʒ]

[tʃíví']

"fire side"

[mĩ-dʒí']

"to urinate"

[mò'tʃú]

"mouthy or quarrel"

[nɔdʒəŋ]

"dream"

[mĩ-tʃú']

"to light or pound"

[dʒú']

"clumsy or owl"

They are followed by the vowels below in word initial and medial positions:

[tʃ]

[dʒ]

-i

-i

-u

-ə

-o

-o

-u

13) [k], [k<sup>w</sup>] and [k<sup>j</sup>] present the following distributions:

[k]		[k <sup>w</sup> ]		[k <sup>j</sup> ]	
[kú']	"death"	[k <sup>w</sup> é]	"cough"	[kjá]	"head pad"
[kê]	"touch"	[k <sup>w</sup> ò]	"bag"	[mĩ-kjò]	"to have"
[búkó]	"excreter"	[tókúwítjâ]	"seven"	[mĩ-kjáhá]	"to turn" or pour "
[kē]	"beard"				

From the above illustrations the vowels which follow these sounds in word initial and medial positions are as follows:

[k]	[k <sup>w</sup> ]	[k <sup>j</sup> ]
-u	-e	-a
-ə	-i	-ə
-e	-o	
-e		

14) [g], [g<sup>w</sup>] and [g<sup>j</sup>] all appear in word initial and medial positions. They present the following distributions:

[g]		[g <sup>w</sup> ]		[g <sup>j</sup> ]	
[gù]	"collapse"	[g <sup>w</sup> é]	"come"	[gjódà]	"very big"
[mĩ-gó]	"to be pregnant"	[mĩ-g <sup>w</sup> ó]	"to fall"	[mĩ-gjé]	"sound"
[gê]	"go"			[mĩ-gjétò]	"greetings or to greet"

Though they all appear in word initial and medial positions, they are followed by vowels as follows:

[g]	[g <sup>w</sup> ]	[g <sup>j</sup> ]
-u	-e	-ə
-ə	-o	-e

- 15) [ɥ] occurs in word initial and medial positions. It presents the following distributions:

[ɥ]

[ɥǎ] "spear"

[ɥú] "valley"

[mǎ-ɥá'] "to beg"

[váɥó] "ridge"

[mǎ-ɥú'] "to vomit"

From the above illustrations the sound [ɥ] is followed by the following vowels :

[ɥ]

-ə

-u

-a

-o

- 16) The consonant [ɲ] appears in word initial and medial positions. It presents the following distributions:

[ɲà'] "animal"

[ɲí] "god"

[ɲkúɲàm] "pig"

[ɲòɲgwémó] "cattle egret"

This sound is followed by the following vowels:

[ŋ]

-o

-a

-i

- 17) [ŋ] occurs in word initial, medial and final positions and [ŋ<sup>w</sup>] occurs in word initial position:

[ŋ]

[ŋ<sup>w</sup>]

[ŋô]

"pepper"

[ŋ<sup>w</sup>ð]

"breast"

[bðŋ]

"behind"

[ŋ<sup>w</sup>è]

"arrow"

[fûŋkó]

"feather"

[ŋ<sup>w</sup>ðnó]

"book"

[líŋtjó]

"uncle or aunt"

They are followed by the following vowels:

[ŋ]

[ŋ<sup>w</sup>]

-o

-o

-k

-e

-t

- 18) ['] presents the following distributions:

[']

[nà']

"cow"

[ŋtʃi'kó]

"fever"

[ví']

"fire"

[ŋkó'mó]

"fire wood"

The sound ['] appears in word medial and final positions. It is followed by the sounds below:

[']

-m

-k

20) [h] presents the following distributions:

[h]

[ɲdàhó] "teacher"

[hàjǒ] "Good morning"

[víhǎ] "tatching grass"

It occurs in word initial and medial positions and is followed by the vowels below:

[h]

-ə

-a

21) [j] occurs in word initial and medial positions. It presents the following distributions:

[j]

[jâkǎ] "sick"

[mǎ-jú'] "to eat or feed"

[fújǎ] "thunder"

[jíkǎ] "enough"

The sound [j] is followed by the vowels below:

[j]

-ə

-o

-i

-u

The consonant sounds examined above can be presented on the following table which shows place and manner of articulation as well as the state of the glottis. Palatalised and labialised sounds will not be included as they are treated as simple cases of consonant modification.

2.1.2 Fig. 1. PHONETIC CONSONANT CHART:

manner of articulation	Place of articulation							
	Bilabial	Labio-dental	Dental-alveolar	Palatal-alveolar	Palatal	Velar	Glottal	Labio-velar
Plosive VL			t			k		kp
VD	b		d			g		
Fricative VL		f	s	ʃ			h	
VD		v		ʒ		ɣ		
Affricate VL				tʃ				
VD				dʒ				
Nasal	m		n		ɲ	ŋ		
Pre-nasalized			nt			ŋk		
Stop VD	mb		nd			ŋg		
Lateral			l					
Glide	w				j			

### 2.1.3 PHONEMIC STATUS OF CONSONANTS:

In this section, we will determine the phonemic status of these sounds, using the minimal and near minimal pair approach. We will first establish a list of suspicious pairs of these sounds that will be relevant to this discussion.

### 2.1.4 LIST OF SUSPICIOUS PAIRS OF SOUNDS:

(b,m), (b,w), (t,d), (d,n), (d,l), (f,v), (n,m), (n,p), (n,ŋ), (s,ʃ), (ʃ,z), (tʃ,dʒ),  
(k,g), (g,ɣ), (ʻ,h)

### 2.1.5 CONTRASTIVE DISTRIBUTION

#### 1) The phonemic status of [b]

The status of [b] as a phoneme can be established through the following contrasts:

[b]	and	[m]
[búʻ]	"drunk"	
[múʻ]	"water"	

[b]	and	[w]
[bú]	"pumpkin"	
[wú]	"rain or gutter"	

From these contrasts above, /b/ is a phoneme in the language: a voiced, bilabial, stop.

#### 2) The phonemic status of [f]

The status of [f] as a phoneme can be established through the following contrasts:



[f]	and	[v]
[fá'ʔ]	"where ?"	
[vá']	"child or small"	
[fi']	"there"	
[ví']	"fire"	

The above examples distinguish /f/ as a phoneme in the language: a voiceless, Labio-dental fricative.

3) The phonemic status of [t]

[t]	and	[d]
[tó]	"small"	
[dó]	"tall"	
[təŋ]	"liver"	
[dəŋ]	"barren"	
[tènə]	"stand"	
[dènə]	"celebration"	

From the above examples, /t/ is a phoneme in the language: a voiceless, alveolar, stop.

4) The phonemic status of [d]

The status of this sound can be established through the following contrasts:

[d]	and	[t]	see	[t]
[d]	and	[n]		
[dú']	"bow"			
[nú']	"custom or tradition"			
[dènē]	"celebration"			

[nènè]	"groundnut"
[dà']	"very"
[nà']	"cow"
[d]	and [l]
[dòŋ]	"barren"
[lòŋ]	"male or iron"
[dâ]	"boast"
[lâ]	"thief"

These contrasts distinguish /d/ as a phoneme in the language: a voiced, alveolar, stop.

5) The status of [n] as a phoneme

The phonemic status of [n] can be established through the following contrasts:

[n]	and	[d]	see	[d]
[n]	and	[m]		
[nú']	"drink"			
[mú']	"water"			
[nó]	"excrete"			
[mó]	"one"			
[n]	and	[ŋ]		
[nà']	"cow"			
[ŋà']	"animal"			

[n]	and	[ŋ]
[nó]	"excrete"	
[ŋô]	"pepper"	
[kónó]	"potato"	
[kêŋã]	"vagina"	

The above examples distinguish /n/ as a phoneme in the language: a voiced, dental-alveolar, nasal, stop.

6) The status of [s]

The phonemic status of [s] can be established through the following contrasts:

[s]	and	[ʃ]
[sú]	"corn or maize"	
[ʃû]	"soap"	
[sĩbó]	"huckle-berry"	
[ʃĩbó]	"baskets"	

These contrasts above distinguish /s/ as a phoneme in the language: voiceless, dental-alveolar, fricative.

7) The phonemic status of [ʃ]

This can be established through the following contrasts:

[ʃ]	and	[s]	see	[s]
[ʃ]	and	[ʒ]		
[ʃíkó]	"basket"			
[ʒíkó]	"bitter-leaf"			
[ʃĩbó]	"wire traps"			
[ʒĩbó]	"ankles"			

The above contrasts distinguish /ʃ/ as a phoneme in the language: voiceless, palato-alveolar, fricative.

8) The phonemic status of [ʒ]

This can be established through the following contrasts:

[ʒ]                      and                      [ʃ]                      see                      [ʃ]

From the above contrasts, [ʒ] is distinguished as a phoneme in the language: a voiced, palato-alveolar, fricative.

9) The status of [tʃ]

The status of [tʃ] as a phoneme can be established through the following contrasts:

[tʃ]                      and                      [dʒ]

[mǐ-tʃí']              "to live"

[mǐ-dʒí']              "to urinate"

[tʃú']                      "pound"

[dʒú']                      "clumsy"

From the above examples /tʃ/ is a phoneme in the language: a voiceless, palato-alveolar, affricate.

10) The phonemic status of [k]

The status of [k] can be established through the following contrasts:

[k]                      and                      [g]

[mǐ-kû]                      "to fly"

[mǐ-gû]                      "to fail"

[kú']                      "death"

[gú']                      "voice"

[kê] "touch"

[gê] "go"

These contrasts distinguish /k/ as a phoneme in the language: a voiceless, velar, stop.

#### 11) The status of [g]

This can be established through the following contrasts:

[g] and [k] see [k]

[g] and [ɣ]

[gú] "fail"

[ɣú] "valley"

[gǎ] "pregnant or wide"

[ɣǎ] "spear"

The above examples distinguish /g/ as a phoneme in the language: a voiced, velar, stop.

#### 12) The phonemic status of [ŋ]

This can be established through the following contrasts:

[ŋ] and [n] see [n]

The above contrasts distinguish /ŋ/ as a phoneme in the language: a voiced, velar, nasal.

#### 2.1.6 CONTEXTUAL VARIATION:

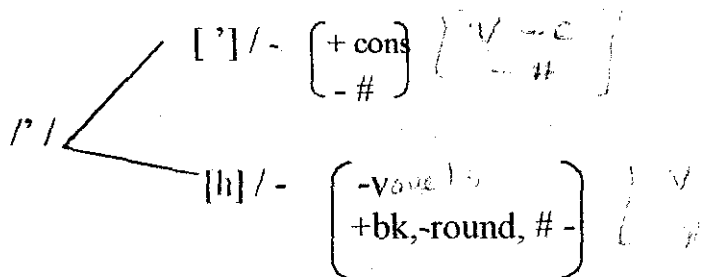
1) The glottal stop ['] occurs in word medial and final positions while [h], a glottal fricative, occurs in word medial position.

The examples below illustrate the distributions of ['] and [h]:

[nà'] "cow" [ndàhǎ] "teacher"

[nú']	"drink"	[víhǝ]	"tatching grass"
[ndí'kǝ]	"smoke"	[tǝhǝ]	"push"
[ɲtʃi'kǝ]	"fever"	[ʒíhǝ]	"breathe"

The consonant ['] appears in word medial and final positions. It contrasts with [h] which appears in word medial position. Their contexts of occurrence (considering neighboring sounds) however differs. ['] is followed exclusively by consonant sound in word medial position while [h] is followed by a central, unrounded, vowel. ['] also appears in syllable final position while [h] is in syllable initial position. Thus we can conclude that, /' / and /h/ are allophones of the same phoneme /' / represented as:



### 2.1.7 PHONEMIC CONSONANT CHART:

Place of Articulation  Manner of articulation			Bilabial	Labio-dental	Dental-alveolar	Palatal-alveolar	Palatal	Velar	Glottal
	VL	VD							
Plosive	VL	VD		t			k	'	kp
			b	d			g		
Fricative	VL	VD		f	s	ʃ			
				v		ʒ	ɣ		
Affricate	VL	VD				tʃ			
						dʒ			
Nasal			m	n		ɲ	ŋ		
Lateral				l					
Glide			w			j			

### 2.2 PHONETIC INVENTORY OF VOWELS:

The vowels found in this language are listed below:

[i, e, ɛ, ɛ̃, ə, a, u, o, ɔ]

#### 2.2.1 DISTRIBUTION OF VOWELS:

Some of these vowels listed above occur in word initial, medial and final positions. These vowels present the following distributions:

- 1) [i] occurs in word medial and final positions. It exhibits the following distributions:

[kwí] "arm"

[ʃindā]	"time"
[bíkó]	"wire"
[ví']	"fire"
[nǐ]	"God"

The vowel [i] is preceded by the following consonants:

k <sup>w</sup> -	l-
ɲ-	tʃ-
f-	m-
ʃ-	n-
v-	nd-
ʒ-	j-
k-	mb-
s-	
dʒ-	
b-	

2) [e] occurs in word medial and final positions. It presents the following distributions:

[sé]	"grave, sand or ground"
[sétákà]	"knife"
[fè]	"green vegetable"
[wòké]	"woman"
[fiŋkwé]	"uncle or aunt"

The above vowel [e] is preceded by the following consonants:

[e]  
k<sup>w</sup>-



s-  
k-  
l-  
f-

3) [ɛ] occurs in medial and final positions in words. This sound presents the following distributions:

[ɛ]

[nɛnɛ] "groundnut"

[kwɛ́] "cough"

[sɛ́] "insect"

[tɛnɛ] "stop"

[ɛ] is preceded by the following consonant sounds:

n-                      ʒ-

k<sup>w</sup>-                      d-

f-                        g-

s-                        k-

b-                        l-

t-

g<sup>w</sup>-

ɲ-

v-

4) [ɛ́] occurs in word initial, medial and final positions. This vowel presents the following distributions:

[bâfíkó] "to be angry"

[tʃɛ́] "sour or salty"

[síkó]	"hoe"
[yí]	"hundred or rope"
[kíkó]	"colocasia"

The vowel [i] is preceded by the following sounds:

m-

t-

s-

k-

tʃ-

y-

5) [ə] appears in word medial and final positions. It presents the following distributions:

[yó]	"egg"
[bâŋkə]	"wooden spoon"
[tjə]	"father"
[mĩ-ʒəŋ]	"to be skim"
[kwéhə]	"stubborn"

The consonant sounds which precede this vowel are:

k-

ʒ-

t-

d-

b-

l-

y-

n-

m-

f-

h-

tʃ-

tj-

b<sup>w</sup>-

g-

6) [a] appears in word initial, medial and final positions. It presents the following distributions:

[nà']	"cow"
[bâŋ]	"dish"
[bâkó]	"corn fufu"
[vá']	"child or small"
[váfjâ]	"foot path or narrow path"

The vowel [a] is preceded by the following sounds

n-	d-	k-
b-	n-	ɲ-
v-	y-	tʃ-
f-	ɣ-	b <sup>l</sup> -

7) [u] occurs in word medial and final positions. It illustrates the following distributions:

[dú]	"bow"
[mú']	"water"
[bú]	"pumpkin"
[búbā]	"wood ash"

[bún] "stomach"

The above vowel sound is preceded by the following consonants:

m-	f-
b-	j-
s-	w-
d-	t-
k-	g-
n-	dʒ-
l-	ɲ-
tʃ-	ʎ-
f-	ʒ-

- 8) [o] is a vowel which occurs in word initial, medial and final positions. It illustrate the following distributions:

[ɲtó'] "chief's palace"

[múto'] "farm"

[ɲkó] "grass"

[ŋgò] "stone"

The sound [o] is preceded by the following vowels:

w-

t-

k<sup>w</sup>-

m-

l-

ɲ<sup>w</sup>-

k-

f-

tʃ-

ŋg-

9) [ɔ] occurs in word medial and final positions. It presents the following distributions:

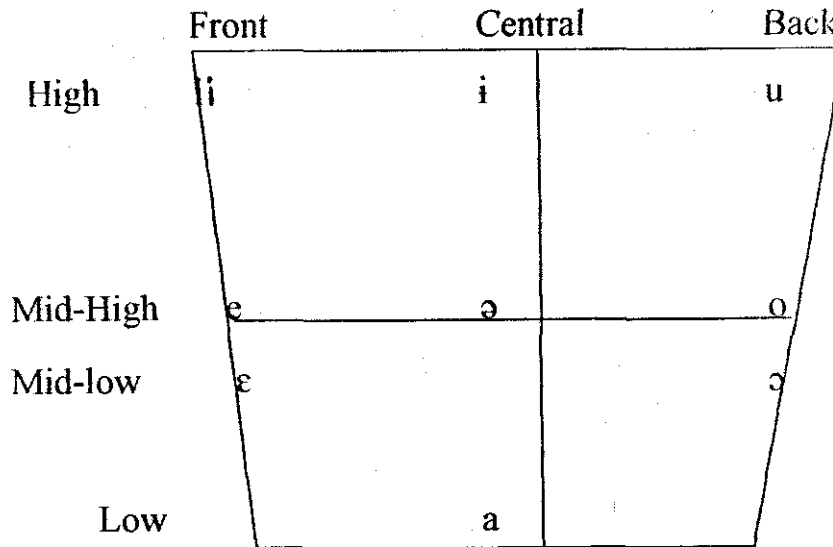
[lɔŋ]	"fence"
[fɔŋkə]	"chair"
[kwɔ]	"bag"
[wɔ]	"beans"
[ʒɔkə]	"age mate"

This vowel is preceded by the following consonant sounds:

m-	n-
b-	t-
b <sup>w</sup> -	ɣ-
k-	ʃ <sup>w</sup> -
ʒ-	ʒ <sup>w</sup> -
tʃ-	w-
ŋ <sup>w</sup> -	j-
ɲ-	

These vowels can be represented on the following chart showing the position of the tongue during articulation.

### 2.2.2 Fig: 2. Phonetic vowel chart:



In the next section, we will discuss the phonemic status of these sounds. First a list of suspicious pairs of sounds will be established as follows: (i,e), (e,ɛ), (i,ə), (ə,a), (u,o), (o,ɔ)

### 2.2.3 PHONEMIC STATUS OF VOWELS:

In this section, we are going to assign the vowels to their various phonemes. Most of the vowels occur in minimal pairs and they contrast as follows:

1) The phonemic status of [e]

The status of this sound as a phoneme can be established through the following contrasts:

[e]            and            [i]

[kwé]        "toilet"

[kwi]        "arm"

[e]            and            [ɛ]

[kwé]        "toilet"

[kwé]        "cough"

The above examples distinguish /e/ as a phoneme in the language: a front, mid-high, unrounded, vowel.

2) The phonemic status of [ə]

This can be established through the following contrasts:

[ə]            and            [i]

[ŋgá]        "trouble"

[ŋgí]        "egusi"

[ə]            and            [a]

[mĩ-bó']    "to ring"

[mĩ-bà']    "to shine"

[bâŋ]        "squirrel"

[bâŋ]        "dish"

The above examples distinguish /ə/ as a phoneme in the language: a central, mid-high, unrounded vowel.

3) The phonemic status of [o]

The status of [o] can be established through the following contrasts:

[o] and [u]

[tôdʒú'] "fare well"

[tûdʒú'] "to be happy"

[o] and [õ]

[ŋgwò] "oil "

[ŋgwò̃] "fowl "

The above examples distinguish /o/ as a phoneme in the language : back, mid-high, rounded vowel.

From the above examples, one can conclude that the Bamunka language has <sup>eight</sup> eight vowels which are / i, e, ε, i, ə, a, u, o, ɔ/

#### 2.2.4 PHONEMIC VOWEL CHART:

The vowels in this language can be presented in a vowel chart as follows:

	Front	Central	Back
High	i	i	u
Mid-high	e	ə	o
Mid-high	ε		ɔ
low	a		

We can thus conclude that the Bamunka language has a total of twenty-two consonant phonemes and nine vowel phonemes.



## CHAPTER THREE

### SYLLABLE STRUCTURE AND INTERPRETATION PROBLEMS

#### 3.0 INTRODUCTION:

In this section, we are going to examine the syllable structure of words in the Bamunka language. We will also discuss the problems faced in interpreting certain sounds. Syllable here refers to a group of sounds produced in a single utterance of the voice with the help of a short pulse beat of air commanded by the intercostal muscle movement.

#### 3.1 TYPES OF SYLLABLES:

The Bamunka language, has four types of syllables. These are as follows:

##### 3.1.1 THE V TYPE:

This is a syllable type made up of a vowel which may stand for a word. The following examples illustrate this syllable type:

- |    |     |       |
|----|-----|-------|
| 1) | /á/ | "you" |
|    | /ó/ | "he"  |

##### 3.1.2 THE N TYPE:

This is the syllable form of a nasal consonant. It functions as the nucleus of a syllable and often bears a tone. Examples include:

- |    |           |                |
|----|-----------|----------------|
| 2) | /ñ-tâñ/   | "message"      |
|    | /m̀-bò' / | "meat or fish" |
|    | /ñ-dóñ/   | "fishing net"  |
|    | /m̀-búná/ | "bell"         |

/ŋ-kúkó/ "palm nut chaffs"

### 3.1.3 THE CV TYPE:

This is a syllable made up of a consonant and a vowel. It is also known as an open syllable. The following are examples of this type of syllable:

- 3) /gê/ "go"  
 /ŋô/ "pepper"  
 /nó/ "excrete"  
 /gwé/ "come"  
 /gù/ "collapse"  
 /bà/ "hate"

### 3.1.4 THE CVC TYPE:

This syllable type is made up of an onset consonant, a vowel and another consonant in the coda position. In this language, the only consonants that occur in the coda position of this syllable type are the glottal stop and nasals. Examples include the following:

- /γú'/ "vomit"  
 /s<sup>w</sup>ó'/ "murder, inject or stab"  
 /jú'/ "eat or feed"  
 /jà'/ "animal"  
 /kón/ "scrab or scrash"  
 /lón/ "fence"

### 3.2 SYLLABLE COMBINATIONS:

The above syllable types, combine to form different word structures. In the Bamunka, we have structures like the monosyllable structures, disyllable structures and trisyllable structures. They are presented in the following paragraphs:

#### 3.2.1 MONOSYLLABIC WORD STRUCTURE:

This refers to one syllable words which stand for a meaning. Monosyllables are of various forms. These include:

##### 3.2.1.1 THE V WORD STRUCTURE:

Vowels can function alone as words or can combine with other syllables to form a word. The following are vowels that constitute syllables or words of their own.

5,a)	/á/	"you"
	/ó/	"he"

Other vowels can combine with CV structures to form a word. Most common in this group of vowels is the high central vowel i- which functions as a nominal prefix.

<i>v-type</i>	<i>transfer</i>	<i>to</i>
5,b)	/i-mǎ/	"one"
	/i-bú/	"two"
	/i-tjá/	"three"
	/i-fi/	"there"
	/i-fé/	"here"

### 3.2.1.2 THE CV WORD STRUCTURE:

This is an open syllable structure made up of a consonant and a vowel.

Examples of words that have this structure include:

6)	/g <sup>w</sup> é/	"come"
	/gê/	"go"
	/bà/	"hate"
	/ɲì/	"God"
	/wú/	"rain"
	/lê/	"sweet yam"

### 3.2.1.3 THE CVC WORD STRUCTURE:

This is a closed syllable structure which is made up of a pre-margin, a nucleus and a post-margin. Examples of words with this structure are as follows:

7)	/s <sup>w</sup> ʒ'/	"murder, inject or stab"
	/sòŋ/	"sigh"
	/jú'/	"eat or feed"
	/ví'/	"fire"
	/búŋ/	"stomach"
	/zòŋ/	"snake"

### 3.2.1.4 THE DISTRIBUTION OF CONSONANTS AND VOWELS IN THE MONOSYLLABIC WORD STRUCTURE.

In the Monosyllabic word structure, all the consonants of the Bamunka language can occur in onset position. However, the occurrence of vowels with these consonants is highly restricted as all vowels do not occur with the different consonants. The following table represents the possible consonant plus vowel

combinations in this word structure. In the table (+) indicates a possible combination.

Table 1: Combinations in the monosyllabic CV word structure where c is a simple consonant:

V \ C	i	e	ɛ	ɪ	ə	a	u	o	ɔ
b		+			+	+	+		
m	+						+		+
w							+		+
f	+	+			+		+		
v	+					+			
t	+				+				
d					+	+	+		
s		+	+				+		
n					+		+		
l									
k	+	+			+		+		
g			+		+		+		
ŋ									+
ɹ			+	+	+		+		
ʃ	+								
ʒ	+		+		+		+		
tʃ	+			+			+		
dʒ					+		+		
p	+						+		
j							+		

and does it

From the above table, we notice that there are some simple consonants which have a limited context of occurrence; that is they occur with very few vowels. This involves sounds like /w, v, n, t, ŋ, ɲ, ʃ, dʒ and j/. The sound /h/ does not appear in a CV word structure.

The following table illustrates the combination of palatalised and labialised consonants with the vowels of Bamunka.

Table 2: Palatalised and Labialised consonants and vowels

V \ C	i	e	ɛ	ə	a	ɔ
bʲ				+	+	
tʲ				+	+	
kʲ				+	+	
gʲ				+		
b <sup>w</sup>				+		
k <sup>w</sup>	+	+	+			
ŋ <sup>w</sup>		+				+
s <sup>w</sup>						+
ʃ <sup>w</sup>						+

From the above table, we notice the absence of the vowels /i, u and o/ in the monosyllabic CV word structure. *what is the conclusion*

*no conclusion*

### 3.2.2 DISYLLABIC WORD STRUCTURE:

This refers to words made up of two syllables. These include the following combinations:

### 3.2.2.1 THE V.CV WORD STRUCTURE:

In this structure, the initial vowel is often a noun class prefix. We hardly find this structure in verbs.

8) Examples:

/ĩ-mǎ/ "one"

/ĩ-bú/ "two"

/ĩ-fí/ "there"

/ĩ-fé/ "here"

### 3.2.2.2 THE N.CVC WORD STRUCTURE:

The nasal in this structure, like the vowel in the structure immediately above, is a nominal prefix.

9) Examples:

/ñ-tôŋ/ "message"

/m̃-bà'/ "fish or meat"

/ñ-dóŋ/ "fishing net"

/ñ-tí'/ "mutter"

/ñ-tʃòŋ/ "while"

/ñ-tòŋ/ "trumpet"

The nasal could also be a derivational morpheme employed to derive nouns from verbs or adjectives.

/ñtèmǎ/ "spit" derived from /tútèmǎ/ "the act to spitting"

/ñtù'kəwó/ "pedestrian" derived from /mĩtù'/ "to walk"

### 3.2.2.3 THE CV.CV WORD STRUCTURE:

The CV.CV structure is attested in both nouns and verbs. In some nouns, the initial CV syllable is a noun class marker while in others, this initial CV syllable is part of the noun stem.

10) Examples:

/lò-kó/	"snail"
/ŋ <sup>w</sup> ó-tó/	"breasts"
/ví-hā/	"tatched roof"
/bé-ká/	"lap"
/bé-mú/	"dive"
/kwé-hé/	"remember"
/mé-tò/	"abandon"

### 3.2.2.4 THE CV.CVC WORD STRUCTURE:

In nouns that have this structure, the initial CV syllable is often a nominal prefix.

11) Examples:

/bè-ká'/	"monkeys"
/mú-tó'/	"farm"
/kà-γòŋ/	"okro"
/bè-nà'/	"cattle"
/kí-ví'/	"charcoal"



### 3.2.2.5 THE CVC.CV WORD STRUCTURE:

In this structure, the final consonant of the first syllable is either the glottal stop or a nasal consonant, while the onset of the second syllable is always a consonant which is a nominal class marker.

12) Examples:

/bâŋ-ká/ "wooden spoon"

/tâŋ-ká/ "calabash"

/b<sup>w</sup>úŋ-b<sup>w</sup>á/ "cruel"

/kòŋ-tā/ "rough"

/lāŋ-kā/ "bat"

### 3.2.2.6 THE N.CV.CV WORD STRUCTURE

In this structure, the initial syllable is a syllabic nasal consonant which marks noun class while the following CV.CV syllable constitutes the noun stem.

13) Examples;

/m̩-bú-ná/ "bell"

/n̩-tá-ká/ "penis"

/n̩-tú-má/ "nail"

/n̩-d<sup>h</sup>à-nà/ "water snake"

/n̩-tfí-ká/ "cricket"

### 3.2.3 THE TRISYLLABIC WORD STRUCTURE:

The trisyllabic structure involves words having three syllables. The following combinations are commonly attested in the language.

### 3.2.3.1 THE CV.CV.CV WORD STRUCTURE

This structure is made up of words that are mostly adjectives or have adjectival meaning and adverbs.

14) Examples:

/ʒɔ̄-wó-ká/	"young"
/tá-k <sup>w</sup> í-t <sup>j</sup> â/	"seven"
/bá-wó-nó/	"around"
/fó-b <sup>w</sup> á-ká/	"blood"
/mĩ-b <sup>w</sup> á-nó/	"to be humble"

### 3.2.3.2 THE CV.CVC.CV WORD STRUCTURE:

This structure is attested in very few words in the language. The few examples of words that we found with this structure are words that are adjectives or have an adjectival meaning.

15) Examples:

/fĩ-tâŋ-ná/	"bold"
/mĩ-kàŋ-tā/	"to be rough"
/wú-sàŋ-kā/	"elephant foot path"
/mĩ-kàŋ-gá/	"to worry"

### 3.2.3.3 THE CVC.CV.CV WORD STRUCTURE:

This word structure is mostly attested in borrowed words.

16) Examples:

/dàŋ-ná-wó/	"high"
-------------	--------

/tʃɛ̀n-tà-wó/	"insult or abuse"
/dòŋ-nó-sé/	"deep"
/tʃòŋ-bó-wò/	"below or under"

### 3.3 INTERPRETATION PROBLEMS:

This section discusses the problems encountered in the distribution of certain sounds. In this language, we face problems of interpreting complex sounds like pre-nasalized stops and modified sounds like palatalized and labialized consonants. This interpretation problem arises because these complex and modified sounds can be interpreted as a single sound unit or as separate units. We are going to examine these palatalized, labialized and pre-nasalized sounds to determine whether they are single sound units or two distinct sounds.

#### 3.3.1 PRENASALISATION VERSUS SYLLABIC NASAL:

We face problems in interpreting sound sequences such as mb, nt, nd, ŋk and ng in word initial and medial positions in words such as:

17) Examples:

a)	/ŋkúká/	"palm nut chaffs"
	/m̀b̀òʹ/	"meat or fish"
	/nt̀âŋ/	"message"
	/m̀b̀ʷó/	"body"
	/nt̀òŋ/	"whistle"

	<u>Singular</u>		<u>Plural</u>	
b)	/bâŋká/	"wooden spoon"	/bâŋbá/	"wooden spoons"
	/fâŋkâ/	"lock"	/fâŋbâ/	"locks"
	/fûŋká/	"feather"	/fûŋbá/	"feathers"
c)	/tʃɛn-tà-wó/	"insult or abuse"		
	insult	person		
	/sún-díkâ/	"wool"		
	thread	for sweater		
	/ŋgâŋ-kwí/	"elbow"		
	bone	for arm or hand		

When these sequences occur in initial position of nouns, the nasal sound bears a tone, and there is a perceptible phonetic break between the nasal sound and the following oral consonant. In this case, we will interpret the nasal sound as a distinct sound from the following oral consonant. It functions as the nucleus of a distinct syllable, which marks noun class. This is the case of 17(a) above.

Sequences of nasal and oral consonants at word medial position are also interpreted as two distinct sounds occurring at the coda and the onset positions of two separate syllables. This is because of two reasons; Firstly, the oral consonant in the sequence which is at the onset of a syllable as in the 17(b) examples above functions as a singular marker which changes in the plural form of that same word. The second reason for treating the NC clusters as constituting a sequence of separate sounds from a following oral consonant is that words such as those in 17(c) can be broken up into separate morphemes each with a distinct meaning.

In the Bamunka language therefore, nasal-oral sequences, whether at word initial or medial positions are interpreted as constituting distinct sounds.

### 3.3.2 C<sup>j</sup> SEQUENCES:

We face problems in the interpretation of a C<sup>j</sup> sequence because it can be interpreted as a single sound unit or as two distinct sounds. In the Bamunka language, a C<sup>j</sup> sequence will be interpreted as a single sound unit; that is a case of simple consonant modification. This is because the C<sup>j</sup> sequence and their unpalatalised counterparts occur in minimal and near minimal pairs. Examples include the following:

18) [t]            and            [t<sup>j</sup>]  
 /tɔ́/            "pistle"  
 /t<sup>j</sup>ɔ́/           "fly"

[d]            and            [d<sup>j</sup>]  
 /mĩ-dɔ́/        "father"  
 /d<sup>j</sup>ɔ́/           "weight"

[k<sup>j</sup>]           and            [g<sup>j</sup>]  
 /mĩ-k<sup>j</sup>ɔ́/       "to have"  
 /mĩ-g<sup>j</sup>é/       "sound"

The difference in the meaning of these pairs is brought about by the change from the palatalized to its unpalatalised counterpart.

The second reason for treating c<sup>j</sup> sequences as single sound units is related to the syllable structure discussed in the preceding sections. In the presentation, we did not find any word with a consonant cluster. Because consonant clusters are generally absent in the language, thus segments of this language thus undergo phonological processes to avoid clustering. It is more logical to consider C<sup>j</sup> sequences as simple cases of consonant modification than of two separate sounds.

The  $C^j$  sequence in this language is not underlying since it is derived by phonological process of gliding illustrated in the examples bellow:

- /tíó/ → [t<sup>j</sup>ə] "father"  
 /díó/ → [d<sup>j</sup>ə] "weight"  
 /kíó/ → [k<sup>j</sup>ə] "head pad"  
 /mĩ-tià/ → [mĩ-t<sup>j</sup>â] "to entertain"  
 /fiàhó/ → [f<sup>j</sup>àhó] "frighten"  
 /séfià/ → [séf<sup>j</sup>â] "road"  
 /tókwi-tià/ → [tókwi-t<sup>j</sup>â] "seven"

In these examples, it is assumed that underlyingly, the words contain vowel sequences. Because the language does not allow a sequence of two vowels, one of the vowels has to change into a palatal glide. Generally, gliding in this case will occur when the first vowel in the sequence is a front, high vowel. Palatalisation in this case can be captured by the following rule:

/CiV → C<sup>j</sup>V

### 3.3.3 THE $C^w$ SEQUENCES:

$C^w$  sequences just like  $c^j$  sequences can be interpreted as a single sound unit or two distinct sounds. In the Bamunka language,  $C^w$  sequences will be interpreted as single sound units, that is a case of simple consonant modification. This  $C^w$  sequence and their unlabialised counterparts occur in minimal and near minimal pairs.

Examples are as follows:

- 19) [ŋ]                      and                      [ŋ<sup>w</sup>]  
       /ŋô/                      "pepper"

/ŋ<sup>w</sup>ð/ "breast"

[g] and [g<sup>w</sup>]

/mĩ-gê/ "to go"

/mĩ-g<sup>w</sup>é/ "to come"

[ʃ<sup>w</sup>] and [ʒ<sup>w</sup>]

/ʃ<sup>w</sup>ó/ "anus"

/ʒ<sup>w</sup>ó/ "sky"

[k<sup>w</sup>] and [ŋg<sup>w</sup>]

/k<sup>w</sup>ð/ "bag or bush"

/ŋg<sup>w</sup>ð/ "fowl"

[ŋ<sup>w</sup>] and [ŋg<sup>w</sup>]

/ŋ<sup>w</sup>ð/ "breast"

/ŋg<sup>w</sup>ð/ "fowl"

The difference in the meaning of these pairs is brought about by the change from the labialised sound to its unlabialised counterpart.

The second reason for treating C<sup>w</sup> sequences as a single sound unit is related to the syllable structure discussed in the preceding section. In the presentation we did not find any word with a consonant cluster. This is because consonant clusters are not permitted in this language. It is more logical to consider C<sup>w</sup> sequences as simple cases of consonant modification than sequences of two separate sounds.

The C<sup>w</sup> sequence in this language, like the C<sup>j</sup> sequence is not underlying but derived via the same phonological process of gliding illustrated below:

/búə/ → [b<sup>w</sup>é] "carmwood or dust"

/m̀búə/ → [m̀b<sup>w</sup>é] "body"

/ʃúó/ → [ʃ<sup>w</sup>ó] "anos"

/súóŋkə/ → [swóŋkə] "frog"

/núòb̀ə̀kə/ → [n<sup>w</sup>òb̀ə̀kə] "armpit"

/núíkə/ → [n<sup>w</sup>íkə] "greed or selfish"

These examples, it is assumed that the words in their underlying forms contain vowel sequences. But because the language does not permit a sequence of two vowels, one has to change into a labialise glide. This will occur when the first vowel in the sequence is a back, high vowel. Labialisation in this case can be captured by the following rule:

$$/CVV \rightarrow [C^{w}V]$$

We can conclude that the Bamunka language has four syllable types. These include the V type, N type, CV type and the CVC type. Pre-nasalised sounds are considered as separate segments since the language does not permit clustering. Complex sounds that is the C<sup>j</sup> and C<sup>w</sup> sequences are interpreted as cases of consonant modification since they are derived as a result of gliding which is a phonological process to avoid vowel clustering. Thus at the surface structure in this language we have C<sup>j</sup>V and C<sup>w</sup>V whereas underlyingly it is CVV but since the language does not permit segment clustering we have the sequence CV.



## CHAPTER FOUR

### TONES , TONAL PROCESSES AND SURVEY OF MORPHO- PHONOLOGY

#### 4.0) INTRODUCTION:

In this chapter, we will examine the tones of the Bamunka Language and some of the tonal and non-tonal processes attested. The expression tone, as used in this study, refers to the relative height of the voice in the production of a syllable.

#### 4.1 REGISTER TONES:

In the Bamunka language, we have simple tones which include the high ( ´ ), low ( ` ) and mid (-). We also have complex tones like high-low ( ^ ) and low-high ( v ). Tone in this language is phonemic. That is a change in tone can lead to a change in the meaning of a word. The examples below are words which are segmentally identical but differ only in tone and this tonal difference brings about a change in the meaning of words.

- |    |       |           |
|----|-------|-----------|
| 1) | /ɲĩ/  | "God"     |
|    | /ɲí/  | "cutlass" |
|    | /kwí/ | "arm"     |
|    | /kwĩ/ | "four"    |

#### 4.1.1 PHONETIC INVENTORY OF TONES:

In the paragraphs that follow, we make an inventory of the different tones attested in the Bamunka language.

### 4.1.1.1 HIGH TONE ( ˊ )

This is the highest pitch of the voice in the production of a syllable. This tone is found in words like:

- 2) [nɪ́] "cutlass"  
 [ó] "he"  
 [kwí] "arm"  
 [kjǒ] "have"  
 [fú] "germinate"  
 [fí] "collect"

### 4.1.1.2 LOW TONE ( ˋ )

This is the lowest pitch in the production of a syllable. Examples of words containing this tone include:

- 3) [nǐ] "God"  
 [tɛ̀ŋ] "refuse"  
 [kà] "admire"  
 [gù] "collapse"  
 [m̀b̀d̀'] "fish or meat"  
 [à] "you"  
 [m̀] "I or me"  
 [b̀à] "you" (plural)  
 [kwǐ] "four"  
 [b̀è'] "sink"

### 4.1.2 MID-TONE (-)

This is when the pitch of the voice is neither high nor low in the production of a syllable. This tone is illustrated in the following words:

- |    |        |                |
|----|--------|----------------|
| 4) | [būnā] | "even"         |
|    | [ŋgō'] | "termite"      |
|    | [kē]   | "beard"        |
|    | [yā]   | "beg or plead" |
|    | [dā]   | "cross"        |
|    | [dīkē] | "fly"          |

#### 4.1.1.4 HIGH-LOW TONE (^)

This is a combination of a high and low tone. The tone is also called a falling tone since the pitch of the voice rises and ends up falling in the production of a syllable. Examples of words bearing this tone include:

- |    |       |               |
|----|-------|---------------|
| 5) | [kâ]  | "tired or if" |
|    | [tjâ] | "entertain"   |
|    | [bâŋ] | "dish"        |
|    | [ŋô]  | "pepper"      |
|    | [tô]  | "navel"       |

#### 4.1.1.5 LOW-HIGH TONE (v)

This is a combination of the low and high tone. It is also known as the rising tone since the pitch begins by falling before rising in the production of a syllable. Examples of words with this tone include the following:

- |    |      |         |
|----|------|---------|
| 6) | [yǎ] | "spear" |
|    | [yǎ] | "blow"  |

[ʒwǒkǎ] "aeroplane"

[ʒǎnǎ] "lean"

[dǎ] "point or direct"

After presenting the distribution of the tones, we will establish the tonemes in this language beginning with a chart, which contains the tones in the Bamunka language.

#### 4.1.2 PHONETIC TONE CHART:

The chart below contains the tones of the Bamunka language:

Fig. 5: Phonetic tone chart

/	-	\
^		v

#### 4.1.3 PHONEMIC STATUS OF TONES:

This section examines the status of tones in this language.

##### 4.1.3.1 THE STATUS OF THE HIGH TONE ( ' )

The status of this tone as a phoneme can be established through the following contrasts:

High ( ' ) and low ( ` )

7) /jǎ/ "cutlass"

/jǎ/ "God"

/kwǎ/ "arm"

/kwĩ/ "four"

/zú'/ "owl"

/zù'/ "paint"

High (´) and mid (-) tone

8) ɲgɔ´ "stone"

ɲgɔ̄´ "termite"

ɣə "egg"

ɣā "beg or plead" *in blist/*

The above illustrations distinguish the high (´) tone as a phoneme in the language.

#### 4.1.3.2 THE STATUS OF THE LOW TONE (̄)

The status of the low tone as a phoneme can be established through the following contrasts:

9) low (̄) and high (´) tone see high (´)

10) low (̄) and mid (-) tone

dà "plenty or too"

dā "cross"

#### 4.1.3.3 THE STATUS OF THE MID (-) TONE:

The status of the mid tone as a phoneme in this language can be established through contrast such as:

11) mid (-) and high (´) see high (´)

12) mid (-) and low (˘) see low (˘)

The preceding examples presented for the high (ˊ) and low (˘) tone distinguish the mid (-) tone as a phoneme in the language.

#### 4.1.3.4 THE PHONEMIC STATUS OF THE HIGH-LOW TONE (^):

The status of this tone as a phoneme can be realised through the following contrasts:

13) high-low and low tone

[mǐ-bèŋ] "to sleep"

[mǐ-bêŋ] "to accept"

[ŋgə̀ŋ] "gǔng"

[ŋgêŋ] "elbow"

[wò] "person"

[wô] "it"

14) high-low and low high

[bê] "miss (something or someone or misplace)"

[bǎ] "sin"

[bâ] "lion or tiger"

[bă] "sin"

From the above examples the high-low tone (^) is a phoneme in the language.

#### 4.1.3.5 THE PHONEMIC STATUS OF LOW-HIGH TONE (v):

The status of this tone as a phoneme can be established through the following contrasts:

Low-high and high-low see high low

- 15) low-high and high
- |      |          |
|------|----------|
| tjǎ  | "father" |
| tjǎ  | "small"  |
| γǎ   | "egg"    |
| γǎ   | "spear"  |
| zíkǎ | "nose"   |
| zíkā | "ankle"  |

From the examples above, the low-high tone is a phoneme in the language.

The preceding examples distinguish the simple and contour tones that is the high, low, mid, highlow and low-high as phonemes in this language. These tones are treated as phonemes because a change of any of them in certain words leads to a difference in meaning.

Although the contour tones as discussed in the preceding section in the surface structure of this language is phonemic it is not treated as underlyingly tone. It is considered derived through phonological process of tone docking which is as a result of avoiding segment clustering. This rule will be explained later.

#### 4.1.4 PHONEMIC TONE CHART:

The phonemic tones established in the preceding paragraphs are presented in a chart:

Fig.6: phonemic tone chart



## 4.2 TONE COMBINATION

In this section we are going to study the various combination of tones that are possible in different word structures. We are going to look at tone placement in monosyllabic, disyllabic, and trisyllabic word structures

### 4.2.1 Monosyllabic word Structures

The following simple and contour tones occur in monosyllabic word structures:

#### 16) High tone :

/ní/ "cutlass"

/fú/ "germinate"

/kjó/ "have"

/ó/ "he"

#### 17) low tone :

/tèn/ "refuse"

/gù/ "collapse"

/à/ "you"

/kwĩ/ "four"

/nĩ/ "God"

#### 18) Mid tone :

/ngō'/ "termite"

/yā'/ "slave"



/yā/ "beg or plead"

/da/ "cross"

/kē/ "beard"

19) HL tone :

/ŋô/ "pepper"

/bâŋ/ "dish"

/kâ/ "tired or if"

/tâ/ "navel"

/tjâ/ "entertain"

20) LH tone :

/yǎ / "spear"

/yǎ/ "blow"

/yǎ/ "point or direct"

/tǎ/ "famine"

#### 4.2.2 Disyllabic word Structure

21) H-L tone :

/tʃúsí/ "door"

/gǎdà/ "very big"

/kwénè/ "change"

/núbà/ "faint"

22) H-H tone :

/kwéhé/ "remember"

/nwíkǎ/	"selfish or greed"
/lókǎ/	"related"
/núǎ/	"cook or boil"
/tʃíví ʔ/	"fire side"
/tókǎ/	"head"

## 23) H-M tone :

/wóhǎ/	"scatter"
/lókǎ/	"accident"
/kjáhǎ/	"turn"
/víhǎ/	"zinc"
/bwókǎ/	"dust"

## 24) H-HL tone :

/túmǎ/	"short"
/váfjá/	"footh path or narrow path"/
/séfjá/	"road"

## 25) L-L tone :

/m̀b̀ò ʔ/	"meat or fish"
/k̀ǹǹ/	"hang"
/t̀ǹǹ/	"stop"
/d̀d̀d̀/	"far"
/b̀d̀k̀/	"bed"
/ǹǹǹ/	"groundnut"

## 26) L-H tone :

/səkó/ "comb"

/sibó/ "huckle-berry"

/fjàhá/ "force"

/ŋgihó/ "lazy"

/bònə/ "fold"

/fèhə/ "frighten"

/ŋkəná/ "choice"

## 27) L-M tone :

/mĩyā/ "to beg or plead"

/tʃètā/ "join"

/litā/ "settle"

/bònā/ "fold"

## 28) L-HL tone :

/mĩkû/ "to fly"

/mĩgê/ "to go"

/mĩtjâ/ "to entertain"

/mĩgû/ "to fail"

## 29) L-LH tone :

/mĩbǎ/ "to break"

/mĩgǎ/ "to be wide"

30) HL-H tone :

/bâkó/ "corn fufu"

/ɣâfú/ "catridge"

/tâŋká/ "calabash"

/ŋgâŋkwí/ "elbow"

31) LH-H tone :

/ʃíbá/ "wire trap"

32) LH-M tone :

/zǐbā/ "ankles"

33) HL-M tone :

/jôkâ/ "sick"

/mbôkâ/ "cloud or dew"

/bûkâ/ "poor"

/kâbâ/ "prize"

34) M.M. tone :

/lâŋkâ/ "bat"

/fôŋkâ/ "chair"

/būnâ/ "even"

/ďíkí/ "fly"

#### 4.2.2. TRISYLLABIC WORD STRUCTURES :

We have the following combinations of tones in trisyllabic words in the Bamunka language:

35) H.H.H. tone :

/vábótí/ "orphan"

/núbwáká/ "scandal"

/báwóná/ "around"

/gúnáká/ "fig tree"

36) H.H.L. tone :

/kwóbátì/ "raffia bush"

/ndákálèŋ/ "dry season"

/wódzátjàŋ/ "prisoner"

37) H.H.M. tone :

/tʃútʃúkā/ "caterpillar"

/fóbwákā/ "blood"

/lókátōŋ/ "country or village"

/tʃívíkā/ "market day"

38) H.L.H. tone :

/tákùká/ "shoes"

/mbókèzí/ "ndole"

/vábàké/ "daughter"

/búnàsé/ "bend down"

39) L.H.H tone :

/mǐnúná/ "to cook or to boil"

/nt̩fíká/ "cricket"

/m̩búná/ "bell"

/ŋkúká/ "palm nut chaffs"

/kwòkówó/ "hand bag"

40) H.L.M tone :

/ŋʷót̩ŋk̄/ "toad"

/tánàk̄/ "field"

/t̩fún̄t̄/ "shrine"

/téb̄ŋb̄/ "buttocks"

41) H.H.L.M tone :

/ndím̄t̄/ "pant"

/wól̄n̄/ "lightening"

/dzák̄k̄/ "rest house"

/núb̄t̄/ "surprise"

42) L.H.M tone :

/nt̩fí'k̄/ "fever or malaria"

/m̄z̄íh̄/ "to breathe"

/mĩtʃhã/ "to neglect"

43) L.L.H tone :

/tĩtĩwá/ "flag"

/màkàbú/ "cocoyam"

/mĩ-fǎhá/ "to frighten"

/mĩ-lè-hó/ "to wipe"

44) L.L.L. tone :

/mĩ-tè-nè/ "to stand"

/mĩ-sè-nè/ "to be flat"

/mĩ-tè-nè/ "to wipe"

45) L.HL.M tone :

/mĩ-ɲâtã/ "to be proud"

/ñtôŋbã/ "scabies"

/ŋ-kwê sē/ "cripple"

## 4.2 TONAL PROCESSES:

In this section we will examine some of the tonal processes attested in the Bamunka language. We will focus on processes such as tone docking, spreading, default assignment, etc. The discussion of the processes will be a purely descriptive account with very little attention paid to theoretical considerations.

#### 4.2.1 TONE DOCKING;

Tone docking derives from two segmental processes namely devocalization and vowel deletion. When a vowel devocalises or is deleted, the tone that was on this vowel becomes floating and eventually docks onto the preceding vowel and the result of this docking is either a contour tone or a complex register tone. (and)

The Bamunka language does not permit vowel clustering, so one of two vowels in a sequence either devocalises or is deleted to avoid clustering. When this happens, the tone on the affected vowel becomes floating and eventually docks onto the vowel that caused the affected vowel to either devocalise or to delete. The result of docking in this case depends so much on the underlying tone of the vowel that caused the deletion or devocalization. If the underlying tone is different from that of the affected vowel, the result is a contour tone as in the following examples where /c<sup>v</sup>v̄/ → [c<sup>v̂</sup>]:

- 46) /tíà/ → [tjá] "entertain"  
 /ʒùókó/ → [ʒ<sup>w</sup>ókó] "aeroplane"  
 /géè/ → [gê] "go"

On the other hand, if the underlying tone of the vowel that caused deletion or devocalization is identical to the tone of the affected vowel, docking results in tone fusion where a complex register tone is created by fusing the tone of the affected vowel and that of the vowel that caused deletion or devocalisation. The examples below illustrate /c<sup>v</sup>v̄/ → [c<sup>v̂</sup>]

- 47) /kúé/ → [kwé] "cough"  
 /kíó/ → [kjó] "have"



One might argue that in the examples in (47), the affected vowel disappears with its tone. That is the tone on the affected vowel is not a complex tone created via fusion. Such an argument goes against the general belief in phonology that tones never get lost. Thus our claim that deletion or devocalisation in these examples results in surface complex register tone.

#### 4.2.2 TONE SPREADING:

Tone spreading involves a syllable assuming or assimilating the tone of the preceding syllable. In the Bamunka language, affixes are assumed to be underlyingly toneless. When attached to the stem of a word, it bears the same tone as the stem. This is evident because looking at the suffixes on words in this language, the tones change from high, low and mid, depending on the tone of the preceding stem. Thus if the stem bears a high tone for instance, the suffix also bears a high tone. This can be illustrated in the following :

- 48a)        [tʃó-bó]            "cray fish"  
               [tí-ká]            "tree or stick"  
               [tó-kó]            "head"  
 b)        [bò-kò]            "bed"  
 c)        [fɔ̄ŋ-kə̄]            "chair"

[CV.CV] → [CV.CV]

We notice from these examples that in 48 (a) where the stem is high, the suffixes - bə and - kə are also high. In 48 (b) where the roots are low, the same suffixes now bear a low tone and in 48 (c) the roots are mid and the suffixes mid.

One might argue that in the examples above, the tone spreads from suffix to stem. Such an argument in this language will be against the general tendency in a

language where tone spreading is always from left to right. It is reasonable to claim therefore that the tone on the suffix comes from the stem.

### 4.2.3 DEFAULT LOW ASSIGNMENT

Default low assignment involves assigning a low tone to a toneless vowel or consonant. Affixes in the Bamunka language can be considered as underlyingly toneless. This is because, looking at the noun class prefixes í, kə, bə, N and class suffixes kə, bə, nə, mə, hə, tə, the class prefixes all bear a low tone while the suffixes assume either the high, low or mid tone.

In this study, we assume that the affixes are all underlyingly toneless. The suffixes assimilate the tone of the stem. We can not however equally assume that the low on the prefixes results from spreading since as we discussed in the preceding section, tone spreading in this language is from left to right. In addition to this, we notice that the low tone prefixes also occur with high tone stems.

We can thus say a low tone is assigned to prefixes at syllable initial position.

Our assumption can be illustrated using the following words:

- |       |            |                   |
|-------|------------|-------------------|
| 49 a) | [bə-nà']   | "cattle"          |
|       | [bə- í ]   | "trees or sticks" |
| b)    | [ŋ-tŋ]     | "message"         |
|       | [nə-bə']   | "fish or meat"    |
| c)    | [í -mə]    | "one"             |
|       | [í -t(əŋ)] | "all"             |

From our example above, we see that the class markers in initial position, all bear a low tone.

## 4.4 SURVEY OF MORPHO-PHONOLOGY

In this section, we briefly examine some major phonological processes that affect the sound segments we have presented in the preceding sections of the work. The expression phonological process as used here refers to changes which segments undergo in the formation of new words. Having discussed processes affecting tones in the preceding section, the processes we handle here are those that affect segments only. The discussion will focus mainly on such processes that occur when morphemes are added to noun and verb stems. The analysis will be done in the purely structuralist approach which we have adopted for the entire project.

### 4.4.1 PHONOLOGICAL PROCESSES IN WORD DERIVATION

This section analyses phonological processes that occur in derived words. We analyse processes such as segment deletion, nasal assimilation, devocalisation and vowel deletion. (But) however vowel deletion and devocalisation will not be discussed here since it has been discussed in the preceding section where we presented tone docking.

#### 4.4.1.1 NASAL ASSIMILATION

In the Bamunka language, nouns are derived from verbs through the prefixation of a nasal segment to the stem of a verb. This process is illustrated in the words below:

- |    |    |      |                  |
|----|----|------|------------------|
| 1) | a) | tôŋ  | “send”           |
|    |    | témó | “spit”           |
|    |    | bwó  | “dust or people” |

- b) n-têŋ      “message”  
       n-témá     “spit or saliva”  
       m-bwá     “body”

Considering various studies in phonology especially theoretical considerations such as those in Rosenthal (1988); we will propose that underlyingly, the nominalising prefix is a nasal consonant that is not specified for place of articulation. In the surface form, this nasal then assimilates the place of articulation of the following oral consonant.

The words in 1(a) above are simple verb stems and when the nasal nominalising prefix is added to the stem of these verb stems, we derive nouns as in 1 (b). Following Rosenthal (1988), we propose a rule of nasalisation in which a nasal assimilates the place of articulation of the following oral consonant:

<sup>number</sup> Rule 1: N → [α place] / - [α place]

This rule is also attested in non-derived noun stems as shown below:

- c) ŋgò'    “stone”  
       ŋkâ    “cock”  
       ndú    “cup”

From our illustrations, we notice that the nasal consonant assimilates the place of articulation of the following consonant.

#### 4.4.1.2 SEGMENT DELETION:

To avoid the clustering of segments in the Bamunka language, some segments are deleted. In this language, vowels as well as consonants can be deleted. We will focus on consonant deletion here since vowel deletion has been discussed, although briefly in 4.2.1.

In this language, when a word is reduplicated, some segments or sound sequences, which are not acceptable in the language are simplified via deletion.

Let us consider the following examples:

- 2) mbí "again" → mbíbí "again and again repeatedly"  
 ndú "fast or quick" → ndúdú "faster or quickly"  
 nûŋ "hair" → nûŋ-nûŋ "hairy"  
 təkʷí "side" → təkʷí<sub>^</sub> təkʷí<sub>^</sub> "side by side"  
 tətʃú' "step" → tətʃu' tətʃu' "step by step"  
 vá "child" → ŋgûvává "childish"

From the illustration above, we notice that, when the word on the left column is reduplicated, the nasal on the stem of the reduplicate is deleted if followed by an oral consonant. We propose the following rule to capture this process:

Rule 2: N → ∅ / N-

$N \rightarrow \emptyset \text{ — } C_{\text{oral}}$

This can be justified by the fact that, this language does not permit segment clustering, thus the nasal which is on the reduplicated stem is deleted.

#### 4.4.1.3 NOMINALIZATION:

In the Bamunka language, nouns can also be derived from verbs through nominalization. Nominalization here refers to the process whereby a word class changes into another class. For example a verb changes into a noun. In this language, for nominalization to occur, the verb is assigned a suffix. When this suffix is attached to the verb stem, the final consonant on the verb stem which is a glottal stop deletes. This is illustrated in the examples below:

- 3) kwé' "to cough" → kwékó "cough"

tù'            "to walk"    →    tùkó            "walk"  
 kó'            "climb"       →    kóbá            "ladders"

From our examples above, we can propose a rule as:

**Rule 3:**    '    →    ∅ / - {CV# }

This rule is also attested in non-derived noun stems, where when the nominalising suffix is added or assigned to the noun stem, the glottal stop which precedes the nominalising suffix changes. That is the glottal stop changes in word final position when the noun is assigned a nominal suffix. This can be seen in the words below:

34) ndú'            "cup"       →    ndúhə            "cups"  
       ηgò'            "stone"     →    ηgòhə            "stones"  
       tḥ'            "moter"     →    tḥhó            "moters"

In the case of example (4), we can say the glottal stop ('), becomes or changes to (h). This is because (') and (h) are allophones of the same phoneme ('). Thus the rule: ' → h / - [+bk, -round]

These examples come to justify the fact that a glottal stop deletes when the nominalising suffix is attached to the stem of a word.

Tones in the Bamunka language are phonemic. The language makes use of three underlying tones. These tones include the high (´), low (˘) and mid (ˉ). The rising (ˆ) and falling (ˆ) tones are derived through phonological rules. Some of the tonal processes attested in this language include tone docking, tone spreading and default low assignment. We also have phonological processes like nasal assimilation, segment deletion and nominalisation.

## CHAPTER FIVE

### PROPOSED ALPHABET AND ORTHOGRAPHY

#### 5.0 INTRODUCTION:

This chapter proposes an alphabet and orthography for the Bamunka language and also draws a general conclusion from our study. As earlier mentioned in chapter one, the proposed alphabet for the orthography of this language will be based on the General Alphabet of Cameroon languages. An illustrative text will be presented at the end of this chapter.

#### 5.1 THE BAMUNKA ALPHABET:

Alphabet here can be defined as the graphic representations of individual sounds of a given language. From our phonological analysis in chapter two, we can propose the following alphabet which constitutes the basis of the subsequent development of a writing system for the Bamunka language:

a, b, c, d, e, ε, ə, ɣ, f, g, gh, h, i, j, k, ~~l~~, l, m, n, ny, ŋ, o, ɔ, s, sh, t, u, v, w, y, zh.

Below is a table of the symbols used, their proposed corresponding graphemes from Tadadjeu and sademboua (1984), illustrative words and their glosses :

Phoneme Symbols	Proposed graphemes	illustrative words	Gloss
a	a	á	you
b	b	bâŋ	dish
tʃ	c	cú	mouth
d	d	dó	tall
e	e	kē	beard

ε	ε	gê	go
ə	ə	dê	boast
f	f	fú	rat or mouse
ɣ	gh	ghá	plead
g	g	gu	collapse of fall
·	h	núh	drink
í	í	ítʃəŋ	all
dʒ	j	júh	clumsy
k	k	kəmbía	beside
kp	kp	kpó	speak
l	l	lô	sweet yam
m	m	múh	water
n	n	nàh	cow
ɲ	ny	nyàh	animal
ŋ	ŋ	ŋô	pepper
o	o	ó	he
ɔ	ɔ	ŋgòh	stone
s	s	sú	corn or maize
ʃ	sh	shíkó	basket
t	t	tâ	navel
u	u	shû	soap
v	v	víh	fire
w	w	wú	rain



j	y	yúh	eat or feed
3	zh	zhòh	plum

From our above illustrations, we notice that the sounds tʃ, ʎ, dʒ, ɲ, ʃ, ʒ, and j are replaced by c, gh, j, ny, sh, zh, h, and y respectively in order to facilitate the writing and reading of this language.

## 5.1 ORTHOGRAPHIC PRINCIPLES:

Orthography can be defined as the rules that govern the writing and reading of the Bamunka language. We are going to propose rules for consonants, vowels tones as well as punctuation rules.

### 5.2.1 CONSONANT PRINCIPLES:

The archiphoneme /N/ of the nasals [m, n, ŋ] will be used for nasals in word initial position before an oral consonant and the nasals will bear a tone. In medial or final positions, the nasals will be written as realised in the context.

*distinct sounds* Palatalised C<sup>j</sup> and labialised C<sup>w</sup> sounds will be written as C<sup>i</sup> and C<sup>u</sup> and read as C<sup>y</sup> and C<sup>w</sup> *imposed*

The symbols tʃ, ɣ, dʒ, ɲ, ʃ, ʒ, ʔ and j, since they will not be easy to *capture* reproduce by the natives for a start will be replaced by c, gh, j, ny, sh, zh, h and y which will be easy to write and read.

### 5.2.2 VOWEL PRINCIPLES:

The Bamunka language does not permit vowel clustering but a doubled vowel will be used to represent contour tone. It will be written as follows  
 â → áa or ǎ → aá.

### 5.2.3 TONE PRINCIPLES:

Only the high and mid tones will be marked and where a symbol is toneless it indicates that it bears a low tone. This is because the high and mid tones are more frequent in this language. *against nature*

For contour tones, the vowel bearing this tone will be doubled and only the high tone will be marked.

#### 5.2.4 PUNCTUATION PRINCIPLES:

Punctuation marks will be respected as in the English language. A sentence will begin with a capital letter and end with a <sup>u</sup>fall stop.

Translated words are put in quotation marks.

Phonetic sounds are put in square brackets while phonological sounds are put in slashes.

A question ends with a question mark, comers are used to break down a long sentence.

#### Illustrative text

This text is out to show how the principles in this language work as well as the sounds in this language (Alphabet). We will first of all give our texts in English. This will then be translated into the Bamunka language and interpreted in the Pidgin language both word for word and literally. This is out to ease the reading and understanding of our text. Why I choose the pidgin language is because, it is easily understood by the natives and facilitates our translation in this language and also to maintain the idea in the text.

#### Text I:

#### Ignorance is not good

Once upon a time, there was a man. He had a wife and three children. This woman did not know how to read or write. The children also were still small. The first was three years old, the second two years and the last who was still being carried was three months old. One day, as this man was returning from his job <sup>side</sup>, he was attacked by thieves and stabbed with a knife, but he did not die. A

passerby saw him and took him to his own house. The only thing this man could say, he put down on a piece of paper saying his wife should collect five hundred thousand francs from under the mattress. This good Samaritan slipped the note in the man's bag. As he wanted to take the man to the hospital, the man died on the way. This Samaritan sent a radio announcement informing the brother of the dead man and the brother came for the corpse to be buried. The Samaritan thinking he was doing good, told the brother of this late man that he left a note for his wife before dying. The brother said he will give it to the wife of his brother. As he went to the dead man's house, he told the dead man's wife that her husband left a note that now that he is no more she should stay well with the children. The woman said, where is the note? So the brother in law gave her the note, but since this woman could not read, she was only crying and as she cried and rubbed her self on the ground, the note was full of mud and tears so much so that one could not read anything again. The brother in-law, took the money the brother hid under the mattress and hid for himself.

This story ends by teaching us that even if you have never been to school, it is always good to learn to read and write. If this woman knew how to read, she could have been aware that her husband had left something for them under the mattress, before dying.

### Text II:

#### Fear

Once upon a time, there was a man, who always pretended that he was not afraid of anything. One day, he went to the farm to clear. As he was clearing, a big snake came out of the grass. This man threw his cutlass and ran until he reached

the house. His wife asked, why did you come back early? He said, he had seen a big animal whereas it was a small snake which made him run to the house.

This story ends by advising us that we should never think we are too strong that nothing can make us afraid. See, this man, he did not only run to the house but threw his cutlass.

Text I:

təmikí	núkáyó	bà	γə
for no know	something	no	fine
Ignorance no fine			

wó	béε	ná	bəwó,	mbí	səyí,	ó	ké	ví	nó
man	some	bí	deh(there),	day	break,	he	get	woman	and
One	day,	some	man	bí	de,	í	bí	get	yí
								woman	and

vábí	tí'a	ví	wótə	mə	kínə	ndəmə	tíi
pikin	them	three.	Woman	this	no	know	for
three	pikindem.	This	woman	no	bí	know	for
						read	

ηύονό	wómbə	mitíi	ηύονάfé.	vábí	nəkə
book	and	for	write	book.	Pikin
and	for	write.	This	pikindem.	them
					this

byé	vámbúó	véh	béε	nəɲbá	ngíthə	ití'a ,
bi(na)	small	pikin	them.	One	some	bíng
						years
						three,

bi still small. One bí bí three years

ibéeyā kəbə́ ɲgíihā íbú, vátʃətʃə kəbə kəwó.

another bíbí years two, small small pikin carry hand

the other bíbí two years, and the small one them bidi still carry for hand,

ndəbá cí itáa.. mbí-m̀b́éé, wó kə b́únō yóh, bəláh

weh(who is) months three. Someday, man di camback work, thief people na

i bíbí three months. One day, as this man bi di camback from work

jó ó swó ní sètéká, támóo bəŋ kúfé. wó b́éé nyó

attack I chuck with knife, but no die now. Man some see

thief people them attack yi chuck yi with knife, but I no die. Some man see

láhā, ǵénó ch́údia. ó, búkúnyú ndə kəkəǵíə, ó nyóo

husband, go yí house yí. Thing weh fit talk, i

yí, take yí go for yíhouse. The only thing weh i bí fit talk,

ndə vía-ɲ́úóná mbo ví lálá kábá tóh mantrass

for half-book say woman take money under matrass,

i write tam for paper say make yi woman take money for under matrass.

mbáə kábá nəkəb́é kóŋhátéh́é itáa . wó búyúwó ló

the money bibi na hundred thousand five. Man good this take

The money bibi na five hundred thousand. This good man take

mbúə ɲúɔ-nə sé mú kwóh wəwó, háh ndə gíə mbo  
 the letter put in bag the man. As weh talk say  
 the letter put tam for the man i bag. As i say make yi

ó lə wəwó génó hospital, wəwó kú séfyáa. wó  
 i take the man go hospital, the man. Die road. Man  
 go with yi for hospital, the man die for road. This good man

júwó gíə bə ləh mú d'íə radio then líŋ wəwó gúé  
 good this talk dem announce for house radio then brother this man kam  
 go send radio announcement and then the die man i brother kam

ndəmə líŋ wəwó gé tú. bəŋ wó bújuwó, ndə kwóh mbo  
 say brother the man go burry. But man good this, weh bag say  
 take yi for go make them burry am. But this goodman, as I think say

ó tá cí núgúkə/gíətə. ó shí líŋ kəkúwó wó mbo  
 i as think talk for i brother die man this say  
 i bidi do good, i tell the die man yi brother say i

líŋ láməətə ɲúɔ-ŋə mbo ó kótə ví. líŋ kəkúwó  
 brother leave letter say i give wife. Brother die man  
 brother leave some letter make i give yi woman. This die man i

wáh gýə mbo ó labú kótə ví. wó bújuwó kókúwó

that talk say i go(will) give woman. Man good this give bag  
 brother say I go give the woman. This good man give yi the

wówó tá líŋ. háh ndo líŋ wówóbúnā gé cúdíá  
 the man for brother. As weh brother the man return go house  
 man i bag. As this man go back for this die man

wówó, ó shí víyí m̀bo, ĺhā lá m̀otá ɲ́úɔ́nó  
 the man, yi woman say, husband don leave letter  
 i house, i tell the woman say, yi husband leave letter

m̀bo njúwó nda ńo kúná, o la híná vambúɔ  
 say now weh don die, i stay pikindem  
 say now weh i don die, make yi stay fine with

yúyú. wóké wó bíitá m̀bo mbwə́ ɲ́úɔ́nó balá? mbúá  
 fine. Woman the wohside say the letter deh? The  
 pikindem. The woman say whoside the letter deh? So the

líŋ wówó kótɔŋ, b̀ɔŋ ndo gómā kínə mití ɲ́úɔ́nəyē,  
 brother the man give am, but weh no know for read book,  
 die man i brother give yi, but since i no bi know for read,

ó kə gíá háh gíá líhó mbwə́ ɲ́úɔ́nó ní símá,  
 i only cry as cry rub the letter with tears,  
 i only di cry and then finally wet the letter with tears,



létuotá sé tāmó káh jíwó létiye. líŋ wówó ló  
 rub bam ground soteh nofit see man read dam. Brother the man take  
 and ground as I di rub I self for way weh man nofit read dam again.

mbuə kábá kə ó ndə líŋ kóló yúyóká  
 the money for i weh brother hidedam thing.

The man I brother take the money way the die man bi hide dam use I thing.

mbuəká cəŋ nómí kə dáhə mbə, kákə tó  
 the story finish for teach say, even if  
 This story end for teach we say, even if

má á nó gé díá. ŋúɔ́nəyé inóbá ndómə lánó  
 bi you no go house book i fine for learn  
 you no go school, i fine for learn for read and write.

ndómə tíí líinə mí nyóó ŋwóɔ́nə.

for read and for write book.

té wókē ó kə kínə ndómá tíí ŋúɔ́nə, mbúɔ́nə  
 if woman I bi know for read book, the  
 if this woman for know for read, I for know say, I

kə kíná mbə ló ó lálíŋ kábá tóh mantrass təbəŋ búkú  
 bi know say husband I keep money under matrass before die  
 masa leave money for matrass for them before die.

Text II:

## fákúkó

Fear

wó bée ná bəwó, mbí seýí, ó kə dáo mbo  
 man some bi deh, day break, i bi show say  
 one day, some man bi deh, i bi di pretend

ó lášhyá. cíbékə, ó gé mútó', ó kə cá cábā  
 i get heart. Some day, i go farm, i di clear clearing  
 i get heart. Some day, i go farm, as i bi di clear,

kwájɔŋ yú múkó. wówó mée nyí, nyúló  
 big snake commot inside grass. Man the throw cutlass, soteh  
 some big snake commot for grass. The man throw cutlass,

tədá cúdjáa. ví bítəɔŋ mbo cíka ó cí  
 reach house, woman weh say wheti i make  
 run soteh reach house. Yi woman ask why I kam back  
 búnāmā náo lá? ó gǽ mbo ó lá náo nyó  
 return early husband i talk say i don early see  
 early? i say, i don see some big animal but

kú ətó bəŋkə bó vájɔŋ ndo chí o búnyú.  
 meet animal weh small snake weh make i run.  
 weh na small snake make yi run.

cəŋkəŋ tə shí mbwə mbo, kálámē kwóóté  
 this story di tell the say, no ever think  
 this story di tell we say, no ever think

mbo á shyádáfé, tēmē káshífóká féháfé  
 say you over strong, weh something nofit  
 say you over strong weh nothing. Nofit

níká. wó nyáə ó búnyí gwé chúdjáa bábáfé  
 make man see I run kam house only  
 make man fear, see this man, I no only run kam back

ó nyítá mée nyí í bunə wówó.  
 I run throw cutlass I kallback emty hand.  
 For house but I throw I cutlass kallback emptyhand

### 5.3 GENERAL CONCLUSION:

This work was aimed at describing the sound system of the Bamunka language which could help the people learn to write and read their own language. This language is mostly used in the day-to-day activities and daily life of the Bamunka population.

We can conclude from our analyses drawn from our study that the Bamunka language is made up of <sup>twenty two</sup> thirty nine consonants, nine vowels and five tones. Tones in this language are also phonemic.

A study of the syllable system of the Bamunka language shows that this language has four syllable types namely the V type, N type, CV type and CVC type. The syllable system of this language shows also that the language does not permit consonant or vowel clustering. Solutions brought out to solve problems of complex sounds like pre-nasals were that, in word initial position, the nasal segment in front of an oral consonant was regarded as noun class marker and treated as separate sounds same as in the medial position. Palatalised and labialised sequences are treated as consonant modification.

This work examines tones, tonal and non-tonal phonological processes which segments undergo in the formation of new words. Tones in this language are phonemic. The tonal and non-tonal processes examined include tone docking, tone spreading, default low assignment, nasal assimilation, segment deletion and nominalisation.

We concluded by proposing an alphabet and a writing system for the Bamunka language.

This work will help future researchers who would like to carry out research on this language. It will provide them with information and also to the Bamunka population will help in the development of their language.

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