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PHONOLOGY OF MOKPWE

A Dissertation Presented in Partial Fulfilment of the
Requirements for the Award of a
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D E D I C A T I O N

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*            To My Parents              *
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*      ROSELINE and ALEXANDER           *
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ACKNOWLEDGEMENTS

LIST OF ABBREVIATIONS AND SYMBOLS

V	Vowel
C	Consonant
sing.	singular
pl.	plural
L	Low tone
H	High tone
$<$	comes from
/..../	phonemic data
[......]	phonetic data
$\longrightarrow$	Becomes, is realized as
N	Noun
D	Determinant
A.M.	Associative Marker
Adj	Adjective
C.M.	Concord Marker
Dem.	Demonstrative
Poss.	Possessive
ATR	Advanced tongue root
Syll.	Syllabic
$\neq$	Morpheme boundary
$\#$	Word boundary
O	ϕ (voiceless bilabial fricative)
B	β (voiced bilabial fricative)

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GENERAL INTRODUCTION

This work is aimed at a phonological description of Mokpwe, a language spoken by the Bakweri people in and around Buea, which is found in the South West Province of the Republic of Cameroon.

When we talk of a phonological description what do we mean? Phonology is the study of how sounds are structured and how they function in languages.

The phonological description of any language is of a great importance because it is through such a study that distinctive sounds in the language are revealed. The goal of phonology is then to study the properties of the sound systems which speakers must learn to internalize in order to use their language for the purpose of communication. Thus when analysing the sound system of a language it is necessary to study not only the physical properties of the attested sounds but also the grammatical ~~properties~~ functions of these sounds.

In addition, the phonological description of a language constitutes the first stage towards putting the language into writing. It is therefore the most basic description any language needs. The phonology of the language will therefore lead to its subsequent standardization. Also a phonological study will provide an important basis for further studies on the language, like the morphology and ultimately the grammar.

This dissertation is based for the most part on the structuralist approach to phonological analysis, though at times we are forced to turn to the generative perspective

to solve certain problems. As mentioned earlier, our concern is with the sound system of Mokpwe, their possible combination into syllables, morphemes and words. We will also be looking at suprasegmental phonology. The unit of description that will be used in this work is essentially the word.

As a result of the time factor being against us we are aware of the fact that this work can neither be exhaustive nor definitive. But we intend to ensure that our efforts should pave the way into more studies on the language.

In this first chapter we will situate the Bakweri people geographically and historically. Furthermore the language is looked at in relation to its classification and its linguistic situation. Finally the goals and methodology of the work are outlined.

1.1 GENERAL INFORMATION ON THE BAKWERI PEOPLE

1.1.1 Geographical situation of Bakweri

Bakweri comprises by far the largest individual clan of the Fako Division in the South West Province. This province is bounded to the West by the Eastern Provinces of Nigeria, to the East by the Mungo River, to the North by the Widikum highlands and to the South by the Bight of Biafra. It is the fourth largest province of Cameroon, with a total population of about 600,000 inhabitants with Bakweri numbering about 20,000 inhabitants. (Archive Office Buea)

The Bakweri occupy 104 villages which lie to the east and south east of a line dividing the Cameroon Mountain along its axis. The majority of villages lie between 1,500 and 3,000ft above sea level, but settlements are found as far afield as the Mungo river, the Creeks near Tiko, and the Coast at Ngeme. At their northern and southern extremities the Bakweri are neighbours of the Mboko, while in the Creeks at Ewonji and on the Mungo River at Mondoni, they are neighbours of the Mungo. They are bounded to the north east by four villages of the Balong who line the River Mungo and to the north between Balong and Mboko, by the Kundu and Lombi.

Although the Buea district is normally regarded as the Bakweri area, many of their villages are found to be in the neighbouring Limbe and Tiko divisions. The area of land occupied by this tribe measures about 100 square miles. Large portions of the territory originally regarded as their property now belong to various plantations.

The dominant feature that one finds in this area is the Cameroon Mountain. Several series of hills set on gradual slopes break the area into valleys and fissures, the vast majority of which are covered with thick forest. Lava rock is found every where and the soil is seldom deep. The paths are thereby rendered rough and travelling by foot is tedious and hard.

1.1.2 Historical Situation

Oral tradition holds that the Bakweri originated around the great lakes lying between the Nile and the Congo about 400 B.C. The race then broke up within a series of emigrant groups which then spread throughout Southern Africa, East Africa and Cameroon.

These people regard themselves as an offspring from a much older stock of their race known as the Bomboko's. From Bomboko therefore, the Bakweri came and when they had finally entered and settled in their present home they called themselves "Vakpeli" 'those who have settled' (the 'v' is a bilabial /β_7). The leader of the group that split from Bomboko and founded Buea was called Eye Njie and from him the town derives its name Buea which means the children of Eye.

Ardener (1956) elaborates on this story of Eye Njie. According to Ardener the people of the Kpe tribe (Bakweri) believe their ancestor to be Eye Njie who came from Womboko village to hunt on the eastward side of the Cameroon Mountain with a friend Nakande. Nakande used to hunt near

present day Wokanda while Eye Njie remained at Mosole near present day Buea. He called his new place his "ligbea" that is place where work is in hand. They later on brought their wives and relatives and settled in this new found land.

There are many other stories concerning the descendants of this tribe. Bridges (1935) in his report states that the name "Bakweri" is a corruption by Douala traders from the original "Bakwe" which the members of the Bambuko clan of Kumba Division who first settled south of the mountain had adopted. This word signifies that the bearers dwelt far from the sea. An alternative explanation put forward by the village of Soppo is that it means the desdendants of one "Mokweri" who came from Pitti near Douala.

Another version of Kale (1959) holds that most of the people of the South West, Littoral, Centre and South provinces have a common ancestry. According to him the father of the Bakweri, Douala, Basa, Bakoko, Bassossi, Ewondo and Bamboko is Nambongo. He is said to have migrated from Uganda.

1.1.3 Socio-economic situation

In the past the Bakweri race is reported to have been daring and warlike but during the present century they have finally laid down the sword and taken up the tongue.

The economy of the Bakweri people is greatly agriculturally oriented, though most of their land has been

taken up by the plantation. The women do all the farm work while the vast majority of men do nothing. They do not trade and cannot even be bothered to collect palm fruit from which to extract oil but hire their trees to strangers for this purpose. There is some sort of a division of labour amongst this people, because while the women do the agricultural work, the men are involved with the pastoral work. They carry out the breeding of livestock which constitutes most of their entire wealth. The pig is regarded as the symbol of wealth.

Apart from the agricultural activities that the women do, the Bakweri have no known arts.

Socially, the area comprises of heterogenous people. This maybe as a result of the fact that Buea is the administrative capital of the province. Moreso, the presence of the CDC plantations has brought in labourers from different regions who have now settled in the area. The consequence of this immigration is that the Bakweri have now become a minority in their area.

1.2 THE LANGUAGE

1.2.1 Linguistic Situation

The language spoken by the Bakweri is known by the indigenes as "mbɔsa Mokpe" or simply "Mokpe". Ardener (1956) gives an account of this name as follows:

kpè (sing.) mɔ-; (pl.) và-

above.

The V is bilabial and as such we have "bàkpè" which is

the plural of 'mokpe'. The stem kpeli also exists, paral-
lel to the Douala "Mukwedi", the name of these people is
also known as Wojua by the Mboko and Isuwu of the coast.
The name Bakweri is based on the Douala form.

The speakers of this language are for the most part
polyglot. Most of the people do speak Duala and are gra-
dually assimilating this language into theirs. This can be
accounted for by the fact that during the colonial days
Douala was used as a lingua franca by the missionaries and
traders. As a result the other coastal towns and villages
had to learn this language, whose effect is felt up till
the present day.

Generally, people have the tendency to believe that
Mopkwe is a dialect of duala. This is a false assumption
because though they have certain similarities they are
classified into different groups. This will be discussed
detailly in section 1.5.

Ardener (1956) shows us some sound correspondences
between duala and mokpe.

sound	duala	sound	mokpe	Gloss
/b/	bònà	/w/	wònyà	"descendants"
/bw/	bwàm	/gb/	gbámù	"goodness"
/d/	dínà	/l/	lìnà	"name"
/kw/	kwédí	/kp/	kpélí	"death"

In vocabulary Mokpe and douala have a great deal of common origin but related words very often have sounds that appear in different contexts of reference.

Mokpe	Gloss	duala	Gloss
mbóà	"village"	mbóà	"home"
mwěli	"moon light"	mɔ́di	"month"
mwìndì	"dry land"	mùndì	"village"
ŋgbɛ̀ndɛ̀	"moon/month"	ŋgɔ̀ndɛ̀	"war disk"

Mokpwe and her neighbours have a high degree of mutual intelligibility and genetic relation as we are going to see with the languages spoken in the inland Bakundu group.

Mokpe	Balundu	Balong	Gloss
mólánà	mwáránà	mwalân	woman
mòléli̇́	móléli̇́	módyɛ̀	food
àsá	sáká	sák	to want
ɛ̀ndɛ̀	kɛ́ndɛ́	kɛ̌nd	to go

Pidgin English in this area is almost the sole lingua franca. It is the most active linguistic influence at work at moment in the heteregenous community resulting from the interaction of indegenes and settler elements. The bakwe are fast assimilating pidgin English into their vocabulary. Ardener (1956) gives some few illustrations of this assimilation. The pidgin English "king" has become "kiŋgɛ", "na fiti", 'I can' from pidgin English "I fit" has led to the formation of "lifitɛ" which means

"to b bl "

1.2.2 Classification

Mokpwe is a coastal Bantu language which constitutes only a minute portion of the main language family occupying the southern third of the African continent known as Niger-Kordofanian. This language family is one of the four major language families into which the languages of Africa have been divided. These include:

Niger-Kordofanian

Nilo-Saharan

Afro-Asiatic

Khoisan.

According to Guthrie (1948) Mokpwe is a Bantu language of the North-west group, Zone A of his classification. Guthrie places the languages of the Kpe-Mboko and the Duala-Limba in the same category (A20).

Zone A

Group 20

21   Mbuku

22   Kwiri (mokpe)

23   Subu

24   Duala

Although Mokpwe is generally classed with the Duala group as earlier said, the languages of Mokpwe, Mboko, Isuwu and Wovea form for practical purposes a clear sub-group. This is the reason why Ardener (1956) separates it from the duala group. He classifies it into the group he calls "Kpe-Mboko Group" which comprises of Mboko, Isuwu and Wovea.

Atlas Linguistique du Cameroun also classifies Mokpwe
as a distinct language area from Duala. According to ALCAM
Mokpwe falls under zone 6 which consists of languages
spoken along the coast and also in some areas in the hinter-
land. Furthermore Mokpwe is given the number 621.

1.2.3 Review of Literature

The languages of the coastal Bantu group with the
only exception of duala has not been the object of linguis-
tic studies for quite a long time. As a result there are
rather few, if any written materials about these languages.
Mokpwe as a language of this group faces the same problem.
This language has not been an object of much devoted
linguistic exploration.

Ardener (1956) in his "Coastal Bantu of the Cameroons"
is the only available source of written facts about the
language and the people. Linguistically the book is not
exhaustive because it is essentially on sociological study.
Although Ardener makes mention of certain written texts
by Ittman, this is not available.

All the same some natives from this area undertook
a project in which they published diaries in their mother
tongue, but the project is no longer in existance. There
is also a dissertation on the noun class system of the
language written by Bate B.B. (1987).

1.3 GOALS AND METHODOLOGY OF WORK

This dissertation is a phonological study of the Mokpwe language. Its ultimate concern is the establishment of an alphabet for the language. As earlier mentioned such a study will help provide a viable and scientifically reliable writing system of the language. An obvious consequence of putting a language into writing is that the people will be able to preserve their culture in written material. Furthermore a phonological study of the language helps in the description of the language. It will also set up a basis for comparative work on the language.

1.3.1 Methodology and Data source

This work has been realized on the basis of a corpus of about 1,200 words and some pages of transcribed texts collected from several informants some of whose names are mentioned below. The research was carried out in Yaounde and Buea.

Data on Informants

NAME	DATE OF BIRTH	LEVEL OF EDUCATION	PROFESSION	RESIDENCE
LUMA Francis	1935	F.S.L.C.	Security Guard	Buea
NJOH Hans	1955	GRADE ONE	Teacher	Buea
EKOSSO Lucas	1937	GRADE ONE	Teacher	Buea
EKOSSO Esther	1966	R.S.A.	Secretary	Buea
EPOSI Lety	1966	'A' Levels	Student	Yaounde

We are going to follow the structuralist approach in our phonological analysis. In the framework of the structuralist theory Jean-Louis Duchet (1972) underlines the fact that:

> "Les niveaux phonologique et morphologique d'une langue doivent rester distincts, même si un grand nombre de règles de la morphologie sont formulées en termes de phonologie."

As such our study will be focused on the sound system of the language and great attention will be geared towards the analysis of minimal pairs, so as to bring out distinctive sounds in the language.

Our step by step analysis is in conformity with the principles laid down by Pike (1947) and Wiesemann et al (1983). We will first of all establish a list of phonetic sounds of the language from which we obtain another list of similar pairs or even trios of sounds. We then examine their opposition in words. From the analysis we will be able to identify segmental and suprasegmental phonemes as well as the variants and/or allophones. In cases where the sound by virtue of its distribution will be a phoneme but we cannot establish an opposition in identical or analogical contexts with another similar sounds we will apply the principle of symetry.

Furthermore we will establish the different combinations of the phonemes with regards to the syllable, word and the phrase. All this constitute the syntagmatic section of the work.

Though structuralist consider phonology as the centre
of language, the generative theory assigns to phonology a
superficial place in relationship to syntax. The generative
theory is concerned with the formulation of phonological
rules from underline representations of the language.
Morphology has also been intergrated in phonology. Struc-
tural phonology is different from generative phonology in
a certain number of facts, but if we look at the difference
just mentioned above it will be difficult for us to pretend
that we are strictly following the framework of a single
theory. In effect we are adopting the structuralist
approach, but faced with certain problems we shall use the
generative method which in such cases seemed more explicit.

We are going to take the lexical unit as our basic
unit of analysis, that is to say the lexical unit will
serve in contexts in which we will identify phonological
distinctive units. It is therefore important for us to
define what a lexical unit is. This definition depends
largely on grammar and not only on phonology. This cannot
be otherwise because if we proceed firstly to the paradig-
matic analysis it will be necessary to work with a
defined element. In our subsequent analysis we will be
considering our lexical unit to be the "phonological word".
In Chumbow (1982) the phonological word constitutes of the
stem or root and its dependent affixes (prefixes and
suffixes).

1.4 OUTLINE OF WORK

This dissertation has been divided into six major
chapters which are subdivided into various sections.

Chapter one ~~is~~ which was the introductory chapter ~~which~~ treated
the geographical, historical and socio-economic situation
of the Bakweri people. The language was then discussed in
relationship with its neighbours and its linguistic classi-
fication is given.

Chapter two treats segmental phonology using the
structuralist approach in the analysis. It constitutes
the analysis of minimal or near minimal pairs with the aim
of bringing out the ~~pertinent~~ distinctive sounds (phonemes) of the
language.

Chapter three examines the problems encountered in
the course of the analysis.

Chapter four is concerned with the syllable morpheme
and word structure of the language. The chapter goes on
to look at the morphemes which can be combined to form
words and also the examination of words that comprise
just of roots and those that comprise both roots and affixes.

Chapter five constitutes the supra-segmental section
of the work. It comprises of the analysis of prosodic
features such as vowel length and tones.

In chapter six a proposal of an alphabet as well as
orthographic principles of the Mokpwe language is presented.
After this presentation comes the general conclusion.

The transcription signs used are those of the phonetic alphabet of the International African Institute (I.A.I.) that has been presented in the General Alphabet of Cameroon Languages (Tadadjeu and Sadembouo 1984).

1. MAJOR LANGUAGE DIVISIONS OF AFRICA

AFRO-ASIATIC

NILO-SAHRAN

NIGER-KORDOFANIAN

KHOISAN
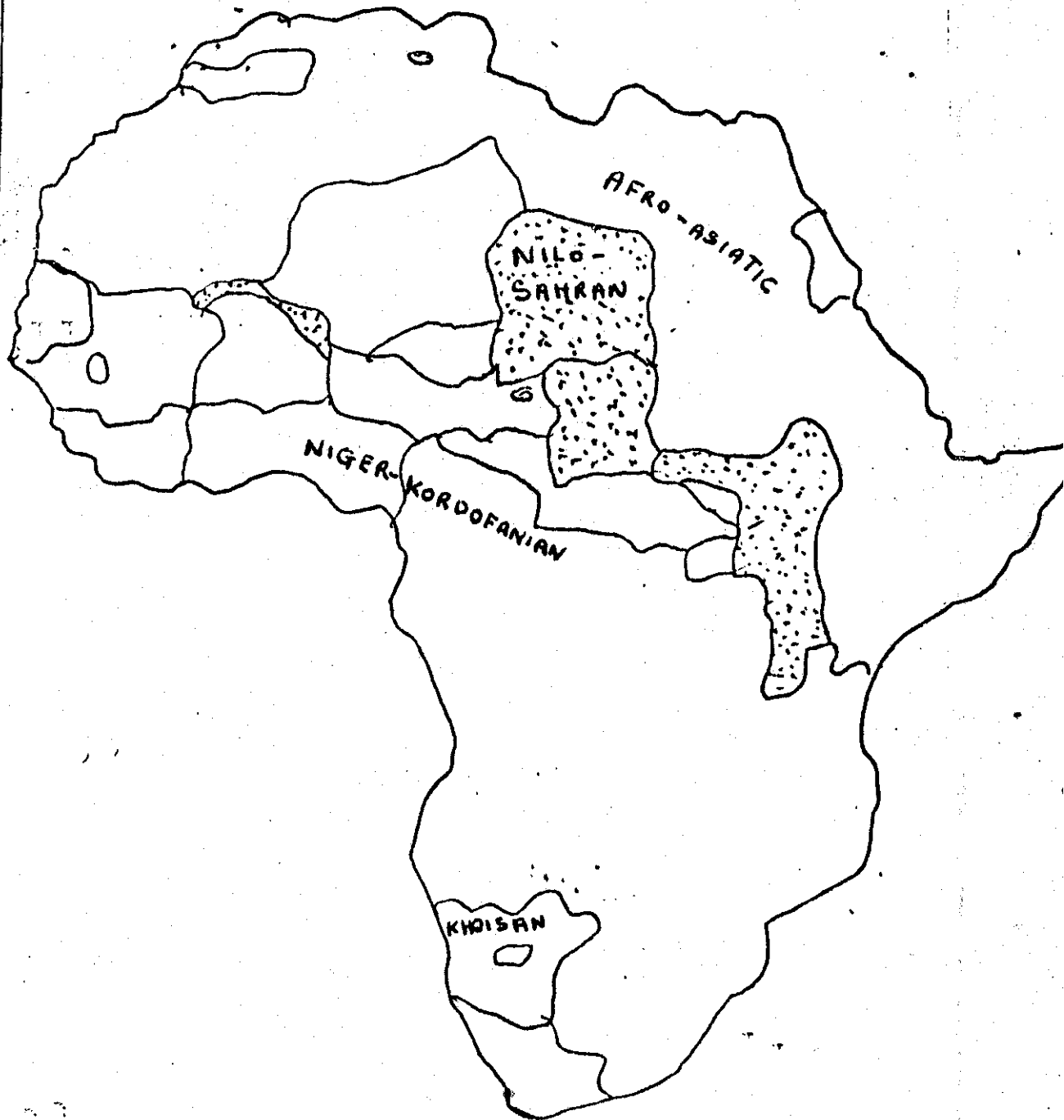
2. MAJOR LANGUAGE ZONES OF CAMEROON

KEY

- Tchadic
- Adamawa
- Bantu

N

TCHADIC

TCHADIC

ADAMAWA UBANGUIEM.

WESTERN GRASSFIELD AND BANTU IN THE B 0 SENSE

TIKARI

EASTERN GRASSFIELD

NON-BANTU BENUE-CONGO

COASTAL BANTU

BAFIA

MBAM

NORTH-EAST EQUITORIAL BANTU

SOURCE : ALCAM

COASTAL BANTU
OF THE CAMEROONS
KPE-MBOKO-DUALA-LIMBA-TANGA-YASA

Scale 1:1,000,000

MILES

Plantation Estates
International boundaries
WOVEA Tribes in this volume
Basa Other tribes

FERNANDO PO (SPANISH)

NIGERIA   CAMEROONS
BRITISH SPHERE
FRENCH SPHERE
Bakundi Group
Long
FERNANDO PO

AREA COVERED BY THE SURVEY
NEIGHBOURING GROUPS......Efik
INTER-TERRITORIAL BOUNDARIES

MILES
RIO MUNI

LIMBA
LIMBA
LIMBA
Fishing Camps
Fishing Camps
Fishing Camps

MBOKO ENCLAVES
CAMEROON MOUNTAIN
KPE
KPE
KPE
KPE
WOVEA
Buea
Victoria
Isuwu
Cape Cameroon

Bubi

PONGO
BAKOKO
Duala
Bakoko

Small Batanga
Bakondo
Lokunde R.
TANGA & Mabea
Kribi
TANGA & Mabea
Grand Batanga
Kienke R.
Iplabe

TANGA
MBOKO

YASA
Ebode
YASA & Fang
YASA & Mabea
Campo
Kombe
Mya

RIO MUNI (SP.)

Fang

CHAPTER TWO

SEGMENTAL PHONOLOGY

In this chapter, our main concern is to bring out distinctive sounds in the language. That is sounds that have a phonemic status. The methods that will be constantly used will be the minimal pairs approach propounded by Pike (1947) and Wiesemann et al (1983). As such we will examine pairs or even trios of words in either identical or analoguous contexts in order to establish the phonemic status of the sounds. If we cannot establish the sounds as distinctive units we will examine their distribution in words in which they occur, to see if they exist in complementary distribution in order to establish them as allophones of one phoneme.

2.1 CONSONANTS

We will now proceed in the analysis of the consonant sounds attested in Mokpwe, to see if some of them constitute distinctive units in the language or are simply allophones of other phonemes.

2.1.1 Phonetic Inventory

The chart which follows contains all the phonetic consonant sounds attested in Mokpwe. These sounds are classified according to place and manner of articulation. From the chart we have groups of suspicious sounds which exhibit phonetic similarities of one type or the other.

CONSONANT PHONETIC CHART

Manner of Articulation		BILABIALS	ALVEOLARS	PRE-PALATALS	PALATALS	VELARS	GLOTTALS	LABIO-VELARS
Stops	voiceless	p	t			k		kp
	voiced	b bw						gb
Affricates	voiceless							
	voiced			j				
Fricatives	voiceless	Φ		hȝ			hw	
	voiced	β						
Nasals		m	n		ɲ	ŋ		ŋm
Pre-nasals		mb	nd	nj				ŋgb
Liquids			l					
Glides					y			w

Place of Articulation

TABLE I

They therefore call for a close analysis in order to bring out the real nature of their similarities.

Pairs of similar sounds

(p,b) (p,ɸ̄) (b,bw) (ɸ̇,β) (m,n) (m, mb) (m,w) (n,nd) (t,nd)
(n,l) (n,ɲ) (nj,j) (ɲ,y) (k,kp) (k,ŋg) (gb,ŋgb) (hw,w).

These pairs of sounds exhibit a high degree of phonetic resemblance. It is these similar characteristics which will allow us to determine and justify the position of two sounds as phonemes or allophones. A phonemic analysis will now come in to determine the actual relationship between a pair of sounds.

2.1.2 Phonemic Analysis

Labials

The sound $\lfloor$ p $\rfloor$ (voiceless oral bilabial plosive)

(i) p/b   póŋgó   "south"   lìbálɛ̀   "to lend"

        pûò   "kidney"   lìbɔ́lɛ̀nɛ̀   "loss"

        píà   "pear"   lìbɔ̌   "to rot"

p and b are sounds which are not common in the language. From the data collected we could lay hands on only the above examples illustrating the occurrence of this sound. p and b are in complementary distribution. p appears where b never occurs. It occurs in the intervocalic position and takes the voiced quality of the vowels. Therefore the phonetic quality of b is conditioned by the vowels. p and b are therefore allophones of the same phoneme.

$$/ \text{ p } / \quad \begin{cases} \lfloor \text{b} \rfloor \text{ in between vowels (intervocalic position)} \\ \lfloor \text{p} \rfloor \text{ elsewhere} \end{cases}$$

p / ɸ   póŋgó   "south"   ɸɔ̀ŋgɔ̀   "grain"

        púɔ̀   "kidney"   ɸáɔ̀   "matchet"

        píà   "pear"   ɸéà   "sore"

p and O are separate phonemes since they contrast in ana-
loguous environments. The status of /p/ as a phoneme is
thus established.

(ii) **The sound /b/** (voiced bilabial plosive)

     b/bw   lìbálɛ̀   "to lend"   bwáŋgɔ̀   "to take care of"

          lìbɔ́lɛ̀nɛ̀   "loss"   bwítàkɔ̀   "swelling"

bw and b are in variation. b occurs intervocalicly and bw
at word initial. They are therefore in a mutual exclusive
environment and are therefore allophones of the same pho-
neme.

     b/p   see (i)

From the above analysis of p and b we discover that they
are all allophones of the same phoneme /p/.

(iii)   **The sound /ɸ/** (voiceless bilabial fricative)

     ɸ / β   lìɸìtɛ̀   "hope"   làβìtɛ̀   "wish"

          lìɸáŋgà   "to destroy"   lìβóŋgà   "to forget"

          lìɸàɸà   "broom"   lìβùβà   "to coagulate"

     ɸ / p   ɸɔ̀ŋgɔ̀   "grain"   póŋgó   "south"

          ɸáɔ̀   "matchet"   púɔ̀   "kidney"

O is realized in all environments as the voiceless bilabial
fricative. It's contrast with β and p establishes its pho-
nemic status. It occurs only at syllable onset position of
words.

(iv) The sound /β/ (voiced bilabial fricative)

    β / ɸ see (iii)

The status of β as a phoneme is seen through its contrast
with ɸ. It occurs only in syllable onset of words. It is
realized in all environments as a voiced bilabial fricative.

(v) The sound /m/ (bilabial nasal)

m/n	límà	"jaw"	línà·	"name"
	wúmà	"baobab"	lùná	"to be old"
	lìtómà	"to bark"	lìtònà	"mistake"
	lìmɛ̌	"to swallow"	lɛ́nɛ̀	"to look"
	jɛ̀mɛ́	"tongue"	jɔ̀nɔ́	"finger"

m/mb	mòlì	"wealth"	mbólí	"goat"
	lìtɛ́mɛ̀	"debt"	lìtèmbɛ́	"to lick"
	límà	"jaw"	lùmbà	"to stink"
	ɛ̀ɛ̀mɛ̀	"habit"	lɛ̀ɛ́mbɛ̀	"to blow one's nose"

m/w	múná	"flame"	wúná	"of twenty-four hours"
	màná	"names"	wáná	"mouth"
	màwâ	"marriage"	wòwɛ́	"medicine"

m is established as a phoneme in the language through its
contrast with n, mb and w. It is realised as a bilabial
nasal in all environments.

(vi) The sound /mb/ (prenasalised voiced bilabial plosive)

    mb/m see m/mb in (v) above.

The status of mb as a phoneme is established through its
contrast with m. It occurs in syllable onset.

Alveolars

(vii) The sound /n/ (alveolar nasal plosive)

n/nd	làná	"to fight"	làndá	"to buy"
	lɛ́nɛ̀	"to look"	lɛ̀ndɛ́	"to go"
	lùná	"to be old"	lìíndà	"to be black"

n/l	mánà	"names"	múlú	"elder"
	lùná	"to be old"	líló	"voice"

n/ɲ	nà	"and"	ɲû	"human body"
	línà	"name"	nìɲá	"louse"
	náŋgɛ̂	"now"	ɲòŋgá	"trade"

n is realized in all environments as an alveolar nasal. It
is a distinctive sound unit in the language whose status as
a phoneme is established through its contrast with nd,
l and ɲ. It occurs only in syllable initial positions.

(viii) The sound /nd/ (prenasalised voiced alveolar plosive)

     nd/n see n/nd in (vii) above.

Through its contrast with n in identical contexts, the
status of nd as a phoneme is established. This phoneme is
realized in all environments as a prenasalized alveolar
stop.

(ix) The sound /l/ (voiced alveolar lateral liquid)

     l/n see n/l in (vii) above.

l is realized as an alveolar lateral in all its environments
of occurrence. Its contrast with n in analoguous environ-
ments establishes its status as a phoneme.

x) The sound /t/ (voiceless alveolar plosive)

t/nd lìtɛ̌   "to be sweet"   lɛ̀ndɛ́ "to go"

      lètá   "hard"   làndá   "to buy"

      lìtánà "to be white"   lìíndà "to be black"

      tàmbá   "hat"   ndáwò   "house"

The status of t as a phoneme is established through its
contrast in analogous environments with nd. It is realized
in all environments as a voiceless alveolar plosive.

Pre-palatals

xi) The sound /j/ (voiced pre-palatal oral affricate)

j/nj jɔ̀nɔ́   "finger"   njɔ̀njɔ́ "mushroom"

      jɛ̀mɛ́   "tongue"   njùmá   "war"

      jɔ́wì   "speech"   njùwí   "hook"

      jɔ̀ndɔ́ "ring"   njɔ̀njì "whale"

j occurs at word initial position. Its status as a conso-
nant phoneme in Mokpwe is established through its contrast
with nj. It is realized as a voiced pre-palatal oral affri-
cate in all its environments of occurrence.

xii) The sound /nj/ (pre-nasalized pre-palatal affricate)

nj/j see (xi) above.

The status of nj is as a phoneme is seen through its con-
trast in analogous environment with the sound j. It
occurs in the initial and medial position of words.

Palatals

xiii) <u>The sound /ɲ/</u> (palatal nasal plosive)

<u>ɲ/y</u> ɲàmà   "animal"   yŏmà   "abcess"

       ɲòŋgá   "trade"   yòŋgɔ   "pots"

       ɲáwò   "bee"   yàwónò "today"

       ɲátì   "buffalo"   yàlí   "leaf"

<u>ɲ/n</u> see n/ɲ in (vii) above.

The status of <u>ɲ</u> as phoneme is established through its con-
trast in analogous environments with the phonemes <u>y</u> and <u>n</u>.
It occurs only in syllable onset position.

xiv) <u>The sound /y/</u> (voiced palatal oral glide)

<u>y/n</u> see n/y in (xiii).

The glide <u>y</u> obtains its status as a phoneme in mokpwe
through its contrast with <u>n</u>. It occupies only in syllable
onset and only in the initial position of words.

Velars

xv) <u>The sound /k/</u> (voiceless velar oral plosive)

<u>k/kp</u> lìkà   "to add"   ìkpá   "salt"

        kémà   "monkey"   kpélí   "death"

        lìkɛ̂   "to cut down"   lìkpà   "bag"

<u>k/ng</u> kòwà   "calabash"   ŋgòá   "pig"

        kóndì "bean"   ŋgíndí "crowd"

        lòká   "to play"   lăŋgà   "to count"

The position of <u>k</u> as a phoneme in Mokpwe is established
through its opposition with <u>kp</u> and <u>ng</u> in analogous environ-

ments. It is realized in all environments as a voiceless velar oral plosive.

xvi) <u>The sound</u> /kp/ (voiceless labiovelar stop)

<u>kp/gb</u>	lìkpâ	"to fail"	lìígbà	"thieving"
	mòkpání	"fool"	màgbání	"mumps"
	kpélí	"death"	gbìtó	"tale"
	lìkpéà	"to enter"	lìgbèá	"to make"

<u>kp/k</u> see k/kp in (xv).

<u>kp</u> obtains its status as a phoneme through its contrast with <u>gb</u> and <u>k</u> in analogous contexts.

xvii) <u>The sound</u> /gb/ (voiced labiovelar stop)

<u>gb/kp</u> see kp/gb in (xvi).

<u>gb/ŋgb</u>	làgbá	"to climb"	ŋgbâ	"dog"
	lìígbà	"thieving"	lìŋgbă	"to give"
	mògbèlì	"worker"	líŋgbàlá	"to bride"

The status of <u>gb</u> as a phoneme is seen through its contrasts with <u>kp</u> and <u>ŋgb</u> in analogous environments. It is realized in all environments as a voiced labiovelar oral stop.

xviii) <u>The sound</u>/ŋgb/ (labiovelar prenasalized stop)

<u>ŋgb/gb</u> see gb/ŋgb in (xvii).

<u>ŋgb</u> establishes its phonemic status in the language through its contrast with <u>gb</u> in analogous environment. It occupies both the initial and medial positions of words and is realized in all environments as a prenasalized labiovelar stop.

xix) <u>The sound /ŋg/</u> (labiovelar prenasalized stop)

<u>ng/k</u> see k/ŋg in (xv).

From its contrast with <u>k</u>, <u>ng</u> obtains its phonemic status in the language. It occurs in the initial and medial position of words. In all its environments of occurrence it is realized as a labiovelar prenasalized stop.

xx) <u>The sound /w/</u> (oral labiovelar approximant (glide))

<u>w/m</u> wúná "twenty four hours" múná "flame"

wàná "mouth" mánà "names"

wòwé "medicine" màwâ "marriages"

<u>w/hʷ</u> wàná "mouth" hwánà "children"

lówá "excrement" lìhwâ "marriage"

lìwû "ashes" lìhwélè "to call"

<u>w</u> occurs in syllable onset position. It's status as a phoneme is obtained through its contrast with <u>m</u> and <u>hw</u>. <u>w</u> never occurs before the back rounded mid-vowel <u>ɔ</u>.

xxi) <u>The sound /hw/</u>

<u>hw/w</u> see w/hw in (xx) above.

<u>hw</u> is a distinctive sound unit in the language whose phonemic status has been established through its opposition with <u>w</u>. It is a labialized glottal fricative.

2.1.3 <u>Definition and classification of consonant phonemes</u>

/p/ bilabial (p/b) oral (p/ɸ) voiceless stop.

/b/ bilabial (b/bw) oral, voiced, stop.

/ɸ/ bilabial (ɸ/β) and (ɸ/p) voiceless fricative.

/β/ bilabial, oral (B/O) voiced fricative.

/hʒ/ voiced prepalatal fricative.

/m/ bilabial (m/n, m/mb) nasal (m/w).

/mb/ bilabial (mb/m) pre-nasal.

/t/ alveolar, voiceless, oral, stop.

/n/ alveolar (n/nd, n/l, n/n) nasal.

/nd/ alveolar (nd/n) pre-nasal.

/l/ alveolar (l/n) oral, liquid.

/j/ pre-palatal, affricate, voiced, oral.

/nj/ pre-palatal, pre-nasalized affricate.

/ɲ/ palatal (ɲ/y, ɲ/n) nasal.

/y/ palatal (y/ɲ) oral, glide.

/k/ labio-velar, voiceless, oral, stop.

/ŋg/ labio-velar, pre-nasalized stop.

/kp/ labio-velar (kp/gb) voiceless, oral, stop.

/gb/ labio-velar (gb/kp) voiced, oral, stop.

/ŋm/ labio-velar nasal.

/ŋgb/ labio-velar prenasalised stop.

/w/ labio-velar (w/m) glide.

/hw/ labiolized glottal fricative.

Classification of Consonants

We have been led to establish seven series of consonants
as follows:

- stops, voiceless   p, t, k, kp

         voiced   bw, gb.

- Fricatives, voiceless   Φ

         voiced   β

- pre-palatals   j, hʒ

- Nasals   m, n, ɲ, ŋɛ

- pre-nasals   mb, nd, nj, ŋɡb

- liquids   l

- Glides   y, w.

2.1.4 Phonemic Inventory

Using the methods we outlined at the beginning of this chapter, we have come out with 20 phonemic consonants out of 24 phonetic ones. These phonemic consonants are grouped into stops, fricatives, nasals, laterals and glides. The status of most of the consonants as phonemes was established through their contrast in minimal pairs or in analogous environments. The following table indicates all the distinctive consonant sounds in Mokpwe.

CONSONANT PHONEMIC CHART

PLACE OF ARTICULATION / MANNER OF ARTICULATION		BILABIALS	ALVEOLARS	PRE-PALATALS	PALATALS	VELARS	GLOTTALS	LABIO-VELARS
Stops	voiceless	p	t			k		kp
	voiced							gb
Fricatives	voiceless	ɸ					hʷ	
	voiced	β						
Affricates	voiced			j				
Nasals		m	n		ɲ			ŋm
Pre-nasals		mb	nd	nj		ŋg		ŋgb
Liquids			l					
Glides					y			w

TABLE 2

2.2 VOWELS

Our concern in this section, as was the case with consonants will be, to establish which vowel sounds are phonemic and which are simply allophones. The language does not represent a wide variety of vowels.

2.2.1 Phonetic Inventory

There are seven phonetic vowels in Mokpwe. They are classified according to position of lips, height of tongue, passage of air and horizontal movement of tongue. Table three below shows all the vowel sounds in the language.

Phonetic Vowel Chart

Height of tongue / Position of tongue and lips	Front Unrounded	Central Unrounded	Back Rounded
High	i ii		uu u
Mid-high	e ee		oo o
Mid-low	ε εε		ɔɔ ɔ
Low		a aa	

TABLE 3

N.B.   The position of vowels in this chart is not based on a phonetic plotting in terms of the standard phonetic principles but on an approximative oral perception of the accoustic distance between the sounds.

2.2.2 Phonemic Analysis

i) The phoneme i (high, front, unrounded vowel)

i/e	létì	"hard"	lìtê	"to shout"
	lèwá	"to sharpen"	lìwâ	"to marry"
	mèyà	"intestines"	lìyá	"hand"
	mbàkì	"fog"	mbúké	"mute"

i/u	njàí	"no"	njàú	"hungry"
	mòlì	"wealth"	múlú	"elder"
	líbà	"to steal"	lúbù	"nest"

i/o	ětì	"fool"	étò	"small"
	njàí	"no"	njằò	"hunger"

The contrast of i in identical and analogous contexts with the vowels e, u and o is established above. Thus its phonemic status is defined.

ii) The phoneme e (mid-high, front, unrounded vowel)

e/i see i/e in (i) above.

e/u	lìwê	"breast"	lìwû	"ashes"
	lètá	"hard"	lùtá	"to preserve"

e/ɛ	lìtě	"sweet"	lìtɛ̂	"to scream"
	lèóná	"to sow"	lèɛ́nè	"to shine"
	lìtènì	"middle of"	lìtɛ́mè	"to sing"

e/o	lìtě	"sweet"	lítô	"ear"

e is realized as a phoneme through its contrast with i, u, ɛ and o.

iii) <u>The phoneme ε</u> (mid-low front unrounded vowel)

    ε/a   lìwê   "breast"   lìwâ   "to marry"

          lìkê   "harvest"   lòká   "to play"

          lúlὲ   "to remove"   lùtá   "to preserve"

    ε/ɔ   lìtέ   "to scream"   lìtɔ́   "drop of liquid"

          lìkê   "harvest"   lìkɔ̌   "to hate"

          lᾰtὲ   "to swear"   lɔ́tɔ̌   "weak"

This third cardinal vowel is realized as the front unrounded mid-low vowel. It's contrast with <u>a</u> and <u>ɔ</u> establishes its status as a phoneme.

iv) <u>The phoneme a</u> (low, central unrounded vowel)

    <u>a/ε</u> see ε/a in (iii) above.

    <u>a/ɔ</u> líwà   "marriage"   líwɔ̌   "neck"

          lòká   "to play"   lìkɔ̌   "to hate"

          lùtá   "to preserve"   lɔ́tɔ̌   "weak"

    <u>a/o</u> lìlâ   "to chew"   lílô   "voice"

          lùtá   "to preserve"   lìtô   "ear"

<u>a</u> is a phoneme in Mokpwe whose phonemic status is marked by it's contrast with <u>ε</u>, <u>ɔ</u> and <u>o</u>.

v) <u>The phoneme u</u> (high, back rounded vowel)

    <u>u/i</u> see i/u in (i).

    <u>u/e</u> see e/u in (ii).

    <u>u/o</u> mùùlì   "storm"   mòòlì   "hill"

          múlú   "elder"   mòlì   "wealth"

          njàú   "hungry"   njàò   "hunger"

u/ɔ	mùlú	"breath"	mɔ́lɔ̀	"canoes"
	lìwû	"ashes"	líwɔ̀	"neck"

This phoneme is realized in all environments as the high back rounded vowel. Its opposition with i, e, o and ɔ makes it a distinctive sound unit in mokpwe.

vi) <u>The phoneme o</u> (low, back, rounded vowel)

   <u>o/i</u> see i/o in (i).

   <u>o/e</u> see e/o in (ii).

   <u>o/u</u> see u/o in (iii).

The phonemic status of this sound is established through its contrast with i, e and u in identical and analogous contexts.

vii) <u>The phoneme ɔ</u> (mid-low, back, unrounded vowel)

   <u>ɔ/ɛ</u> see ɛ/ɔ in (iii).

   <u>ɔ/a</u> see a/ɔ in (iv).

   <u>ɔ/u</u> see u/ɔ in (v).

   <u>ɔ/o</u> lɔ́tɔ̀ "weak"   lɔ́tò   "tired"

This phoneme whose phonemic status is marked by its contrast with ɛ, a, u and o is defined as the back rounded mid-low vowel.

2.2.3 <u>Definition and Classification of Vowel Phonemes</u>

<u>Definition of Vowels</u>

We present below the features which characterise each vowel in distinguishing it from the others.

/i/ Front, high, (i/e) unrounded (i/u).

/e/ Front, mid-high, (e/i) unrounded (e/ɛ).

/ɛ/ Front, mid-low (ɛ/e) unrounded.

/a/ Central (a/ɔ) low, unrounded.

/ʉ/ back, high (u/o), rounded (u/i).

/o/ back, (o/ɔ) mid-high (o/u) rounded.

/ɔ/ back, mid-low (ɔ/o) rounded (ɔ/a).

Classification of Vowels

We are going to classify the vowels by the height of the
tongue and the position of the tongue in the mouth.

    a) - Height of the tongue:

    - High vowels: i, u

    - Mid-high vowels: e, o

    - Mid-low vowels: ɛ, ɔ

    - Low vowel: a

    b) - Position of tongue:

    - Front: i, e, ɛ

    - Central: a

    - Back: u, o, ɔ

2.2.4 Phonemic Inventory

    Out of the seven phonetic vowels identified, all have
come out as phonemes. These vowels occur only in open syl-
lables because of the non-existance of close syllables in
the language. The table which follows indicates all the
vowel phonemes with their articulatory properties.

Position of tongue / Height of tongue	Front Unrounded	Central Unrounded	Back Rounded
High	i		u
Mid-High	e		o
Mid-Low	ɛ		ɔ
Low		a	

<div align="right">TABLE 4</div>

The phonemic status of the long vowels is difficult to establish because all the vowels in the language are capable of being lengthened. This will be discussed in detail in section (5.1).

From the analysis that we have done in this language, we have observed that a majority of the consonants do appear in word initial and intervocalic positions. The two contexts of analysis were the identical and analogous contexts. It can be observed that most of the vowel phonemes contrasted in identical contexts, unlike the consonant phonemes which contrasted with each other in analogous contexts.

Another observation within this analysis is that only the following vowels e, o, ɛ and i can stand on their own as syllables in a word.

Illustration

ètɔté	"whistle"	
v-cv-cv		
óné	"where"	
v-cv		
ὲyɔ́lὲ	"peace"	
v-cv-cv		
ihʒìlà	"punch"	
v-cv-cv		

Furthermore a system of vowel harmony exist in the language especially noticeable in vowel pairs o, e and ɔ, ɛ. This will be discussed later on in section 2.2.6.

2.2.5 Phoneme Distribution

In Mokpwe the following syllable patterns below have been attested. There is only the existance of open syllables and no close syllables in the language. Here are the attested syllable patterns:

V	ó	"to"
	ὲ-yɔ̀	"laugh"
CV	kɔ́	"snail"
	wú	"night"
CV-V	mbóà	"village"
	njìá	"road"

The following tables show the possible combinations of single consonants in syllable onset and vowels in syllable peak.

TABLE 5: "+" indicates an attested combination
"-" indicates an absence of combination.

Roots

Vowels in Syllable Peak

	i	e	ε	a	u	o	ɔ
p	-	-	-	-	+	+	-
b	-	-	-	+	-	-	+
ɓ	+	+	+	+	+	+	+
ß	+	+	-	+	+	-	+
m	-	-	-	+	+	-	+
mb	-	+	-	+	-	+	+
t	+	-	-	+	+	+	+
n	-	-	-	+	+	+	+
nd	+	+	-	+	-	-	+
l	+	+	+	+	+	+	+
j	-	+	+	+	+	+	+
nj	-	+	+	+	+	-	+
ɲ	+	-	-	+	+	+	-
y	-	+	-	+	-	+	+
k	-	+	+	+	+	+	+
kp	-	+	-	+	-	-	-
gb	+	+	-	+	-	-	-
ŋg	+	+	+	+	+	+	+
ŋm	+	+	τ	+	-	-	-
ŋgb	-	-	+	+	-	-	-
w	-	+	+	+	+	+	+
hᵂ	-	-	+	+	-	+	-

TABLE 5

Prefixes	Vowels in syllable peak						
	i	e	ɛ	a	u	o	ɔ
m	-	+	-	+	+	+	-
l	+	-	-	-	-	-	-
w	-	+	-	-	-	-	-
y	-	-	-	-	-	+	-

Consonants in syllable onset

TABLE 6

Table five shows that the most regular vowels which
follow a good number of consonants are the central vowel
/a/ and the back vowels /u/, /o/, /ɔ/.

Looking at the two tables we notice that there are
certain combinations which occur both in roots and affixes.
These are me, ma, mu, mo, li, we, and yo.

2.2.6 Vowel Harmony

The vowel system in Mokpwe is dominated by the pheno-
menon of vowel harmony, which is very rampant in many
African languages. This phenomenon involves a situation in
which vowels agree in certain features such as backness,
rounding and so on. The vowels in a language with vowel
harmony can be said to belong to two different groups.

According to Chumbow (1982) vowel harmony systems of
Africa can be categorized into two-"complete" and "incomplete"-
vowel harmony systems. Complete systems are generally those

of languages with a phonetic inventory of nine or ten vowels, divided into parallel mutual exclusive sets distinguished by a phonetic feature, usually the feature advanced versus retracted tongue root. In incomplete vowel harmony system, there is generally a 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. It is this latter situation that we find in mokpwe.

	Set A	Set B
	i	i
	u	u
	e	ɛ
	o	ɔ
	a	a
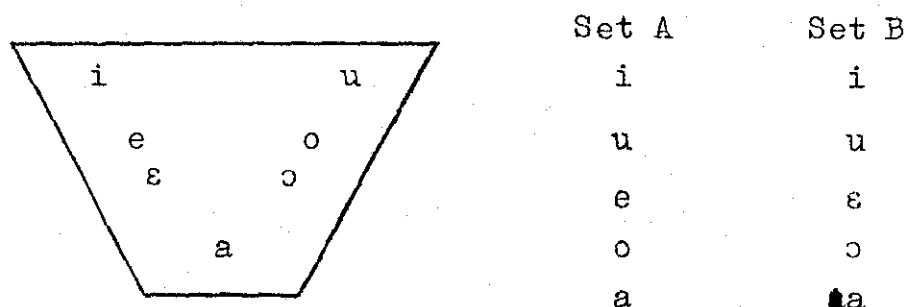
In this incomplete vowel harmony system that we find in the language, i, u and a co-occur in sets A and B. Notice that in incomplete system only e, o and ɛ, ɔ are mutually exclusive, i, u and a are "neutral" because they co-occur with vowels of either set.

The harmony we find in this language is that of root harmony   The mid-vowels e, o never co-occur with ɛ, ɔ in roots while on the other hand i, u and a may occur with any of the four mid-vowels and with each other.

Illustration

A		B	
lěyèyà	"advice"	lŭlè	"to subtract"
mòlêlì	"teacher"	lìkɛ́	"to cut down"
èkéké	"empty"	njɔ̀njì	"whale"
wèwòwà	"prison"	káyè	"disorder"

ŋmèó	"egg"	jɔ̀kɛ̀	"truth"
ètɔ̀kó	"sweat"	ɛ̀yɔ́lɛ̀	"peace"
èwɔ̀lɔ̀	"work"	tɔ̀ndɛ̀	"flood"
wètàtɔ̀	"anger"	ɛ̀yɔ̀	"laugh"
mèkókó	"sugar canes"	jɔ̀ndɔ́	"ring"
èwɔ̀kí	"morlar"		

In data A we notice that e̱, o̱, co-occur with each other and with themselves to the exclusion of ɛ, ɔ. In data B, ɛ, ɔ also behave in the same manner. One may be led to postulate two harmonic sets of vowels for mokpwe.

A pertinent point which we must regard before establishing vowel harmony is the relation between roots and affixes (prefixes and suffixes) of nouns and verbs.

Nouns

Prefixes	Roots	Gloss
mɔ̀	- wèkèlì	"creator"
mɔ̀	- lélì	"teacher"
mó	- lánà	"woman"
mù	- nyánà	"husband"
é	- wɔ̀lɔ̀	"work"
è	- wàkà	"chimpanzee"
wà	- kálá	"Europeans"
lì	- wɔ̀wɛ̀	"spider"
lì	- yáì	"stone"
lì	- wàtù	"cloth"
mè	- kɔ̀mbá	"guns"
mè	- â	"hoes"

Nouns contd.

Prefixes	Roots	Gloss
lì	– wàwɛ̀	"wing"
mà	– wɛ̀ndì	"knives"
wɛ̀	– lùkà	"bottles"
we	– wòní	"cartridges"

Verbs

Prefixes	Roots	Gloss
lì	– líá	"to sit down"
lì	– mɛ̌	"to swallow"
lì	– tómbà	"to advance"
lì	– tútà	"to sweep"
lì	– lɔ̌	"to be nice"
lì	– bálɛ̀	"to lend"
lì	– wèká	"to create"
lì	– kɛ̂	"to cut"
lì	– kɔ́lɔ̀	"to sew"
lì	– índà	"to be black"
l	– àndá	"to buy"
lì	–lâ	"to eat"
lè	– méà	"to agree with"
lì	– kékà	"to prevent"
lì	– kpâ	"to fail"

From the above data, we still notice that when either
pair of vowels e, o and ɛ, ɔ occur in the prefix or root of
a word it immediately excludes the occurrence of the other
pair. Thus each of the pair of vowels co-occur with each

other. ... ...
...okpwe vowel harmony as in (I) below or those ... ...
as in (II).

I	A	B	II	A	B	C
	i	i		e	ɛ	i
	u	u				u
	e	ɛ		o	ɔ	a
	o	ɔ		+ ATR	– ATR	NEUTRAL
	a	a				

Whichever the case, it is claimed that vowels i, u, a
are ambivalent with respect to vowel harmony.

CHAPTER THREE

INTERPRETATION PROBLEMS

In most languages there is the existance of a certain number of sounds which are likely to have different inter-pretations according to the structure of the language in question. In the course of analysing a language one comes across such cases which can only be interpreted following the internal organisation of the language under study. Here are some of the ambiguous cases which we encountered in the course of analysis.

Firstly we encountered sounds which can be interpreted as vowels or consonants. Secondly sounds that are open to syllabic or non-syllabic interpretation. Thirdly those that can be interpreted as being made of a single unit or a sequence of two or even more units. Finally those that can be considered as phonemic or not.

3.1 VOWELS/CONSONANTS

Here we will consider sounds that are likely to be interpreted as vowels in some situation or as consonants in others. These will include sounds which possess at the same time characteristics that are appropriate to vowels and those that are appropriate to consonants. It there-fore involves a case of using one symbol which can stand for two separate classes of sounds depending on the context of occurence. Such sounds include the high vowels i and u as well as the glides y and w. Since these vowels are

produced with the position of the tongue being high, they are phonetically similar to the palatal and labio-velar glides y and w, which are also articulated in a similar manner. Therefore in language analysis a y can be considered as occupying the vowel (V) position in some cases and/or consonant (C) position in other cases. The issue here is that they can be underlying vowels but surface glides.

Mokpwe, like many other languages contains these four sounds. Taking into consideration less complicated data in the language we realise that the structure of Mokpwe does ~~not~~ permit a VV sequence where the V_1 is of a different quality from V_2 but any non-syllabic element at syllable onset in every unsuspicious instance is consonant. Therefore words like:

wàná	"mouth"
wómà	"drunk"
wòwé	"medicine"
yɔ́kí	"ointment"
yàlí	"leaf"
yɔ̌mà	"abcess"

will be interpreted as having the structure CVCV and not VVCV. That is to say, where y or w is neither preceeded nor followed by consonants, they will be regarded as sounds with the full characteristics of consonants or semi-consonants and not vowels.

3.2 SOUND SEQUENCES

In languages, there often exist sound units which are either interpretable as single sound units or sequences of two or more sounds. Such instances involve both consonants and vowels where two sounds with different qualities are interpreted in some languages as single complex sound segments and in others as separate sound units.

3.2.1 Vowel sequences

In Mokpwe we have the VV sequence. We interprete this sequence as either V_1V_1 or V_1V_2. In the analysis of such sequences they are considered as the syllables for the following reasons:

- the sequence VV are of a longer duration than a single vowel.

- the possible combination of vowels in the CVCV structures are also found in the CVV structures.

- each vowel of the sequence VV carries a tone, often with different tones on each vowel.

- all the tonal schemes that we find in the CVCV structure low-high, high-low, low-low, high-high can also be found in the structure CVV.

Illustration

CVV	Gloss	CVCV	Gloss
mbèá	"pipe"	yàlí	"leaf"
ŋgòá	"pig"	wòwé	"tree"
mbʌ́à	"village"	kúlù	"tortoise"
mbúà	"rain"	wɔ́lɔ̀	"canoe"
njàò	"hunger"	jɔ̀kè	"truth"

From the above data we are able to observe, the fact that each vowel carries a tone, and also the possibility of having the same tonal scheme in CVV and CVCV structures. All these go to justify the fact that the VV sequence should be interpreted as comprising two syllables.

Another important point we have to resolve is whether the VV sequence can be interpreted as comprising of a se sequence of sound or a single sound unit.

In cases where we have the sequence V_1V_1 it is interpretable as a single sound unit, because such instances are cases of vowel lengthening. When the V_1 is different from the V2, that is if we have the structure V_1V_2, it is analysable as comprising two sound sequences. Thus the vowels we have in the data above constitute a sequence of two sounds.

3.2.2 Consonant sequences

The following sets of consonants clusters in which the C_1 is different from C2 have been attested in Mokpwe. These consonants include kp, ŋg, gb, ŋgb, and hw. In the

course of analysis each of these sounds is regarded as a

single sound unit and not as a sequence of two or more

sounds. The following data exemplifies the cases.

mòkpèò	"scabies"
lĭkpà	"bag"
làgbá	"to climb"
lìhʒòlɛ́	"to pour"
lìhʒómà	"to peck"
ŋgbâ	"dog"
ŋgòá	"pig"

From the above data we can postulate the following words

structures:

$\#$ CV-CV-V $\#$ (first word)

$\#$ CV-CV $\#$ (second and third word)

$\#$ CV-CV-CV $\#$ (fourth and fifth word)

Our main concern here is with the consonant of the second

syllable of the word. We may assume that the consonants

in this position will be ʒ, g and h. However, from the

previous analysis that we have done in Mokpwe there is the

realisation that these consonants are not attested in the

language. If we say that they constitute a sequence of

two sounds (kp, gb, ŋgb) it means that we are postulating

the existance of the structure CV.CCV for the first word

in the data above. This would be improbable because the

structure of the language does not allow a CC sequence.

Therefore we will have the following CV-CV-V for the word mɔkpèὸ. As such the other remaining sound in the second syllables in the above data will be reguarded as comprising of single sound units.

3.3 HOMORGANIC NASALIZATION

It is often the case in some African languages that words or syllables begin with a nasal followed by a non-nasal consonant such as stops, affricates or fricatives. In most of such cases the nasal and following consonant are hormoganic that is having the same point of articulation. So far as, such sounds are concerned it is important to determine whether they are single or separate sound units. This situation varies from language to languege because in some languages it maybe a case of consonant prenasalization and in others a case of homorganic nasalization. In situations where such sound sequences are considered as separate units, the preceeding nasal often bears a tone and the two homorganic nasals are realised in two separate syllables. This is not the case in Mokpwe. Therefore the sequence of a nasal consonant followed by an oral consonant in Mokpwe is homorganic. Thus the following words in Mokpwe will have the structure CV-CV and not CCV-CV.

mbàkì	CVCV	"cloud"
mbòkὸ	CVCV	"chair"
mbúké	CVCV	"mute"
ndókó	CVCV	"sweet potato"

ndáwò	CVCV	"house"
ndɔ́tɔ́	CVCV	"dream"
ŋgìlà	CVCV	"lion"
ŋgàndà	CVCV	"medicine man"
njùwí	CVCV	"hook"
njénjé	CVCV	"thorn"
njɔ̀kù	CVCV	"elephant"

3.4 HETEROGANIC SEQUENCES

A heteroganic sound is one produced with the super-imposition of a secondary articulation. It often involves consonants produced with an accompanying vowel articulation. Such cases include labialization, palatalization and aspiration. The occurrence of such sounds are rare in Mokpwe. We do find certain cases of labialization but they are very limited in number.

3.4.1 Labialized consonants

Generally labialization consists of rounding the lips during the production of a sound segment, just as for a rounded vowel. This process occurs only with the voiced bilabial stop _b_ in Mokpwe. It will appear that this consonant sound is labialized through a process of glide formation. It is likely that the consonants which are labialized at the surface level occur in a context at deep structure where they preceed two consecutive vowels of different qualities. The first vowel being the high back

rounded vowel y. In other words the underlying word struc-
ture is CVV(C) in which it is realized in the surface level
as CWV (C). A rule for this process can be stated as such:
/u/ --- $\int w \, \overline{J}$/-V .

It is more logical to term this a situation of glide
formation and not labialization because the contexts of
the occurrence of the labialized consonants are not natural
enough for any labialization process to take place. We
would have expected the labialized consonants to precede
back vowels for the process to be predictable, but this is
not the case since these consonants precede both back and
front vowels.

Illustration

/ buaŋgo /	---	$\int b^w \acute{a}ŋg\grave{o} \overline{J}$	"to take care of"
/ buitako /	---	$\int b^w \acute{i}t\grave{a}k\grave{o} \overline{J}$	"swelling"
/ ilibuani /	---	$\int \grave{i}l\grave{i}b^w\grave{a}n\grave{i} \overline{J}$	"key"

Another pertinent situation of glide formation that
we found in Mokpwe is that of a transitional glide inser-
tion. This occurs in cases where we have two contiguous
sequences of back vowels, where at the phonetic level
there is the insertion of w or y which is a glide. At the
phonological level this is not realisable.

$\int mb\acute{o}^w\grave{a} \overline{J}$	---	/ mb\acute{o}\grave{a} /	"village"
$\int ŋg\acute{o}^w\grave{a} \overline{J}$	---	/ ŋg\acute{o}\grave{a} /	"pig"
$\int nj\grave{a}^w\grave{o} \overline{J}$	---	/ nj\grave{a}\grave{o} /	"hunger"
$\int mb\acute{u}^w\grave{a} \overline{J}$	---	/ mb\acute{u}\grave{a} /	"rain"

From this data we can postulate the following rule:

$$\emptyset \longrightarrow w \Big/ \begin{bmatrix} +syll \\ +back \end{bmatrix} - \begin{bmatrix} +syll \\ +back \end{bmatrix}$$

Furthermore in cases where the first vowel in the contiguous sequence is a front vowel followed by another vowel, there is the transitional insertion of the high front glide y.

Illustration

$\underline{/}\,\text{mòkpè}^{y}\text{ò}\,\underline{/}$ ---→	/ mòkpèò /	"scabies"
$\underline{/}\,\text{lìhʒè}^{y}\text{á}\,\underline{/}$ ---→	/ lìhʒèá /	"to repair"
$\underline{/}\,\text{lómè}^{y}\text{à}\,\underline{/}$ ---→	/ lómèà /	"to agree"
$\underline{/}\,\text{lìté}^{y}\text{à}\,\underline{/}$ ---→	/ lìtéà /	"to be red"

From the above data we have the following rule:

$$\emptyset \,\text{---}\, y \Big/ \begin{bmatrix} +syll \\ -back \end{bmatrix} - \begin{bmatrix} +syll \end{bmatrix}$$

3.4.2 Long vowels

In Mokpwe all the vowels are capable of being modified through lengthening. This phenomenon is found both in verbs and nouns. The vowels we have in Mokpwe are: i, e, ε, a, u, o and ɔ.

Illustration

lùútù	"rubbish"
mlìtà	"stems"
ìíjá	"pus"
èémbé	"domestic animal"

mὲὲhʒὲ	"beaks"
ὲ̀ὲ̀mὲ	"habit"
lὲ̀ɛ́mbὲ	"to blow one's nose"
wὲkáàndò	"coal"
mùùlì	"storm"
njùùwὲ	"hyena"
mòòlí	"mountain"
lòóná	"to plant"
mòʊlí	"rope"
wòòmbɔ́	"sugar"

The crucial question is, are they long vowels considered
as single sounds or as two separate sounds. We have
earlier argued that the VV sequence belongs to two dif-
ferent syllables, if the V_1 is different from the V_2.
This is not the case with long vowels, because they are
realised within the same syllable. As such the long
vowels are not two separate sounds of the same quality,
but single sound units. Thus, the phonetic situation may
be realized as such VV -- V:

Illustration

/ mìità /	---→	⌈mì:tà⌋	"stems"
/ ὲ̀ὲ̀mὲ /	---→	⌈ὲ̀:mὲ⌋	"habit"
/ mùùlì /	---→	⌈m̄ù:lì⌋	"storm"

In sum this chapter has been based in the interpretation
of ambiguous sound segments in Mokpwe and emphasis has been
laid on the fact that the structural pattern of the lan-
guage does not permit a CC sequence. We also discover
the existence of a VV sequence in the language.

CHAPTER 4

SYLLABLE, MORPHEME AND WORD STRUCTURE

After we have identified and defined the phonemes in
Mokpwe it is now necessary for us to examine in detail the
syllable, morpheme and word structures existing in the
language. This is important because a detail analysis of
the patterns and phoneme distribution will help us to
review and confirm the conclusions arrived at during the
interpretation of ambiguous sound segments.

4.1 SYLLABLE STRUCTURE

Linguists have not found it at all easy to say what
a syllable is and there are many arguments about how it
should be defined. Abercrombie (1967) defines a syllable
by using a theory which explains the syllable in terms of
pulmonic airstream mechanism. This theory maintains that
when the pulmonic airstream mechanism is in action, the
respiratory muscles alternately contract and relax at a
rate of roughly five times per second, so that the air is
expelled in a succession of small puffs. This constitutes
the basis of a syllable.

Wiesemann, Sadembouo and Tadadjeu (1983) have this
to say about the syllable:

- on peut definir la syllabe dans une langue par le
  noyau (qui peut être une voyelle ou une consonne
  syllabique).

- on peut la definir par le ton qu'elle porte.

- on peut la definir par la durée d'emission de la sequence
  de son.

The analysis in this study leads us to the conclusion that
a syllable in this language has a nucleus V which bears a
tone.

In Mokpwe each syllable pattern has an obligatory
syllable peak or nucleus. There is also an optional
element which functions as the onset. The canonical form
of the syllable structure in Mokpwe is:

$$(C) \quad V$$

In the language there are some syllables that are
made up of the nucleus alone and such cases have no accom-
panying consonant element. In Mokpwe i, e, ɛ and o can
stand alone as syllables. Some syllables contain the
essential peak with a preceeding or proceeding consonant.
There are no close syllables in the language due to the
absence of consonants at the coda position.

The general syllable pattern in Mokpwe which are
attested in both root words and affixes are summarised
below:

SYLLABLE PATTERN	ILLUSTRATION	GLOSS	WORD PATTERN
V.	ó	"to"	V
	è-kàkà	"mat"	V-CV.CV
	ὲ-yɔ́lὲ	"peace"	V-CV.CV
	è-tɔ̀	"rat"	V-CV
	è-yé	"stick"	V-CV
	ì-hʒìlà	"punch"	V-CV.CV
CV	wὲ	"catfish"	CV
	kɔ́	"snail"	CV
	ɸɛ	"viper"	CV
	ɲû	"human body"	CV
	mɔ̀-tɔ̀	"person"	CV-CV
	ŋgbá	"dog"	CV
	ŋmǎ	"hoe"	CV
	wû	"night"	CV
	mà-tô	"deafness"	CV-CV
CV-CV	ɲàmà	"animal"	CV-CV
	ndɔ́tɔ́	"dream"	CV-CV
	tɔ́ndὲ	"flood"	CV-CV
	mbéndá	"law"	CV-CV
	ndólô	"love"	CV-CV
	njɔ̀kù	"elephant"	CV-CV
	mbàkì	"cloud"	CV-CV

There are no complex syllable patterns like the CCV
or CCCV that we find in English or French in the language,
homorganic consonants are realised as single sound units
and not a sequence of sounds.

The most predominant syllable pattern is the CV pattern
which occurs in prefixes, verb roots, and noun roots. All
the syllable patterns that we have in the language are
attestable in verb and noun roots.

4.2 MORPHEME STRUCTURE

John Lyons (1968) defines the morpheme as the minimal
unit of grammatical analysis - the units of "lowest" rank
out of which words, the units of next "highest" rank are
composed. This is the definition that we are going to
adopt.

There is a pertinent similarity between the morpheme
and the syllable. Just like the syllable, the morpheme is
comprised of a sound or a sequence of sounds, some of which
can be assigned full lexical meaning.

Due to the above mentioned similarity between the
morpheme and the syllable, we have indirectly treated the
morpheme under syllable structure. As such our main con-
cern in this section will be the distribution of vowel and
consonant phonemes in the various morpheme structure,
taking into consideration only roots and affixes.

The morpheme patterns which have been identified in
the language is reduceable to:

$$C \ (V)^N$$

The N morpheme pattern comprises of prefixes and in
most cases these prefixes mark the singular or plural form
of nouns. In Mokpwe the V prefix include e̲, ɛ̲ and i̲ which
are markers of the class to which a noun belongs while the
N structure comprises the nasal sounds that we find in the
language. The CV structure comprises mostly the prefixes
mu, mo, wa, me, li, yo and wo which often function in
singular/plural formation.

Word	Gloss	Prefix/root structure
í-ndáwò	"houses"	V-CV.CV
è-kàkà	"mat"	V-CV.CV
mò-tò	"person"	CV-CV
lì-wɔ́	"neck"	CV-CV
mà-kómbà	"forests"	CV-CV.CV
n-dólò	"love"	N-CV.CV
m-béndà	"law"	N-CV.CV
n-jɔ̀kù	"elephant"	N-CV.CV
j-óŋgó	"pot"	C-V.CV
j-óndó	"ring"	C-V.CV.

We have been discussing the morpheme structures that
are attested in prefix morphemes. In the course of this
analysis we noted that one cannot actually be treated
separately from the other. That is to say when we are
treating the prefix morphemes, root morphemes always come
into consideration. From the morpheme structure we realise
that the consonants m, w, l, y and j, occur at word initial
position. The rest of the consonants occur in root morphemes.

4.3 WORD STRUCTURE

Generally in the discussion of the word or the morpheme we are faced with the difficulty that whichever one we take first, we must presuppose some knowledge of the other. The difference between the word and the morpheme is that words do have full lexical meanings attached to them, whereas morphemes do not necessarily have full lexical meanings. Furthermore words are generally larger than morphemes and consist of roots and affixes whereas morphemes can be made up of only one of these word components.

The following patterns emerge from the words of the language:

V

CV

CVV

VCV

CVCV

VCVCV

CVCVCV

These patterns illustrate that the language has mono-syllabic, dissylabic and trisyllabic words.

Illustration

Mono-syllabic words

CV

ndà	"cocoyam"	wὲ	"catfish"
wò	"honey"	ɸὲ̂	"viper"
ŋgbâ	"dog"	sɔ̂	"spit"
wû	"night"		

Dissyllabic words

CV-V

mbúà	"rain"	njlá	"road"
ŋgòá	"pig"	ŋmèó	"egg"
mbóà	"village"	mèá	"hoes"
njàò	"hunger"		

CV-CV

mbàkì	"cloud"	ɸàtà	"paw"
múná	"flame"	ŋgólì	"belt"
njòkù	"elephant"	yàlí	"leaf"
ŋgìlà	"lion"	kóndì	"rice"
kúlù	"tortoise"	mbàhʒì	"corn"

V-CV

ὲyò	"laugh"	òhʒò	"parrot"
èkí	"place"	ìkpá	"salt"
ètò	"rat"	èhʒù	"wall"
íkɔ́	"snails"	ètê	"sword"

Trisyllabic

V-CV-CV

ètùmbè	"unripe"	ìwòngó	"box"
èwùlé	"grass"	ítámbí	"shoe"
índáwò	"houses"	èkéké	"empty"
ὲyɔ́lὲ	"peace"	ètòkó	"sweat"
ìhʒìlà	"punch"	èwòló	"work"

CV-V-CV

lìígbà	"to steal"	njùùwè	"hyena"
lúúmbà	"to cork"	màɔ̀mbɔ̌	"nasal mucus"
lèéyà	"to besharp"	màljá	"blood"
wɔɔ̀mbɔ́	"sugar"	mèèmbà	"corpses"
lèɛ́nè	"to shine"	mɔɔ̀lé	"rope"
lòónà	"to sow"		

CV-CV-CV

mólánà	"woman"	lìɸàɸ̀à	"broom"
mòɸ́émbá	"nose"	lìkókà	"to bite"
lɔ̀ŋgɛ́lɛ́	"to remember"	wètàtò	"anger"
yònɔ̀ní	"birds"	mèkókó	"sugar cane"
yòlùkù	"rooms"		

CV-CV-V

mbànjòá	"ribs"	lìtéà	"to be red"
mòkpèò	"scabies"	lìkpéà	"to enter"
lìhʒèá	"to repair"	lìmóà	"to rise"
lémèà	"to agree"		

Most often words with the quadrisyllabic and penta-syllabic structures are usually composite words. In Mokpwe we have this same situation. But in any case we do find some few words with four syllables that are not formed from composition in Mokpwe.

Example:

wèkáàndò	CV-CV-V-CV	"coals"
lìkàtówá	CV-CV-CV-CV	"to nibble"

The following words which have a quadrisyllabic and
pentasyllabic word structures are found in Mokpwe. They
cannot be regarded as single words because of their com-
posite nature.

Illustration

lìkáìhʒè	"to judge"	mòkáìhʒèlì	"judge"
lèndέ	"to travel"	wàéndèlè	"travellers"
lìwέnὲ	"to own"	mòwέnὲlì	"owner"
líhʒɔ̀ŋgɔ̀	"hunting"	mòhʒɔ̀ŋgɔ̀hʒɔ̀ŋgɔ̀	"hunter"
lìwèká	"to create"	mòwèkèlì	"creator"

The words in the second column of the above data have been
derived from the verbs in the first column. In giving the
literal translation of the words in the second column, we
will see how they have been derived.

> mò - káìhʒèlì
> "person who judges"

> wà - έndèlì
> "persons who travel"

> mò - wέnὲlì
> "person who owns"

From the above data we can conclude that words with more
than four syllables are derived from the stem of a verb
and the addition of a suffix.

Combination of consonants in $C_1V\,C_2V$

C1 \ C2	p	b	ɔ	β	m	mb	t	n	nd	l	j	hʒ	nj	ɲ	y	k	ŋg	kp	gb	ŋm	ŋgb	w
p																						
b																						
ɸ							+		+								+	+				
β																						
m						+	+	+	+		+		+	+		+	+	+				
mb					+	+	+				+	+	+	+		+	+	+				
t							+	+														
n																						
nd							+									+	+					+
l			+	+	+		+	+	+	+	+	+	+	+	+		+		+		+	+
j					+	+	+	+				+		+			+					+
.																						
nj					+						+	+	+			+	+					
ɲ					+		+								+		+	+				+
y					+				+	+	+					+	+					+
k							+	+	+							+	+					+
ŋg					+	+		+	+								+					
kp									+													
gb					+																	+
ŋm							+	+	+	+	+	+										
ŋgb																+						
w	+				+		+	+	+		+		+	+	+	+	+					+

TABLE 7

This table below illustrates the possible combination of vowels in lexical units of the structure CVCV and CVV.

i)   in CVCV

CVC_V	i	e	ɛ	a	u	o	ɔ
CV̠CV							
i	+	+	+	+	+	+	+
e		+	+	+			
ɛ	+		+				
a	+		+	+		+	
u			+	+	+		
o	+	+		+		+	
ɔ	+		+	+	+		+

TABLE 8

ii)   in CV-V

CVV̠	i	e	ɛ	a	u	o	ɔ
CV̠V							
i				+			
e				+		+	
ɛ							
a				+		+	
u	+			+	+		
ɔ				+			
ɔ							

TABLE 9

4.4 PHONEME DISTRIBUTION IN ROOT MORPHEME

In this section we are going to examine the positions of the morpheme that each phoneme can occupy.

4.4.1 Vowels

In monosyllabic root morphemes of the form CV we have a wide range of consonants and vowels that can occupy these positions. (See section 4.3.)

In the case of the other syllable root structures all the vowels are capable of appearing in any of the V positions. We can therefore say that vowel distribution in Mokpwe is not very restricted.

4.4.2 Consonant Distribution

As earlier mentioned only very few consonants in Mokpwe, do not occur in initial position. These include the voiced bilabial fricative / β / and alvoelar nasal /n/ Table seven deals with the distribution of consonants in morphemes.

- The first column deals with consonants at word initial position.

- The second column deals with consonants at prefix initial position.

- Column three deals with consonants appearing inter-vocalically.

- And finally, the column deals with consonants that appear at final position of morphemes.

CONSONANT - PHONEME DISTRIBUTION CHART

	#/ -	#/ -	V-V	- #/
p	+	-	-	-
b	-	-	+	-
ɸ	+	-	+	-
ꞵ	+	-	+	-
m	+	+	+	-
mb	+	+	+	-
t	+	-	+	-
n	-	+	+	-
nd	+	-	+	-
l	+	+	+	-
j	+	+	+	-
-ʸ	.	.	.	..
nj	+	+	+	-
ɲ	+	+	+	-
y	+	+	+	-
kp	+	-	+	-
gb	+	-	+	-
w	+	+	+	-
hw	+	-	+	-

TABLE 10

We can draw the following conclusions from this table: most
of the consonants in the language can occur at the inter-
vocalic position, only n does not occur at the initial
position of the word. It has a restricted position of
occurrence. Those consonants which occur at prefix mor-
pheme initial position have two positions of occurrence in
the morpheme as a whole. That is to say they can only
occur at the initial and medial position of words since
the language does not have consonants at the final posi-
tion.

CHAPTER FIVE

SUPRASEGMENTAL PHONOLOGY

Suprasegmental phonological analysis is not based
on segmentation and classification of the segments as
phonemic analysis, but is an analysis in which explicit
recognition is given to features that are non-segmental or
syntagmatic. These prosodic features include stress, tone
and duration (vowel and consonant length) etc.

Wiesemann et al (1983) define prosody as:

> l'ensemble des phénomènes de hauteur musicale
> d'intensité et de durée qui accompagnent la
> parole. Ces phénomènes constituent générale-
> ment des sous systèmes indépendants des systèmes
> segmentaux et ils caractérisent des sequences
> de sons, c'est-à-dire des unités plus étendues
> que les segments minimaux.

These prosodic features have distinctive and expressive
functions all of which play a great rôle in the transmis-
sion of messages. In our subsequent discussion we are
going to limit ourselves to the distinctive function of
certain important features.

5.1 VOWEL LENGTH

In Mokpwe it is rather difficult to define the proso-
dic feature of vowel length as pertinent or not because
of the existance of very few words in the language that
show a contrast between long and short vowels. The fol-
lowing words indicate some of the contrast.

lèɛ́mbè	"to blow one's nose"	lɛ́mbɛ́	"to hold"
èɛmè	"habit"	ɛ́mɛ́	"debt"
mòòlí	"mountain"	mòlì	"wealth"
lɔɔtɔ́	"to faint"	lɔ́tɔ̀	"weak"

5.2 TONE

Tone has to do with distinctions of pitch in the flow of speech. There are pitch phenomena in all languages even non-tonal languages. To native speakers of tone languages tone is as a basic part of his speech as vowels and consonants.

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

There are basically two tones in Mokpwe all of which are register tones. In register system, tonal contructs consist of different levels of steady pitch heights, that are perceptually distinct. Tones in such systems neither rise nor fall in their production. This relative height of the voice has a distinctive function in the language in that differences in pitch height may alone be responsible for differences in meaning.

5.2.1 Tone classes

As earlier said Mokpwe has two principal tones and a language with this number of tones has the following logically possible tone structures.

In monosyllabic words:

L	Low	`	wò	"honey"
H	High	´	ó	"at"
			kɔ́	"snail"

In dysyllabic words we have the following possibilities:

LL	Low, low
LH	Low, High
HH	High, High
HL	High, Low

Illustration of these combinations on disyllabic words:

Combination	Word	Gloss
LL	èyò	"laugh"
	lùmbà	"to stink (smell)"
	mbòkò	"chair"
	ŋgàŋgò	"umbrella"
	yòkpè	"dry season"
LH	tàmbá	"hat"
	wòwé	"tree"
	yàlí	"leaf"
	jònjɔ́	"mushroom"
	ŋmàná	"proverb"

Combination	Word	Gloss
HH	Ọákí	"paddle"
	mbɔtí	"dress"
	múpá	"flame"
	Ọóndá	"weather"
	mbéndá	"law"
HL	ŋgólì	"belt"
	kóndì	"bean"
	mbándò	"tobacco"
	mbóà	"village"
	wɔlɔ̀	"canoe"

Possible tone combinations in trisyllabic words:

L L L	Low Low Low
L H L	Low High Low
L L H	Low Low High
L H H	Low High High
H H H	High High High
H L H	High Low High
H H L	High High Low
H L L	High Low Low

Illustration

Combination	Word	Gloss
L L L	lìtìlà	"to write"
	èlìŋgè	"photography"
	lìkèkà	"trial"
	wèwòwà	"prison"
	lìtònà	"mistake"

Combination	Word	Gloss
L H L	lìláŋgà	"to read"
	lìtɔ́wɔ̀	"to quarrel"
	yàwónò	"today"
	lìkókà	"to bite"
	lìwéyà	"to hear"
L L H	lìtìtá	"to become wet"
	èwùlé	"grass"
	èkɔ̀kɔ́	"branch"
	mòkòkó	"sugar cane"
	lìàŋgé	"pineapple"
L H H	mòndéŋgé	"tribe"
	mòhʒéá	"shout"
	lìyɔ́wí	"fish hook"
	lìyókí	"to fish"
H H H	ítámbí	"shoe"
	ŋgɔ́kɔ́wí	"needle"
	líkɔ́hʒí	"bow"
	léŋgówá	"to trade"
H L H	ŋmámbàlá	"cat"
	ítùú	"rooms"
H H L	wúnánà	"male"
	mólánà	"woman"
	wíólè	"bad luck"
	múnánà	"man"
	múnámì	"husband"

Combination	Word	Gloss
H L L	líhʒɔ̀ŋgɔ̀	"hunting"
	ɓúɓùɓà	"big rainy season"
	míhʒìŋgà	"thread"
	lúwèà	"to come from"

Tonal Glide

We have the rising and falling tones in Mokpwe. Their occurrence is not very frequent in the language.

L͡H   (Low-high, rising tone)

H͡L   (High-low, falling tone)

Examples

- H͡L   (falling tone)

wû   "night"

ŋmâ   "year"

- Low tone - falling tone (L H͡L)

lìlô   "voice"

lìtⱱ   "to shout"

- L͡H   (rising tone)

mbǒ   "banana"

- L͡H L   (rising tone - low tone)

lǒmbì   "to beg"

lǎkà   "to pass"

5.2.2 Tonal Schemes

Classification of tonal schemes

We are going to present the tonal schemes of lexical units comprising of one to three syllables according to their syllabic structure. Those with more than three syllables are most often cases of compounding, and as such do not present new tonal schemes.

monosyllables	disyllables
cv́ (v́)	cv́v́
cv̀ (v̀)	cv̀v̀
	cv́v̀
	cv̀v́
	cv́cv́
	cv̀cv̀
	cv́cv̀
	cv̀cv́
	v̀cv̀
	v́cv́
	v́cv̀
	v̀cv́

trisyllables

cv̀cv̀v̀	v̀cv̀cv̀
cv̀cv̀v́	v̀cv̀cv́
cv́cv́v̀	v̀cv́cv́
cv́cv̀v̀	v̀cv́cv̀
cv̀cv́v̀	v́cv́cv́
cv̀v̀cv̀	cv̀cv̀cv̀

trisyllables

cv̀v̀cv́   cv́cv́cv̀

cv̀v́cv̀   cv̀cv́cv́

                   cv̀cv́cv̀

                   cv̀cv̀cv́

                   cv́cv́cv́

                   cv́cv̀cv́

5.2.3 Phonemic tone contrast

As earlier mentioned tone plays a great role in the distinction of meaning. We are going to illustrate how tone plays a role in meaning in the language.

ŋmàná	"proverb"	ŋmánà	"child"
lɔ̀tɔ̂	"to be tired"	lɔ́tɔ̀	"weak"
ŋmèò	"boundary"	ŋmèó	"egg"
létí	"fever"	létì	"hard"
étò	"small"	ètò	"rat"
múlú	"elder"	mùlú	"breath"
lúlè	"to remove"	lŭlè	"to subtract"
lătè	"to swear"	lătɛ́	"to sweep"
mèá	"hoes"	méâ	"lava-flows"
lfà	"oil palm"	lìá	"had"
ŋmèhʒè	"beak"	ŋmĕhʒé	"day time"
èèmbè	"corpse"	èémbé	"domestic animal"
lîwɔ̀	"neck"	lìwɔ́	"market"

These distinctive tones do exist on nouns and verbs. They do vary from time to time due to various constraints

which we will be discussing later. The ability of these
tones to distinguish vocabulary items earns them the
appellation "lexical tones".

5.2.4 Lexical tones

A lexical tone is one that occurs on lexical items
and plays the role of bringing out a difference in meaning
between the items. All the four tones in the language
appear on lexical items. The illustration below comprises
of monosyllabic words which carry high or low tones,
disyllabic words which carry high, high-low, low, low-high
and high-low.

Monosyllabic words

L

ndà   "cocoyam"   wò   "honey"

Dissylabic words

H H		L L	
kɔ́tɔ́	"fence"	mbàkì	"cloud"
múɲá	"flame"	njɔ̀kɔ̀	"elephant"
mbɔ́tí	"dress"	ŋgìlà	"lion"

H L		L H	
kóndì	"rice"	yàlí	"leaf"
kúlù	"tortoise"	tàmbá	"hat"
wɔ́lɔ̀	"canoe"	wòwé	"tree"

The above examples only indicate some of the combina-
tion of tones that can appear on lexical items. They do

not illustrate meaning in differentiation and are not intended to be exhaustive.

5.2.5 Functions of Lexical Tones

Lexical tones in Mokpwe mark difference in meaning between words of the same class that are identical at the segmental level. See section 5.2.3 on phonemic tone contrast.

5.3 DOWNDRIFT

This is a type of tone lowering in which a sequence of homotones is affected. In Mokpwe when two high tones are separated by a low tone the second high tone is phonetically lower than the first. This phenomenon continues successively right to the end of the sentence.

As a result of this there is a gradual lowering of the basic high tone as one moves from the first to the last syllable.

Illustration

/ mòkòmbá wámá è mólánà / -- / mò kòmbá wámá è mólánà ./
"The woman's gun."
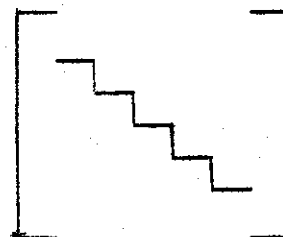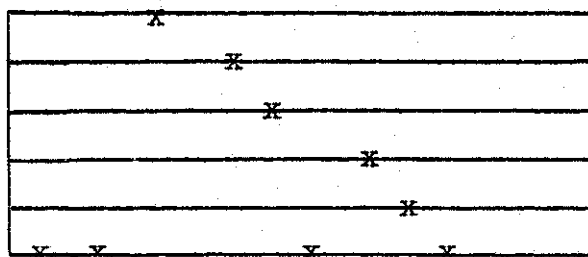
/ mèkókó méámá èmòtò / -- ⌜mèkókó méámá èmòtò⌝
"The man's sugar canes"
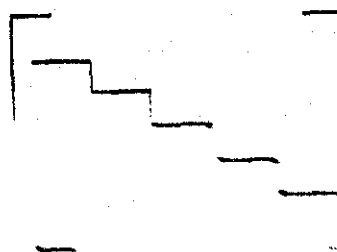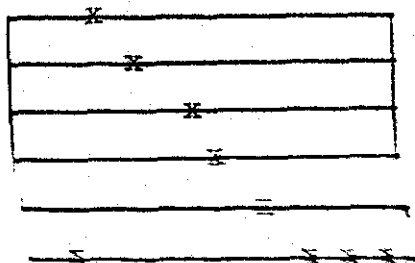
/ ŋgòá à hʒá hʒʃ ŋgúndú / -- ⌜ŋgòʷá à hʒá hʒʃ ŋgúndú⌝
"A pig does not dig for
nothing."
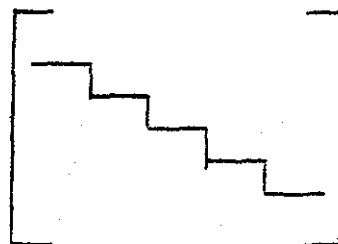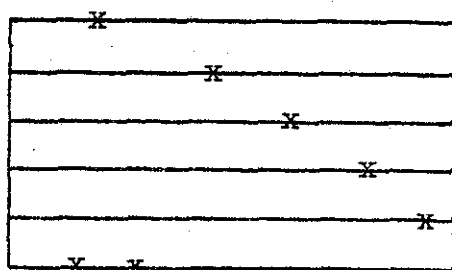
5.4   AFFIXES AND TONES

In some languages affixes do bear tones but in some
they do not. In certain cases when the affixes are brought
into collocation with the root morphemes the affixes,
especially those that carry no tone, derive their tones
from those of the root morphemes by tone copying or polari-
zation.

In Mokpwe the nominal prefixes bear a low tone, even
in cases where the root is monosyllabic.

Example

mòtò	"person"	èkí	"locality"
lòká	"game"	lìwʃ	"neck"
jòkè	"truth"		

In Mokpwe we discover that when the root of a word begins with a high tone, the tone of the prefix merges with that of the root, thus becoming high.

Illustration		Prefixes Root	Gloss
mólánà	<	mò-ólánà	"woman"
yóndó	<	yò-ʌndó	"axe"
wánà	<	wà-ánà	"mouth"
líyà	⟋	lì-íyà	"palm tree"
límà	<	lì-ímà	"cheek"
wúmà	<	wà-úmà	"boabad"
wɔ́lɔ̀	<	wà-ɔ́lɔ̀	"canoe"

From this data we can postulate the following rule accounting for the high tones of the prefixes:

$$L \not{/} + H \;\; \Longrightarrow \;\; H$$

Thus we can say that the prefixes are apparently carrying the high tone of the vowel of the root.

At times the two vowels (vowel of the prefix and that of the root) do combine into a tonal glide (low-high).

Example

lǎkà	"the past"	lǒŋwà	"murder"
nǎkpà	"bags"	lǎβìtɛ́	"wish"
yǒmà	"abcess"		

In Mokpwe we also realized that nominal suffixes do carry low tones.

Example

Prefix	Root	Suffix		
mɔ̀ –	káìhʒ	– èlì	"judge"
wà –	énd	– èlì	"traveller"
mɔ̀ –	wèk	– èlì	"creator"
mɔ̀ –	wɛ́n	– ɛ̀lì	"owner"

5.4.1 Syntactic tone

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

5.4.2 Tone on nominal constructions

A noun bearing a high tone on the penultimate syllable and a low tone at the last syllable of a word, when followed by a possessive particle, the last tone of the word changes to a high tone.

Illustration

ŋmánà	"child"
ŋmáná wáhʒú	"our child"
ndáwɔ̀	"house"
ndáwó yáhʒú	"our house"
mbɔ́à	"village"
mbɔ́á yáhʒú	"our village"

In Mokpwe we also noticed that when nouns are put in collocation with adjectives there is no tonal change on the nouns. The adjectives in the language do not influence

or condition the tones on the nouns as in other African languages. In Mokpwe when an adjective is put in collocation with nouns there is a concordial morpheme inserted before the adjective which has its own inherent tone.

Illustrations

Adjectives		Nouns	
ndɛ̀nɛ̀	"big"	mólánà	"woman"
hʒàlì	"small"	mòtò	"person"
téyà	"red"	mòkòmbá	"gun"
wówé	"bad"	mbɔ́tí	"clothes"

mólánà mó-ndɛ̀nɛ̀   "big woman"
        CM

mòtò mó-hʒàlì   "small person"

mòkòmbá mó-téyà   "black children"

mbɔ́tí yà wówé   "bad clothes"

5.4.3 Tone on verbs

In Mokpwe imperative verbs with monosyllabic roots usually bear the tone high-low (H L).

kɛ̂	"cut"	mɛ̂	"swallow"
lâ	"eat"	kpɛ̂	"fall"
nyɔ̂	"drink"	ŋwâ	"die"

In front of an object the low tone dissapears.

lá mòlélí !   "eat the food"

nyɔ́ màlíwà !   "drink the water"

ŋwá ndê !   "die then"

Dissyllabic verbs do bear either a high, low or low-high tone on their first syllables:

<u>Example</u>

làndá	"to buy"	lùtá	"to hide"
lèndɛ̌	"to go"	lǎkà	"to pass"
lìtɔ̌	"to speak"	lɔ̌mbɔ̀	"to beg"
lìkê	"to cut"	lǎŋgà	"to count"
lìbɔ̌	"to rot"		

For the most part, the fondamental structure of a verb comprises of two syllables. From the original forms of verbs which can either be made up of one or two syllables, we can derive by suffixation a good number of verbs with three or more syllables. As we earlier mentioned these suffixes generally bear a low tone.

In sum the rules of the tonal changes in the language has not been quite exhaustive due to the limited time factor. This area therefore constitutes an interesting area for further studies in the language.

CHAPTER SIX

ALPHABET AND ORTHOGRAPHY

The establishment of a writing system of any language
is a preliminary to its development and subsequent standar-
dization.   This last chapter has been dedicated to the
establishment of a writing system for Hokpwe.   The working
method used is adapted from Pike (1947) and Wiesemann (1983).
The establishment of the alphabet and the orthographic
principles has taken into consideration the following: the
ease of teaching and learning of the postulated symbols,
its availability on a typewriter keyboard, native speakers
intuition and simplicity.

CHOICE OF GRAPHEMES

CONSONANTS

The consonants present a lot of difficulty because of
the existence of certain consonant sounds that are diffi-
cult to define and classify due to their complex nature.
In the most part, the symbols used in the *phonological
analysis* will be used.   When they are different, it is
for the reasons noted below.

The graphemes f and v

Normally the symbols representing these two graphemes
are ɸ and β.   If we take into consideration the fact that
any person who might be interested in learning to read and
write the language would have been used to the graphemes

f and v rather than φ and β. This therefore makes it easy
and convenient for the learners of the language. Moreso,
the graphemes chosen are easy to come by on a typewriter.

The graphemes ng, ny and ngb

The symbols representing these three graphemes are ŋg,
ɲ and ŋgb respectively. The above diagraphs have been pos-
tulated because of the familiarity of the symbols. Any
native speaker interested in learning to read and write the
language will find it strange if presented with the above
symbols.

The graphemes hz and nw

The symbols representing these graphemes are hȝ
and ŋm. These sounds are rather frequent in the language.
Written material already existing in the language makes use
of these symbols (hz, nw). So it will be appropriate for
social reasons to use the already existing symbols. Fur-
thermore these sounds can be found on any typewriter.

VOWELS

The vowels do not present any problem in the establish-
ment of an orthography. It so happened that all the vowels
that we find in Mokpwe are found in the English language.
As a result, there is no problem posed in the learning and
writing process of a learner, because s/he is already
familiar with the sounds.

The Alphabet

After having done the phonological analysis of the language we now know the sounds existing in the language. With this knowledge we are able to propose the following alphabet for Mokpwe. The arrangement and order is similar to that of the English alphabet: a, b, c, d, e, ɛ, f, i, j, k, l, m, n, o, ɔ, p, t, u, v, w, y. In addition to these monographs, the language also has the following diagraphs: kp, gb, hw, hz, nd, nj, ny, nw, ng, ngb, mb.

From this list one immediately realises that, some symbols which occurred as phonemes are absent and in their place we have different symbols that did not appear during the analysis. Below is a table containing the phoneme symbols, their orthographic counterparts and illustrative words.

Phoneme Symbol	Alphabet grapheme	Illustrating Word	English Gloss
a	a	áŋgá	"there"
b	b	lìbálɛ̀	"loan"
e	e	èkàkà	"mat"
ɛ	ɛ	ɛ̀yɔ́lɛ̀	"peace"
ɸ	f	fɛ̂	"viper"
β	v	ɛ̀vɛ̀tú	"mouse"
gb	gb	gbàwá	"snake"
i	i	ítámbí	"shoe"
j	j	jɔ̀njɔ̀	"mushroom"
k	k	kémà	"monkey"
l	l	lòká	"rabbit"

Phoneme Symbol	Alphabet grapheme	Illustrating Word	English Gloss
m	m	mɔ́lánà	"woman"
mb	mb	mbɔ́lí	"goat"
n	n	nángè	"now"
nd	nd	ndáwò	"house"
ŋg	ng	ngòá	"pig"
ŋgb	ngb	ngbâ	"dog"
nj	nj	njùùwè	"hyena"
ŋm	nw	nwánà	"child"
ɲ	ny	nyàmà	"animal"
o	o	mòtò	"person"
ɔ	ɔ	mɔ̀ɔ̀lì	"rope"
p	p	púò	"kidney"
t	t	tàmbá	"hat"
w	w	wàná	"mouth"
hw	hw	hwánà	"children"

TONES

The symbol for marking tones (´ and `) will be used in marking the various tones in Mokpwe. The high tone which becomes very frequent in the language will not be marked on the words, when writing. See illustrative text, at the end of this chapter.

Word Division

In working out the necessary details of word division in a language we usually face a lot of problems. The reason for this is that many lexical and grammatical items

in a language usually undergo varying modifications like
the deletion or insertion of sound units following the con-
texts in which they are put.

A very important principle that is very helpful in
word division is that of Pike (1977). This principle states
that morphemes are to be considered separate words if the
two can be separated by a word. The following pair of
morphemes will constitute two separate words for they can
be separated by another noun complement.

mólánà mó ndènè	"big woman"
	"big whitewoman"
mèkòmbá mè ndènè	"big guns"
	"big black guns"

In general therefore, adjectives in kejom will be written
as separate words.

Another principle relating to word division is that
if two morphemes can be separated such that each one can
be collocated with quite a different morpheme giving birth
to a new meaning, then those two morphemes will be consi-
dered as two separate words. Having this in mind the
definite article e will be separated from the nouns they
designate.

Illustrations

è mòtò	not	èmòtò	"the person"
è mólánà	not	èmólánà	"the woman"

Since the above morphemes can be separated into two words,
it therefore goes to illustrate that each can be collocated
with other morphemes such as ónó and òngó.

óné mòtò	"this person"
òŋgó mòtò	"that person"
óné mólánà	"this woman"
òŋgó mólánà	"that woman"

Thus the two morphemes are going to be considered as separate words.

ILLUSTRATIVE TEXT

The text below constitutes our illustration of some of the postulated alphabet graphemes and orthographic principles in Mɔkpwe.

The text has been represented on three lines: the first line is phonemic, the second line is orthographical and the third line gives the word for word english equivalent. At the end of the text we are going to give the free translation in english.

> / gbìto /
>
> gbítò
>
> story

1) / njɔ̃ nàmà kémà nà íkúlù /

   Njɔ́ nyàmà kemà nà ikulù

   Tiger, monkey and tortoise.

2) / wúnà wɔ̀kɔ́ njɔ̌ nàmà á málɛ́mbɛ̀ kémà nàmà á má á mólà/

   Wunyà wɔ̀kɔ njɔ́ nyàmà a malɛmbɛ̀ kemà nyàmà a ma a molà

   Day one tiger caught monkey said he would eat him

3) /kémà nàmà á mɛ́nɛ́ nánú hʒí á wótéyá lítɛ̀ méhʒéyá/

   kemà nyàmà a mɛnɛ nanu hzi a woteya litɛ̀ mehzeya

   Monkey saw this then started shouting.

4) /méngé néhʒéyá mɛ́ múkà mátò mámbá íkúlù/

   menge mehzeya me mukà matò mamba ikulù

   Those shouting reached the ears of tortoise.

5) /íkúlù ámújá hʒí á ɛ́nɛ́ njɔ́ nàmà ndí álɛ́mbí kémà nàmà

   Ikulù a maja hzi a enɛ njɔ nyàmà ndi alɛmbi kema nyamà

   Tortoise came then saw tiger holding monkey

6) /hʒí á jówà kémà ɲàmà mámὲ émáhwé ὲnjɔmí/
nzi a jowà kemà nyàmà mumὲ emahwe ɛnjɔmi
then it asked monkey what is wrong.

7) /kémà ɲàmà nʒí á ówà íkúlù ámá/
kemà nyàmà nzi á ówà ikulù ama
Monkey then told tortoise that,

8) /njɔ ɲàmà ndí á mólὲmbí á máhʒá li mólà/
njɔ nyàmà ndi a molɛmbi a mahʒa li molà
tiger caught and said he will him eat

9) /íkúlù ámὲnὲ nánú hʒí á ówà njɔ ɲàmà á má
ikulù a mɛnɛ nanu hzi a owa njɔ nyàmà a ma
Tortoise this saw then told tiger that if

máhʒá limólà gbámù/
wahza li molà gbamù
you want to eat him well

10) /ɔŋmáŋgbé Oáó ɔŋmánú ágbéé/
onmangbe Oao onmanyu a gbee
you should throw him very far up let him climb.

11) /θlúndá ómá á máɛhʒé hwékɔkɔ hʒí á ŋmá/
Olunda oma a maɛhze hwɛkɔkɔ hzi a nma
On falling he will hit branches then dies.

12) /éɸóndá á má ŋmá tὲ hʒí ómó kómá ómólà/
eɸonda a ma nma tɛ hzi o mo koma o mo là
When it is dead then you will him eat.

13) /njɔ nyàmà hʒí ágbé á nà íkúlù ámó hwé/
njɔ nyamà hzi a gbea nà ikulù a mo hwe
Tiger then did as tortoise told him,

14) /áŋgbá kémà nàmà Oóó ɔŋmánú ágbéé/
a angba kemà nyàmà Ooo onmanyu a gbee
he threw monkey far up a tree to climb.

15) /kémà ɲàmà á mὲndὲ hʒí á kὲὲmὲ ó hwékɔkɔ/
kemà nyàmà a mɛndɛ hzi a kɛɛmɛ o hwekɔkɔ
Monkey went then hung on the branches,

16) /hʒí áwótéa líyɔ́ évá/

hzí a wotea liyɔ́ eya

then he started laughing at,

17) /njɔ́ ɲàmà ó má hʒá hwéní líbíé/

njɔ́ nyàmà o ma hza hweni libie

tiger that you do not have sense.

18) /njɔ́ ɲàmà ámá tátáná íkúlù hʒí á ówá

njɔ́ nyàmà a ma tatana ikulù hzi a owa

Tiger got annoyed with tortoise, then said

ámá mɔ́ndí á lɛ́mbɛ́ li là/

ama mondi a lembɛ li là

he will him catch and eat.

19) /ó làɛ́ŋgówɛ́ á hʒɛ́nɛ́ íkúlù Oɛ́ hʒí á wótéá líhʒáŋgá/

O làɛngowɛ a hzɛnɛ ikulù Oɛ hzi a wotea lihzanga,

On turning he did not see tortoise, then he started

growling about

20) /é wáŋgà yáh ɛ́ lí ahʒá íkúlù/

e wangà yahzɛ li a hza ikulù

the bush looking for tortoise.

Free translation of the text

A Folktale

The tiger, the monkey and the tortoise

2) One day the tiger caught the monkey and said he would eat him.

3) When the monkey heard this he started shouting.

4) This noise got to the ears of the tortoise.

5) When tortoise came, he saw the tiger holding the monkey,

6) he then asked the monkey what was wrong,

7) The monkey then told the tortoise that,

8) the tiger caught him and said, he was going to eat him.

9) On hearing this the tortoise told the tiger that if

    he wants to eat the monkey well,

10) he should throw him very far up on the trees and let

    him climb.

11) On falling he will hit the branches of the tree and die.

12) When the monkey has died, the tiger can then eat it.

13) The tiger did as the tortoise told him,

14) he threw the monkey far up a tree to climb.

15) The monkey then hung on the branches of the tree,

16) then started laughing at

17) the tiger that it has no sense.

18) The tiger got annoyed with the tortoise and said he

    was going to catch and eat him.

19) On turning, he did not see the tortoise, then he

    started growling about,

20) the bush looking for tortoise.

CONCLUSION

The purpose of this dissertation is to make available some material which might be of interest in the description of our national languages. Though this study is of a tentative nature we hope that it might still be of interest to scholars who are interested in this field.

As earlier mentioned the field work on which this study is based was done mostly in Buea. Our main objectives of the study were to study the sound system of Mokpwe, bringing out the distinctive sounds so as to set up a writing system for the language.

Before achieving this goal we had to situate the Bakweri people in terms of their history, geographical location, and the socio-economic activities. The linguistic situation of the language was looked into, which consisted of its linguistic classification, its relationship with neighbouring languages and also the literature review. From then on, we proceeded towards the analysis of the data collected on the field. In the course of this analysis we encountered certain interpretation problems which we discussed in chapter three. In a way we can term chapters two, three and four as the paradigmatic section of the work, which then makes _constitute_ the first part of the work. Chapter four was based mainly on the syllable, the morpheme and the word structure. After the examination of the structure of the language we noticed that the structure of the language could permit a VV structure, even if the V_1 is

different from the V_2, but not a CC sequence. That is to
say no consonant clusters do exist in the language.

The last two chapters (5 and 6) can be termed the
syntagmatic part of the work. This is so because we are
mainly concerned with the analysis of suprasegmental fea-
tures of tone and vowel length. From this analysis we
found out that Mokpwe is a language with four tones (high,
low, rising, and falling). The examples that we got illus-
trating vowel length in the language made it rather diffi-
cult for us to determine if vowel length was pertinent or
not. The last chapter is an alphabet proposal.

A general observation that we discovered with the
speakers of the language is their tendency of eliciting a
vowel when it appears in a V_1V_2 sequence. Maybe this can
be attributed to the principle of least effort. Conse-
quently in writing the language we have to pay great atten-
tion to such instances. For example we write líòká and
l'òká "to play" and also líángá and not l'ángá "to count".

Besides these findings from the analysis that we have
done on the language there still remain quite a good number
of areas in the language which calls for further studies.
These areas include, tone, syntax and the tense system.
We hope that this study will open up further gate ways
into various areas of studies in Mokpwe.

Much more should have been done in this paper but for
the shortage of time, this is all what could be done. In
any case, we hope that this work would have contributed
something to the field of linguistics.

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