

ASPECTS OF THE BALONDO PHONOLOGY

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DECLARATION

I, Queen Lucky UKPE, hereby declare that this Master's dissertation entitled 'Aspects of the Balondo Phonology' was written by me and that it is the correct record of my own research work. It has not been presented for a degree in another institution. I will not present it or cause it to be presented for a degree in another institution. All sources of information have been appropriately acknowledged using references and other acceptable methods.

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CERTIFICATION

This dissertation entitled ‘Aspects of the Balondo Phonology’ by Queen Lucky UKPE 20/PG/AR/LN/012 meets the regulations governing the award of the MA degree of the University of Uyo. This work has made original contributions to knowledge. It should be submitted to the Postgraduate School for approval.

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DEDICATION

This research work is specially dedicated to the memory of my loving mother, Late Deaconess Eno Michael Ukpabio and to the Balondo Scholar, Late Dr. Aja Oro. Mummy laid the needed foundation for me and really wished to see me attain academic excellence. Late Dr Oro was a major sponsor of this research. Both never stayed with me on earth to see me complete my master's programme. May their souls keep resting.

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ABSTRACT

The Balondo language is a Narrow Bantu language spoken in Southwest Cameroun. This research focused on the segments, suprasegments and phonological processes of the Balondo language, to establish the exact phonemic status of the language with spectrographic evidence. The classical phonemic theory and autosegmental theory by Goldsmith (1976) were adopted as the theoretical frame. The autosegmental theory is concerned with the analysis of syllables, tones, and phonological processes while the classical phonemic theory deals with set of conditions that qualifies a sound to become a phoneme. Twenty native speakers were selected for this study using stratified random sampling technique. Two hundred and forty-two words from the 1700 SIL Comparative African Wordlist (SILCAWL) was used for data collection, from where complex and difficult sounds were selected for spectrographic analysis to confirm their acoustic features. Findings from this study showed that there are twenty-six (26) phonetic consonants among which twenty-one (21) are phonemic in Balondo. The language also attests to seven phonetic vowels among which six are phonemic and are evenly distributed in all positions. The Balondo language operates on three syllable structures which are (V), (N), CV and CVC. Findings also show that tone is an indispensable tool which distinguishes meaning lexically and grammatically. Balondo has two distinctive tones: high ['] and low [ˋ]. The downstepped high tone occurrence is usually occasional and non-automatic, as it has restricted distribution. Tonal processes include downstep, downglide, tonal spreading and delinking. There is no underlying contour tone in Balondo. Balondo tones undergo delinking process usually with a floating low tone. Assimilation is common in all phonological processes. Consonant/vowel ambivalence causes weakening, deletion, labialisation, palatalisation and glide formation. It is suggested that further research be carried out on other aspects of Balondo linguistics as well as a comparative study of Balondo phonology with that of some Nigerian Lower and Upper Cross languages close to Cameroun.

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LIST OF SYMBOLS AND NOTATIONS

SYMBOLS

HZ	Hertz
F0	Fundamental Frequency
F1	First Formant

F2	Second Formant
F3	Third Formant
S	Seconds
LMSA	Linguistic Map of the Study Area

NOTATIONS

[]	Square bracket (encloses allophones)
/ /	Phonemic slash (encloses phonemes)
→	Changes to
/	In the environment where
V-V	Intervocalically
+	Morpheme boundary
V ₀	Zero vowels
Ṇ	Syllabic nasal
ˈ	High tone
ˌ	Low tone
~	Alternate /d/~/r/
!	Down stepped tone
δ	Syllable
[.]	Syllable boundary
[^h]	Aspiration
□	Deletion
[~]	Nasalisation

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[j] Palatalisation

[w] Labialisation

CHAPTER ONE

INTRODUCTION

This section is concerned with the background to the study, historical overview of the Balondo people and language, first and second voyage of the Balondo people, history of the Efut-Balondo people, language genealogy of Balondo, statement of the problem, objectives of the study, research questions, significance of the study, scope of the study, delimitation of the study and ethical issues.

1.1 Background to the Study

Language is a means of communication in which symbol, sound, word, structure and meaning are used to express feelings and intended meanings from one person to another. It is one of the most important attributes to human beings. Every human being acquires language and uses it daily to establish and experience relationships, thus there is no human community without a language.

The origin of language is shrouded in the mist of controversy in linguistic study, as various scholars like Sapir (1921:p8); Sweet (1945:p31); Chomsky and Halle (1968); Robert (1984:p3); Ezikeojiaku (2004:p1); Anagbogu, Mbah and Eme (2010:p3, p9); among others, have proposed theories as to the origin and definition of language. Language, according to Udoh (2015:p10), is made up of systemized vocal noises which are produced in the mouth, nose and throat, and are organized into units of different categories beginning with phonemes, syllables, words, phrases, sentences. Udoh et al (2019:p7) posits that “language is any system employed in giving, receiving or hiding information. It can be made up of sounds and calls, signals and signs, postures and gestures including silence.” According to them,

language is essentially a communication system. This means that language is a means of communication that is so vital to human lives, and it is what makes the world go round. It is an inevitable and inseparable tool that permeates lives from birth to death. It is a medium by which we establish and experience our most important human relationship. In line with these characteristics, Adedeji (2015) submits that language is an integral part of human behaviour and it serves as the primary means of interaction between people. Hence, no aspect of human activities can be successful without effective use of language, human beings need it to share ideas, experiences, emotions, and interact with other people in the society or an environment.

In studying human language, linguists identified four different levels according to which language is organized. The four levels are phonology (which studies the sounds of a language), morphology (which studies the internal structure of words), syntax (which studies sentence structure) and semantics (which studies the meanings of words and sentences. Each level interfaces with each other. Linguistically, to write a language, its phonology must be first explored and mastered.

This work is an investigation on the phonological aspects of the Balondo language, providing an insight into the descriptive and laboratory analysis of its phonological patterns (segments and supra-segmental) with the use of empirical evidence. Some segmental processes in the Balondo language are also examined. This is done to contribute to the development of the Balondo language and linguistics in general.

1.1.1 Historical Overview of the Balondo People and Language

The Balondo-bakonja or purely Balondo people migrated from the Democratic Republic of Congo to resettle in Calabar, Cross River State, Nigeria and then South-West Cameroun (Oro, 2015). Regardless of the causes of migration from their original homeland to

their present, the Balondo are endowed with a strong sense of self. According to the researcher's observation and interaction (2023) with the native speakers, the Balondo who embarked on the second voyage did not give up their original name and language. The siblings who stayed behind in Calabar added a newer name 'Efut' meaning 'strangers' since their Efik neighbours addressed them as such, thus became Efut-Balondo. The Efut-Balondo and Balondo are fully aware of their identity and the dictum which explains why they too refer to the Efiks as 'Ba-ide'. The suffix, 'ide' is derived from the Efik word 'idemfo' which is a formal greeting in the Efik language that means, 'how are you doing?' However, the Balondo-bakonja still uphold their linguistic status in the use of their mother tongue unlike the Efut-Balondo (Balondo in Calabar) who had lost their original cultural heritage due to the pressure to speak the dominant language (Efik) of its environment. This pressure may have been because of fashionable trends, peer group influences or from political, social, or economic influences. Sometimes, the source of the pressure may not be fully understood. Also, gradual influence of the speech forms (Efik, Ibibio, Ejagham) in Calabar have combined to whittle down the active use of the Balondo language in Cross River State. Eventually, lack of interest, proficiency and pride in the use of the mother tongue, especially in the emerging generations propped in, making it become partially moribund. The researcher also observes that there are not many printed materials in the Balondo language and linguistics, even though it had been investigated remotely by previous linguists. In the studies carried out it was referred to by terms: Lundu, Balundu (Cameroon language classification used this), Barondo, and Balondo (Dieu and Renard 1983, cited in Oro 1987). Currently, the only published work is 'the Londo Word' by Kuperus (1985).

The Balondo language is a Bantoid, Benue Congo, Niger Congo language. Variants of Balondo language are Bakwèrì - Buea Fako division, Southwest region, Bálòng- Muyuka, Fako division, Southwest region; Balue, Ngolo, Batanga in Ndiang division, Southwest region- Dòualà, Littoral region - East Cameroun, Lingalà - Democratic Republic of Congo, etc. According to Kuperus (1985:p7), the geographical location of the Balondo area explains the rather large proportion of borrowings from Efik, Ibibio and possibly other Cross River languages. However, the researcher observes that borrowing was not effusive but minimal and reciprocal. That is, the Efik people also borrowed words from the Balondo and vice-versa.

Oro (2015) documentation in 'Balondo through the Ages', posits that the Balondo people are believed to inhabit the coastal riverbanks of Nyanga and the Luapula Rivers in the Democratic Republic of Congo (primordial home), the coastal banks of the Calabar River (Calabar South Local Government Area, and the coastal southwest littoral region of Cameroon. In Oro's work, the Balondo region is shaped like a semi-circle with fifteen Balondo towns (now 17) studded along its circumference from north to south. Each community could have initially acquired more than the current 27,000 hectares (270km²) of low land forest, 8000 hectares of flooded forest, 14,000 hectares of mangroves and almost 5 rivers, streams, fishponds (Bewu) and waterfalls (culled Mount Cameroon Project and CARPE, 1999 cited in Oro 2015:p12). Typically, all Balondo settlements have a beach or two with waterways/estuaries leading the Mbo or sea.

Traditionally, the Balondo people are self-sufficient small-scale farmers who engage in food and cash crops production, fishing, hunting, artisans who engage in casket productions and basket weaving in mostly rainy season. They have four types of fishing

practice: a) fishing with hooks and cast nets. B) fishing with scoop nets in ponds or sluggish rivers in forst-carried out by women. The scoop net is called *Ikongi*, and this type of fishing is called *maroki*, c) *Benyunga* entails mostly men sailing to the fishing ports with canoe loads of food stuffs to exchange for smoked fish and crayfish with the Ijaw/Oron/Ibibio fishermen, d) *Okor* fishing practice is also carried out by men. They will camp in the fishing ports and smoke their catch, which they will take back home after being away for probably three months.

1.1.2 The First and the Second Voyage of the Balondo People

According to Oro (2017) reports that the first voyage took place between 1100s-1107s where the Balondo left the Congo shore to resettle in Akwa-Akpa (Calabar region) even before the Efiks who came later from Arochukwu, Ibo land. The Balondo King or Muri-Monene was the pivot around which revolved the resettlement project as he consistently met with the Bali or Balondo rulers from all fifteen principalities to forge viable strategies for attaining that objective. After having successfully mapped out a plan, they implemented the following measures: organizing their people to mentally cope with the challenges they were going to face on their way while ensuring the efficiency and safety of their vessels and proper storage of their material culture (Ekpang/most practical aspects of their culture) and spiritual culture (Ekpe/sacred societies).

Oro further stated that the two reasons that could have caused them to depart from the banks of the Nyanga and Luapula Rivers in the Democratic Republic of the Congo in search for other maritime regions to inhabit are; a) a shortage of resources in their homeland and b) the issue of safety. The former reason seemed tenable; the latter was doubtful because they

could defend themselves against external aggression. The journey which entailed lengthy deliberations and preparations occurred when they started boarding and loading cargoes in both large and mid-sized vessels. The larger boats mainly carried provisions while the smaller ones carried people. The long and powerful paddles were used to row the larger boats through swift moving troughs of water and occasional storms. The short, smaller paddles were used to guide the smaller vessels when the weather was calmer, to the edge of the sea, to camp for a few days so that they can get some rest, treat the sick, and bury the dead who on land. The dead who could not make it on land were buried at sea. This appeared to be the navigational pattern throughout the expedition till they reached the shores of Akwa-Akpa known in about 1107. It must be borne in mind that they did not travel with Bafah Balondo or non-Balondo people; it consisted of only the fifteen Balondo-bakonja (pure Balondo) principalities.

While in Akwa-Akpa, they called the Efiks “Ba-ide: when the latter called them “Efut” or people from far away. The suffix, “ide” derives from the Efik word “idemfo” (How are you doing?). When finally, they embarked on the second voyage to Cameroon, they did keep their original name but continued to call Efiks Ba-ide and their neighbourhood, ‘ide’, which is how they still refer to the entire city of Calabar. Alternatively, the Balondo who stayed behind, added the newer name (Efut) to their name to come up with Efut-Balondo. This newer hyphenated name was supposedly meant to capture the historical reality of “dual identity”

The second voyage in 1149-1150s was introduced by some Balondo individuals in need of another region to inhabit. Unlike in the first voyage that was self-motivated, the second voyage was not. It was motivated by the “safety factor”, triggered by the increasing presence of ferocious crocodiles circling the Calabar River for food. The Balondo used the

river to wash their bodies and to do laundry, so that they were walloped by the predators, causing the people to fight back with harpoons and spears, fishing nets and large bait hooks. Thus, unable to defeat their ‘enemies’ some Balondo individuals decided to go and explore safer maritime regions. The explorers reached the present-day Southwest Coast of Cameroon, stopping only on the fringes of the Bakassi peninsular where they found plenty of fertile forests, rivers and seas awash with fish. They would share the good news which unexpectedly created a po-migration and anti-migration group. The Muri-Monene, or ruler of the Balondo people disliked the idea for the division caused among his people, the anti-migration group (Efut-Balondo) who declined to relocate and the pro-migration group who made it safely to the coastal South-west littoral of Cameroon in about 1150 even before Fernando Po who arrived in 1472 and Several South-west inhabitants.

1.1.3 History of the Efut-Balondo People

According to Oro (2017), Balondo history is based on two perspectives and/or historical timelines. The former comprises what he describes as “The Elders’ Narratives and the latter as “The Slaves Narratives”. He argues that the distinction is necessary because the Elder’s narratives detail historical accounts handed down by Balondo elders, which came from 1) traditional oral accounts and 2) accurate documentation of those oral accounts by Balondo-centered individuals who are pure Balondo people or interested researchers, seeking to write about Balondo history. The Elders’ or traditional approach portrays and projects a historical timeline that starts from the Democratic Republic of Congo (1100s) to Ata-Akpa or present day Calabar (1107) then from Ata-Akpa (1149) to Cameroon (1150s). Thus, in alignment with this Balondo historical time, the people continue to affirm having made two

voyages: First Voyage was their journey from the Democratic Republic of Congo to Ata Akpa while the Second Voyage was from Ata Akpa to Cameroon.

Oro (2017) vehemently rejects the Slave's narratives for two reasons: 1) the proponents were simply speculative armchair writers not historians who were eager to earn academic laurels as historians by writing about the Balondo people from their imaginations as well as unreliable contacts/informants who never saw or heard from the Balondo they were describing/writing about, thereby generating an avalanche of misleading information about them. Along with that, is the realisation of a distorted Balondo historical timeline from Cameroon (Rio Del Ray) to Usakedet and then Calabar due to the Batanga War never experienced in the Balondo homeland, the fallacious historical rendition of the Balondo which intimates the migration from Northern Bantu region to Cameroon-whereas in both instances the migration and settlement of the Balondo people are inaccurate. Lastly, Carney's (1936) assumption that the Balondo claimed to have settled in Calabar out of "a superiority complex" was not an accurate account.

Upon a review of both approaches, "The Efut Balondo who are Balondo in Calabar" seem to be caught in a historical crossfire of two contending historical opinions. Nonetheless, even though it might be conceived as such, there's preponderance of evidence that the elder's narratives surpass its counterpart, the slaves' narratives because they (Balondo) told their story as handed down to them by their forebears whereas the slaves' narratives amount to an inaccurate watered-down version of their proper history. This fact is sustained in Oro's (2020) Balondo-ba-Konja-Elders' Narratives history book in which he discredits as fallacious, the story of Efut (Balondo) fleeing from the Batanga War from the Rio Del Rey region in Nnian division to Usakedet and then Calabar. His strong stance on the matter is

structured around the following facts: 1) he is a pure Balondo man, scholar, and community leader; 2) he grew up in his Balondo homeland and has a command of geographical specificities of the region; 3) he is fluent in Balondo and highly educated with a doctorate degree; and 4) his research on Balondo history was the result of oral transmission coupled with actual contacts with the Balondo elders who corroborated his previous knowledge of their history. Oro argues that throughout his longitudinal study of his people, he was never made privy to a Batanga War that triggered the Balondo exodus to Calabar.

Against that backdrop, the Efut Balondo history does fit the Elder's narratives in as much as they identify themselves as Balondo. In that context, their Balondo ancestors migrated from the Democratic Republic of the Congo in the 1100s, reaching the shores of Ata Akpa in the 1107s. The Balondo claimed to have arrived there before the Efiks and occupied their primordial abode that is the present Calabar South Local Government Area and were only preceded by the Quas. Additionally, it is a historical fact that they and/or their Efut-Balondo siblings later signed a treaty with the Portuguese in 1472 long before the Efiks came in the middle of the seventeenth century. This point of view is upheld by (Aye 1967, A.J.H. Lathan in his book "Old Calabar" 1600-1891, p.9, 10).

1.1.4 Language Genealogy of Balondo

The Balondo language belongs to the Bantoid, Benue Congo, and Niger Congo language group of languages. The Bantoid languages are a body of some 150 languages positioned geographically between Nigeria and Cameroun and between Benue-Congo and Bantu in terms of their position within Niger-Congo. Often referred to as Bantu, for example in the term 'Ekoid Bantu', their classificatory position remains uncertain. The term 'Bantoid' is a subset of Benue-Congo, a large and complex group of languages, whose exact

membership remains disputed. Originating with Westermann's (1927) Benue-Cross-Fluss, it took shape in Greenberg (1963a) and Williamson (1971a). Greenberg –(1963a:p32) treated Bantu as merely a branch of Benue-Congo, i.e. the adjacent languages of southern and eastern Nigeria and Cameroun. He says 'the Bantu languages are simply a subgroup of an already established genetic subfamily of Western Sudanic (i.e. Niger-Congo). In the standard reference volume on Niger-Congo (Bendor-Samuel 1989) Bantoid was divided in North and South, following a suggestion from Williamson and Blench (1987). In this version, Northern Bantoid consisted of Mambiloid and Dakoid (newly recognised as a Benue-Congo language rather than Adamawa) (Hedinger 1989) while Southern Bantoid (also Wide Bantu) divided into Narrow Bantu and the rather clumsily named 'non-Narrow Bantu'. Sterk (1990) groups Efik among the "Cross River" languages, while Qua and Ejagham fall under the "Bantoid" subdivision as "Ekoid Bantu." Lundu or Balondo, while also in this "Bantoid" group, is listed provisionally within a different sub-category, "Narrow Bantu." It is interesting that Sterk's "Narrow Bantu" also includes other cluster speech form as in Lingala- a language spoken in the Congo region, Swahili, and Zulu. Williamson and Blench (2000) classified Niger-Congo languages accordingly.

Guthrie (1953, 1967-71) in the standard referential classification of Bantu languages listed Balondo language to be a member of the A.10 group, showing other cluster of Narrow Bantu languages as in; Balundu, Ngoḷo, Bakundu, Batanga and Bima, Ekombe and Mbonge, Barue, Balong, Bɔnkeng, among others. Abasiattai (1990, p.57) classification shows that the Balondo language is related to Swahili, Zulu, and Lingala. In this study, the researcher would propose a genetic language classification showing a few narrow bantu languages. The researcher adapts Williamson's and Blench's (2000) language classification because its

classification is more current and as well shows the Narrow Bantu group. The researcher simplified Williamson and Blench (2000) language tree and went further to present languages that belong to the Narrow Bantu group.

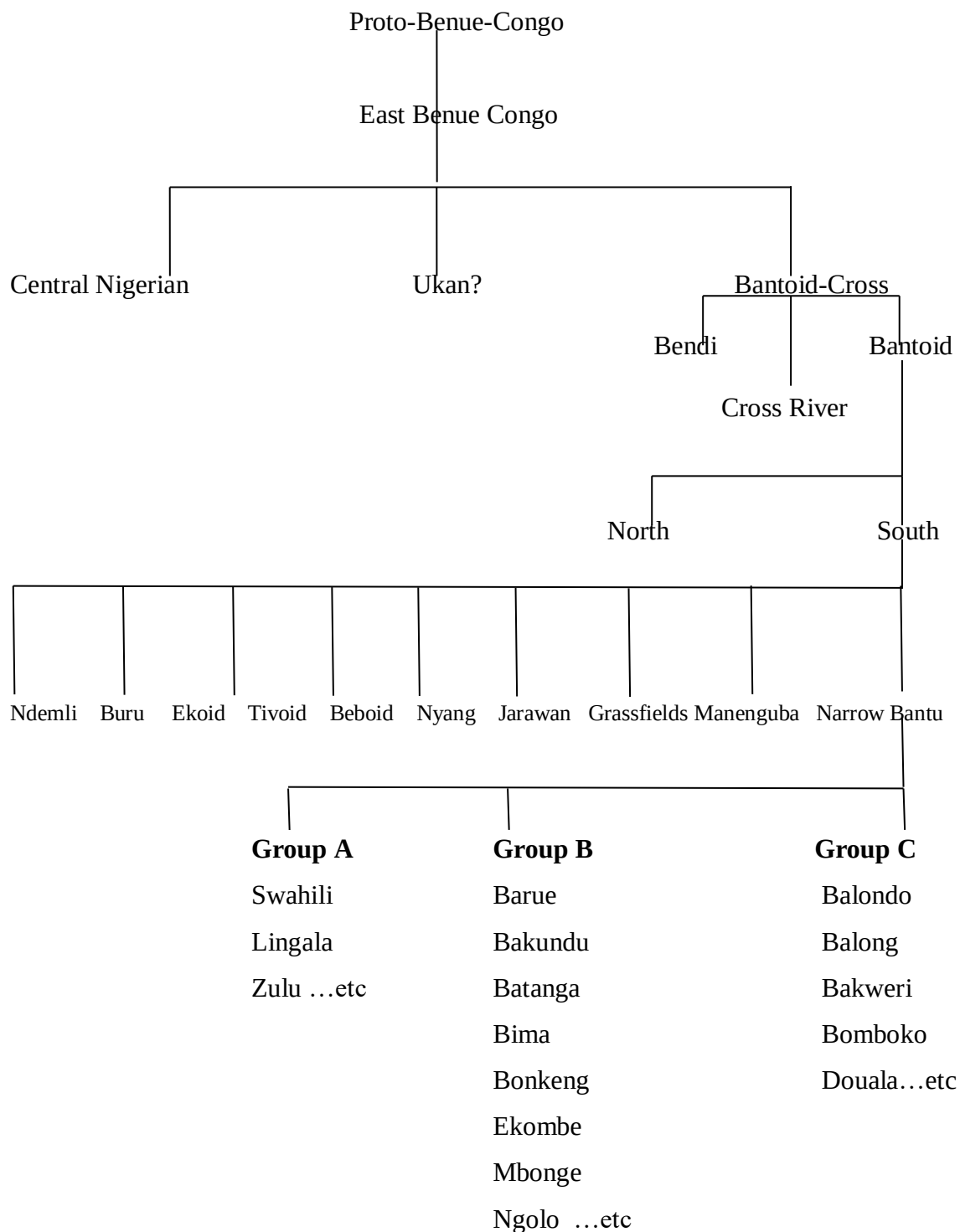


Figure 1.1. A Proposed Genetic Classification of the Balondo Language (Based on Williamson and Blench 2000, cited from Roger & Mallam 2004:p12)

Source: Roger & Mallam (2004)

In the survey of the Narrow Bantu languages in Figure 1.1, the researcher classified the South-west Cameroon languages (Group B-C) that are similar and share same linguistic affinity to be under one group. Languages in Group A are not south-west Cameroon languages but are similar to languages in Group B and C. Their level of relatedness is caused by migration, borrowing and contact. Languages in Group B (except Batanga that is spoken in East Cameroon) and C are spoken in the same geographical location. They are related, but do not share the same resemblance and linguistic affinity.

1.2 Statement of the Research Problem

The colonial languages, English and French are threats to African indigenous languages as most of them are eroded and lost due to the influence of these colonial languages. The Balondo language (spoken in Calabar, Nigeria and in Cameroon) is gradually getting extinct owing to many factors especially to the use of English and French languages. Also, there are not many works in/on the Balondo language especially with regard to phonology. Early studies on the language done by linguists like Johnston (1919, 1921); Tessmann (1932); Carney (1936); etc. were mostly unpublished manuscripts that are difficult to consult in recent times. This study therefore attempts to describe the phonological patterns of the Balondo language with specific reference to its segmental units, tonal pattern, syllable structure and segmental processes.

1.3 Objectives of the Study

Generally, the objectives of the study are to investigate the phonological system of the Balondo language, with particular focus on its segmental units, tonal patterns, syllable structure and the phonological processes that govern its segmental and tonal features. Thus, the specific objectives of the study are to:

- i. identify and describe the segmental units of the Balondo language.
- ii. establish the tonal pattern of the Balondo language.
- iii. analyse the syllable structure of the Balondo language.
- iv. examine the segmental processes in Balondo language.
- v. examine the tonal processes in Balondo language.

1.4 Significance of the Study

The study will serve as a precursor of language revitalisation of the Balondo language spoken in Ekondo-Titi township in Ekondo-Titi sub-division, Ndian, Southwest region of Cameroon, as it will offer a descriptive and empirical evident to the segmental, syllable and tonal structure of the Balondo language. Findings from this study would be of benefit to other researchers, who would want to carry out further research on this area of discourse. It would serve as a fundamental to Balondo linguistics in general. It would motivate the youth of Efut-Balondo and Balondo-bakonja to rekindle pride and interest in their native language. In addition, this work would also serve as a pedagogical basis for Balondo language instructors and linguists, as it seeks to establish the phonemes of the Balondo language.

1.5 Research Questions

Based on the research objectives, the following research questions guide the study:

- i. What segmental units exist in the Balondo language phonemic inventory?
- ii. How are tonal patterns organized in the Balondo language?
- iii. In what way is the syllable structure of the Balondo language organized?
- iv. How do segmental processes operate in the Balondo language?
- v. Which tonal processes are attested in Balondo language?

1.6 Scope/Delimitations of the Study

This study is delimited to the investigation of the phonology of the Balondo language. Specifically, it focuses on the description and analysis of phonological patterns, including segmental units (consonants and vowels) and suprasegmental features such as tone and syllable structure. The study also incorporates a laboratory-based acoustic analysis of selected complex segments using the Praat software. The research does not extend to other core areas of linguistics such as morphology, syntax, semantics, or pragmatics. These areas fall outside the scope of the present study. Geographically, the study is limited to the Balondo language as spoken in its original homeland, Ekondo-Titi, located within the Ekondo-Titi Sub-Division of Ndian Division in the Southwest Region of Cameroon. Data for the study are drawn specifically from native speakers within this speech community.

1.7 Ethical Issues

Due to the nature of this research, major ethical issues were considered. Informed consent was sought and obtained before data collection. Anonymity of participants was ensured as well as the confidentiality and privacy of all data gathered. Unsuitable language in

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the explanation of a given concept is contained in this research. Every element of information was identified and analysed according to the research objectives and studied population. This research did abide by the ethical principles that concern good conduct, and all sources of work are acknowledged and referenced.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter is concerned with the review of concepts, empirical review, theoretical frame and summary and gap.

2.1 Conceptual Framework

2.1.1 Phonetics/Phonology

Phonetics is defined as the study of speech sounds, their physiological, production and acoustic qualities. Phonetics entails the study of the speech sounds taking into consideration their production, transmission, and perception. Anagbogu et al. (2010:p43) aver that phonetics is a branch of language studies that is interested in studying the sounds used in language, how the speakers produce these sounds, how these sounds travel from the speaker to the listener, how the listener eventually hears the sounds that travel from the speaker to the listener and how the listener eventually hears and understands the speaker. Phonetics serves as a building block to the study of phonology because without the knowledge of phonetics it will be difficult for one to gain knowledge of phonology. It is for this reason that it is said that the study of phonetics cannot be separated from phonology as both work in tandem to achieve the goal of linguistics as regards the function of speech sounds. Phonetics, as a level of linguistics is broken into three main branches such as: articulatory, auditory and acoustic.

Articulatory phonetics is a branch of phonetics that is concerned with the production of speech sounds. It tells the manner in which speech sounds are produced taking cognizance of the airstream mechanism utilized in the production of the sounds. It also takes cognizance of the organs of speech that are actively and passively involved in the production and finally the manner at which production took place.

Acoustic phonetics is the branch of phonetics that deals with the transmission of speech sounds. It tells how speech sounds are transmitted through air from the speaker's oral cavity to the hearer's auditory canal. It is this branch of phonetics that deals with the physics of speech sounds because it explicates how physical sounds are transformed to sound wave, the pitch, duration, quality and other properties of speech sounds produced by speakers. Anagbogu et al. (2010:p44) opine the existence of another branch of phonetics called forensic phonetics. This branch of phonetics is mainly used for investigative purposes especially, such that deal with criminal offences to detect the voice of the criminal during discussion with a victim.

Auditory phonetics deals with the perception of speech sounds. It takes cognizance of the way in which a hearer's auditory canal receives the information passed, and how the brain decodes sound waves as speech sounds originally initiated by the speaker hereby making it possible for the hearer to give feedback.

Phonology, on the other hand deals with the study of the organization of speech sounds in a particular language. Atolagbe (2000:p11) defines phonology as the sound system of a language, the speech sounds that are combined into meaningful and acceptable patterns for communication purposes. Anagbogu et al. (2010:p96) stated that the main task of phonology is to understand and describe how a sequence of sound and the accompanying prosodic features can convey meaning in language. Ekpe (2000:p35) is of the opinion that phonology deals with speech sounds and that phonetics and phonology are the parameters used in studying speech sounds in linguistics. Drawing from the above definitions, phonology entails the study of the sound system of a language taking cognizance of the phonotactics or rules that govern sound pattern in the language. It is vital to state that both phonetics and

phonology deal with speech sounds. While phonetics concentrates on the anatomy and physics of speech sounds, phonology is concerned with the sound structure, organization and system of a language. Phonology is language specific; hence the phonology of Balondo for instance is different from the phonology of the Igbo and other languages.

2.1.2 Segments

Segments consist of consonants and vowels sounds. Phonology generally investigates the ways in which sounds are systematically arranged in different languages to form words and larger units of utterances. Such utterances are classified into manageable units for the purpose of description; the segment is one of those units.

According to Hyman (2015) “segment is any discrete unit that can be identified, either physically or auditorily, in the stream of speech”. This means that segments are the building blocks of speech production and perception that can be classified into phonemes, syllables and morphemes in a language. These are foundational concepts for understanding the structure and organisation of complex patterns within a language.

Udoh (2015: p18, p19) captures that,

The idea of the segment is closely related to the alphabet. Segmental analysis is linear and the phoneme and its phonotactics form the focus. There is a kind of segmentation of speech sounds. Several phonological operations rearrange, add, or delete these segments. These segments are made up of discrete sounds categorized into consonants and vowels. A study of these segments broken down into consonants and vowels and their phonotactics form the core for segmental phonology.

In this case, segments are called discrete because they are separate and individual (consonants and vowels), and such occur in a distinct temporal order. Other contrastive elements of speech such as tone, syllable, stress, and sometimes secondary articulations such as nasalisation, may co-exist with multiple segments and cannot be discretely ordered with

them. These elements are called suprasegmentals. To investigate and determine the status of the different segmental units in a language, it is necessary to carry out a discovery procedure tests on the language, and these segmental units which are consonant, and vowel sounds will be classified according to their articulatory properties.

2.1.1.1 Consonants

The word ‘consonant’ has been derived from the Greek word ‘consonautem’, which means the sound produced with the help of sound (vowel). Consonants are sounds produced with audible friction in the vocal tract. They are also said to involve partial or total closure of the organ of speech. Consonants are generally described in terms of phonation, manner and place features (Bauer, 2012; Hayes, 2009; McMahon, 2002; Yule 2014). Fromkin et.al. (2011: p560) stated “consonant is [sic] speech sound produced with some constriction of the airstream.” Constriction of the airstream here means obstruction of air, which may be complete or partial, from the vocal tract. However, consonants are classified according to the state of the glottis, place of articulation and manner of articulation.

The states of the glottis depends on the condition of the glottis at the time of sound production. When the vocal folds vibrate, voiced consonants are produced, and when they do not vibrate, voiceless consonants are produced. For instance:

- i. English [p, t, k, f, s, θ, ʃ, h, tʃ,] are voiceless whereas [b, d, g, v, z, ð, ʒ, dʒ, m, n, ŋ, l, w, j, r] are voiced consonants, (Roach 2000)
- ii. Efik has [p t, k, kp, kw, f, s, h] as voiceless whereas [b, d, ɣ, m, n, ɲ, ŋ w, r] as voiced consonants, (Ukpe 2018).
- iii. Igbo had [p, t, k, kp, kw, f, s, ʃ tʃ] as voiceless while [b d, g, gw, gb, v, z, ɣ, ɦ, dʒ m, n, ɲ, ŋ w, r, l] are voiced consonants, (Igboanusi, 2000)

Two reference points are usually identified in defining consonantal places of articulation: The part of the articulators that moves (this deals with the active articulators which include; the tongue, the lips and teeth) and the part of contact of the articulators in the vocal tract (these are called the passive articulators: they include; bilabials, labiodentals, dentals, alveolar, post alveolar, palatal, velar, glottal, etc), (Bauer, 2012; Hayes, 2009; McMahon, 2002; Yule 2014).

- iv. Bilabial sounds are made by touching the upper and lower lips together, examples in English [p, b, m, w], in Efik [p, b, m, w], in Igbo [p, b, m, w], etc.
- v. Labiodental sounds are made by touching the lower lip to the upper teeth as in English [f, v], in Efik [f], in Igbo [f, v], etc.
- vi. Dental sounds are made by touching the tongue to the upper teeth as in English [θ, ð].
- vii. Alveolar sounds are produced by raising the tip of the tongue to the alveolar ridge. In English [t, d, s, z, n, l, r], Efik has [t, d, s, n, r], Igbo has [t, d, s, z, n], etc.
- viii. Palatal sounds are articulated when the middle body of the tongue the roof of the palatal region of the mouth. This forces the air to escape through the mouth as a noisy sound gradually. In English [ʃ, tʃ, ʒ, dʒ, j], Efik has [ɲ, j], Igbo has [ɲ, j]
- ix. Velar sounds are made by touching the body of the tongue to the hard or soft palate as in English [k, g, ŋ], Efik has [k, ɣ, ŋ], Igbo has [k, g, ɣ, ŋ], etc
- x. Glottal sounds are made by moving the vocal cords close to one another, examples in English [h], in Efik [h], Igbo [ɦ], etc.
- xi. Labialised Velar: It involves gestures at different places of articulation. Articulators (velum and lips) are used simultaneously in the production of the co-articulation.

English does not have labialized velar sounds. African languages do, as in Efik [kp, ŋm, w], Igbo [kp, gb, w], Yoruba [kp, gb, w], (Nwokedinwoke et al. 2024:p110) etc.

Manner of Articulation involves the type of stricture or closure made by the articulators. It consists of stops, fricative, affricative, nasal, liquid, and glides (Bauer, 2012; Hayes, 2009; McMahon, 2002; Yule 2014).

i. Stop: The stops are formed by complete obstruction of the vocal tract. This obstruction is then released, allowing the air to “explode” out of the mouth. When the air is blocked by the articulator, it begins to rise in pressure. Then, when the air is released, the high-pressured air rushes out into the lower pressure area beyond the blockage. This results in a burst of air, signifying a plosive. Stops can be classified into two basic groups: the oral stops and the nasal stops. In the production of oral stops, the soft palate is raised to block the nasal tract so that the airstream is totally obstructed in addition to the articulatory closure of the mouth. This obstruction causes airstream to build up and an oral stop is formed. When the articulators in the mouth eventually open, the airstream comes out with a small burst of sound. Example in English [p, b, t, d, k, g]m Igbo has [p, b, t, d, k, g, kp, gb, kw, gw,], Efik has [p, b, t,d, k, kp, kw]. Nasal stops include as in English [m, n, ŋ], Efik has [m, n, ɲ, ŋ, ŋm] (Ukpe 2018), Igbo has [m, n, ɲ, ŋ,] (Nwokedinwoke et al. 2024) etc

ii. Fricative: are sounds produced when two organs of speech make partial closure. The partial closure makes it difficult for the air to escape freely such that a hissing sound accompanies their production as the air escapes gradually. In English [f, v, s, z, θ, ð, ʃ, ʒ, h], Igbo has [f, v, s, z ʃ, ɣ, fi,], Yoruba has [f, s, ʃ, h] (Nwokedinwoke et al. 2024), Efik has [f,,s, h] (Ukpe 2018) etc

- iii. Affricate: it is the combination of a stop and a fricative, made at the same location in the mouth in rapid succession so that the results have the typical duration of a single speech sound in [tʃ, dʒ], Igbo has [tʃ, dʒ], etc.
- iv. Nasal consonant: it consists of primary articulation whereby the sounds are produced in the feature of nasality where the air escapes through the nose. English has [m, n, ŋ], Efik has [m, n, ɲ, ŋm], Igbo has [m, n, ɲ, ŋ] etc.
- v. Liquids: these are sounds that have the characteristic of [l] and [r] like sounds. English has [l, r], Igbo has [l, r], Efik has [r], etc.
- vi. Glides: they are also called semi-vowels. They are central approximants. English has [w, j], Efik has [w, j], Igbo has [w, j], etc.

2.1.1.2 Vowels

Vowels are sounds produced with no constrictions of the organ of speech. There is nothing like narrowing or partial closure of the organs of speech when it comes to vowel sounds. All vowel sounds are voiced, there is no voiceless counterpart. Vowel sounds are produced with the aid of pulmonary airstream.

Yule (2014:p33) say that “vowel sounds are produced with a relatively free flow of air, and they are all typically voiced”. He added, “to describe vowel sounds, we consider the way in which the tongue influences the shape through which the airflow must pass.” Similarly, Ambalegin and Suryani (2018:p80) mentioned “vowel sounds are produced by passing air through different shapes of the mouth with different position of the tongue and the lips and with the air stream relatively unobstructed by the narrow passages except at the glottis”. Kelly (2004: pp31-33) stated that based on the characteristics of the articulation,

there are three categories of vowel sounds; closed vowel sounds (/i:/ /ɪ/ /ʊ/ /u:/), mid vowel sounds (/e/ /ə/ /ɜ:/ /ɔ:/), and open vowel sounds (/æ/ /ʌ/ /ɑ:/ /ɒ/).

Vowels are Described Based on Three Criteria

i. The height of the tongue: The tongue assumes various numbers of postures and shapes in order to produce different sound segments. In this way, vowels are grouped into front, central, and back vowels. For example, Esan has [i ĩ, e, ɛ, ẽ, a, ă, ɔ, ɔ̃, u, ũ] (Ikoyo-Eweto, 2020:p264, p265), Efik has [i, ɪ, e, ɛ, a, o, ɔ, u, ʊ] (Ukpe 2018), Igbo [i, ɪ, e, o, a, ɔ, u, ʊ], (Nwokedinwoke et al. 2024) etc.

ii. The Body of the Tongue: Here, vowels are classified as; close, close-mid/semi-close, open-mid/semi open, and open. For example, Esan has [e, ɛ, ẽ], Efik has [e ɛ,], Igbo [e]

iii. The Shape of the Lips: The posture of the lips provides third dimensions for vowels classification and from these vowels are classified as; rounded and unrounded vowels. For example, Esan has [ɔ, ɔ̃, u, ʊ] (Ikoyo-Eweto, 2020:p264, p265), Efik has [o, ɔ, u] (Ukpe 2018), Igbo [o, ɔ, u, ʊ] (Nwokedinwoke et al. 2024) etc.

2.1.3 Suprasegments

Suprasegments refer to a vocal effect which extends over more than one sound segment in an utterance, such as intonation, stress or juncture pattern. Therefore, the specific features that are superimposed on the utterance of the speech are known as suprasegmental features (Ladefoged 2006; Crystal 2008). The word “supra” means above or beyond the segmental value. It refers to properties of an utterance that apply to groups of segments, rather than to individual segments.

Suprasegments are also called “music of a language”, and they are not limited to single sounds but often extend over syllables, words, or phrases (Ladefoged 2006). Suprasegmental features are aspects of speech that involve more than single consonants or vowels. They are features of spoken language which are not easily identified as discrete segments. If learners know features from the smallest component of spoken language or segments to the larger one or suprasegmental units, they are likely to achieve better listening and speaking. The alternative terms of suprasegmentals are ‘plurisegmental’, ‘non-segmental’, ‘Prosody’ and ‘superfix’ (Ladefoged 2006; Crystal 2008).

2.1.3.1 Tone

Tone is referred to as a feature of suprasegments or non-segmental phonology. It is usually a contrastive pitch because changes or variation in pitch can affect meaning of a word. Tones are naturally superimposed on vowels; they can also affect consonant sounds such as the bilabial nasal /m/, the alveolar nasal /n/ and the velar nasal /ŋ/ in African languages depending on their degree of sonority. For example, in Efik

- i. [mímǫ́h] ‘drink/palm wine’
- ii. [nǎ́ǎn] ‘sand’
- iii. [ŋke] ‘story/proverb’ (Ukpe 2018)

In Igbo:

- iv. [mbè] ‘tortoise’
- v. [ńná] ‘father’,
- vi. [ŋkɔ] ‘wood’ (Anagbogu et al. (2010)

Tones are pitch variations that affect the meaning of a word. (Ladefoged and John 2011; Eka 2004;), This means that tones are applied to words to distinguish two or more words whose composition in terms of consonants and vowels are the same, thus differences in pitch can completely change the meaning of a word. For example, Aderibigbe (2012:p2, p4) in her work on ‘Functions of Tone: An Overview of Languages in Nigeria’ provided examples on contrastive pitch in Nigerian languages:

Tone showing contrastive pitch in Nupe (spoken in Nigeria)

- vii. [bá] ‘sour’
- viii. [bà] ‘count’
- ix. [bā] ‘cut’

Tone showing contrastive pitch in Mandarin

- x. [mā] ‘mother’
- xi. [mǎ] ‘horse’
- xii. [mà] ‘to scold’
- xiii. [má] ‘hemp’

Tone showing contrastive pitch in Hausa:

- xiv. [fāra] ‘white’
- xv. [fára] ‘grasshopper’
- xvi. [fâra] ‘to start’

Tone showing contrastive pitch in Igbo:

- xvii. [akwa] ‘cry’
- xviii. [akwa] ‘egg’
- xix. [akwa] ‘cloth’

There are two types of tone languages: Registered tone language which comprises level tone that can be described in terms of single point within a pitch range and contour tone language which is formed with gliding pitches or rise and fall in pitch (Pike 1948 in Urua 2007:p156). The Ibibio language is a terraced level tone language with two contrastive level tones, high (H) and low (L) plus a contrastive downstepped high (!) tone which is always preceded by a high tone. According to Urua (2000), other tones found in Ibibio apart from the level tones are two contour tones which are high-low falling (HL) and low-high rising (LH). These tones are all contrastive at lexical and grammatical level. Udoh (2015:p20) says tone has both lexical and grammatical functions. Lexically, it is distinctive as in Efik:

- xx. [òbu] ‘crayfish’
- xxi. [obu] ‘dust’
- xxii. [bòn] ‘father (a) child’
- xxiii. [bón] ‘place things’

(Ukpe 2018)

Grammatically, it marks tense, aspect, question, etc as shown in the Ibibio example below.

- xxiv. [àákon á dêp òfɔ̃ŋ] Akon is buying a dress (Progressive aspect)
- xxv. [Emem á!á wet ɲwèt] Emem has written a book/letter

(Urua 2007:p57)

Generally, tone is defined here as the distinctive pitch level of a syllable. Tone is regarded here as the property of syllable. This does not mean that if a segment that bears the tone on a syllable gets deleted, then the tone will be deleted too, rather the tone will still linger on, thereby getting relinked to the adjacent tone bearing segment, thus giving rise to a contour tone, although not in all cases in languages. Example can be seen in Ibibio:

xxvi. /ùfòdó/ → /ùfòró/ → [ùfrǒ] ‘prosperity’

xxvii. /m̀bòdó/ → /m̀bòró/ → [m̀brǒ] ‘banana’ (Urua 2007:p166)

In Yoruba:

xxviii. /wá/ + /èkó/ → [wékǒ]

Look (for) education ‘look for education’

xxix. /mú/ + /ìwé/ → [múwě]

Take book ‘take a book’ (Nwokedinwoke et al. 2024)

Tone is placed on the peak of the syllable or nuclear element (which is usually vowels and syllabic consonants); it is therefore the property of the nuclear segment. Tone is also the property of the voiced segment; this is clearly seen in the fact that pitch (tone) is produced with the vibration of the vocal cords.

2.1.3.2 Syllable

The most core syllable inventories are [CV, VC, V, CVC]. All other languages augment their syllable from these basic inventories. Among these four core forms, nuclear vowel ‘V’ is the only constant element, all other units are optional.

Anagbogu et al. (2010:p.102) say that the vowels and consonants of a language organize themselves in the stream of speech in such a way as to convey meaning. To them, “a syllable is therefore a sequence of vowels and consonants (and sometimes a vowel or a syllabic consonant) in a language uttered in a single vocal impulse”. They went further to say that a syllable obligatorily contains a vowel or syllabic consonant, and a structure of a syllable may be the basic elements like an onset (sometimes called a release is a consonant that comes before the nucleus), the nucleus, and the coda (sometimes called an arrest; it is the consonant that comes after the nucleus). This is to say that the nucleus or peak is the

obligatory element because it can stand out and constitute a syllable and is usually the loudest and most prominent sound in the phonetic environment.

Urua (2007:p138) posits that,

The syllable is an important unit of the phonotactic arrangement of many languages, in that, different languages organize the segmental component of their syllable in different ways. Some languages may have consonant clusters at onset; others may permit consonant clusters at the coda; others may permit long vowels and diphthongs as the nucleus, where such nuclei would be branching.

Urua went further to diagrammatically submit a syllable structure that consists of an onset and a rhyme. To her, the onset is an optional element in a syllable structure, a consonant, usually a glide or an alveolar tap. The rhyme may be branching or non-branching. When it is non-branching, the rhyme may consist of a short vowel, a long vowel, VV or a syllabic nasal. A branching rhyme consists of the nucleus plus a coda which is always a single consonant.

De lacy (2007) identifies the principal subparts of the syllable as the nucleus and the two margins: the onset and the coda. The nucleus contains the most sonorous segment where sonority is an abstract property of a segment. De lacy therefore classifies language systems into three which are:

i. Systems without codas

- a. Onsets are required: CV
- b. Onsets are optional: CV, V

ii. Systems that allow codas

- a. Onsets are required: CV, CVC
- b. Onsets are optional: CV, V, CVC, VC

iii. Systems that allow complex onsets

- a. Codas are banned: CV, CCV
- b. Codas are optional: CV, CCV, CVC, CCVC

De lacy also classified languages into three based on syllable weight: rhyme weight languages, nucleus-weight languages and coda-weight languages. Rhyme weight languages do not consider nucleus as important in the distinction between heavy and light syllables. In nucleus-weight languages, the structure of the node determines if the syllable is heavy or light, while in coda-weight languages, the distinctions between heavy and light syllable is determined by the coda. This work basically would delve into the syllable structure and the phonotactics of the Balondo language.

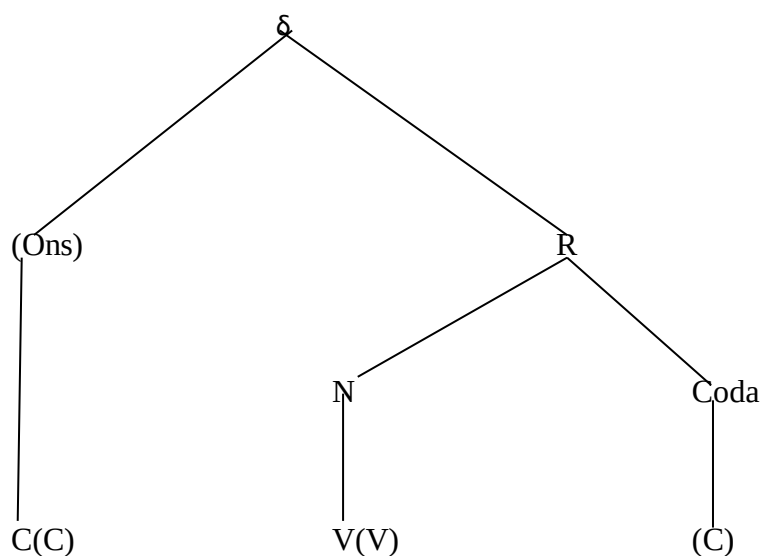


Figure 2.1 : A syllable structure (Adapted from Urua 2007: p140)
 Source : Urua (2007)

In summation, syllables therefore are structural strings that provide the basis for phonological analyses of the constituent of a language. It plays an important role in the organisation of the

phonological processes of a language, and in the understanding of the phonological rules that are internal to a language.

2.1.4. Phonological Processes

Phonological processes are the changes underlying segments undergo and which result in various phonetic realisations. It presents the realised sequence from the underlying structure to the surface structure. A segment in isolation might be different in shape when it occurs in a string with other segments either to form a morpheme or a phrasal/clausal unit. When segments occur as a string to form words or phrases, some of these segments may change due to the effect of phonological environments. One interesting aspect of the phonology of languages is that organised sounds of each language are not always static. This is to say that they are constantly affected by the surrounding or neighbouring segments, as the neighbouring segments always conditioned them. These conditioning are governed by rules called 'phonological rules.' In other words, no two languages have the same inventory of phonemes which are realized by the same set of allophones.

Urua (2007:p71) says 'sometimes phonological changes are not merely strictly phonological; changes may occur in the morphology or syntax that warrants a phonological change'. This explains that phonological changes in sounds can occur in the way words are compounded or derived and, in the structure, or organisation of sentences. Thus, the interconnectedness of different components of language and how changes in one area can have ripple effects on other levels of language.

Udoh (2015:p32) says that phonological process is the transformation of one representation into another under certain conditions. She presented the three parts that are involved in phonological processes:

- i. A set of conditions which undergo the process.
- ii. A set of sounds produced by the process.
- iii. A set of situations in which the process applies.

What these three parts suggests is that phonological processes are products of a set of input or conditions that undergo changes, a set of output or result that emerge after the phonological process has been applied and a set of contexts in which the process applies. In essence, phonological process involves a specific set of input conditions, a resulting output and a particular context or environment where the process takes place. Alozie (2015) and Emenanjo (2015) buttress this issue of context in their separate definitions. Alozie (2015), for example, defines phonological processes as changes which speech sounds undergo when they occur in company of other sounds because of the influence of adjacent segment or their environment of occurrence. Emenanjo (2015:p71) sees phonological processes as “states of being that come into reality when certain sounds come together in certain environments, during speech.” One can say that the scholars agree in their views on the phonological processes. However, two things delight the researcher in Emenanjo’s definition, and they are; that there are “states of being” (referring to the various sounds of a language and the way they are ordinarily produced) and these “states of being” become something in “reality” (referring to their actual real production different from their original state) when they occur together in certain context during speech. It could be concluded that phonological processes involve speech sounds coming together in speech to be modified.

Having generally discussed the phonological processes; this study would discuss some selected processes that occur in the Balondo language in chapter four. A review of

some of these processes would be considered, they include weakening, labialisation, palatalisation and homorganicity of nasals, nasalisation, assimilation and elision.

Crystal (2008:p38) defines aspiration as the “audible breath which may accompany a sound articulation when certain types of plosive consonants are released.” What this definition suggests is that there is a puff of air that follows the production of a sound that is aspirated. Also, the preceding vowel can trigger aspiration process in most African languages, and it may be the open central vowel [a]. Example can be shown in Efik

xxxix. /taʔ/ → [t^ha] ‘chew’
 xl. /ka□/ → [k^ha□] ‘go’

The weakening (lenition) and strengthening (fortition) of consonants is an articulatory process that does not lead to a loss of segment, but instead, is used to bring about dialectal variation, whereby sometimes, where one dialect uses a stronger consonant, another one uses a weaker one (Eme, 2008). Eme (2008:pp37-38) observes that in Igbo, the closer the articulators during the production of a consonant, the stronger the consonant produced and the more open the articulators, the weaker the consonant.

For example,

S.I.	Akpo man		
xli. [a↓ bó]	[a↓ wó]	‘am’	} lenition
xlii. [nsògbu]	[nsòwu]	‘problem’	
b. S.I.	Amaezu		
xliii. [dʒi]	[sì]	‘your’	} fortition

Example of consonant weakening In Ibibio and Annang:

Underlying form		Lenition	
xliv. /fidé/	→	[firé]	‘forget’
xlvi. /fidáŋ/	→	[fíráŋ]	‘fry’
xlvi. /tóbó/	→	[tóβó]	‘tie’
xlvi. /ùfòk íbók/	→	[ùfòríbók]	‘hospital’
xlvi. /étʃít ùfòk/	→	[étʃírùfòk]	‘room’

(Urua 2007:p125, Udoh 2015:p36)

Labialisation is the instance of lip rounding superimposed on an unrounded segment because of the influence of a rounded sound segment in its environment (Eme, 2008; Mbah and Mbah, 2010). Labialisation, to Emenanjo (2015:p99), refers to “secondary articulation involving any noticeable lip rounding accompanying any primary sound.” Eme and Mbah and Mbah’s view of labialisation seems more succinct. Emenanjo’s view would require the knowledge of the sound segment that is the primary sound. Eme (2008) submits that labialisation is a natural phenomenon, while Mbah and Mbah (2010) disclose that phonetically, the symbol used to denote labialisation is a raised [w] on the labialised phoneme. Example in Anaang:

xlix. /atu/	→	[a ^w u]	‘crowd’
l. /ifu/	→	[i ^w u]	‘laziness’ (Udoh 2015:p35)

For palatalisation, Dirven and Verspoor (2004) describe it as a common process in which the palatal glide [j] causes a preceding obstruent to be articulated in the palatal region. What this suggests is that palatalisation is a secondary articulation feature involving only the obstruents.

Dirven and Verspoor's (2004) view of palatalisation clearly show how palatalisation takes place as well as the sound segment that is usually affected. Following from this, Eme (2008) rightly observes that in Igbo, palatalisation usually occurs to a consonant when it precedes the Igbo high front vowel [i/ i] in its anticipation. For example,

li. [kʲɪ ↓ táà] 'now'

In Anaang:

lii. /edi/ → [eɗʲi] 'pig'

liii. /akɔ ti/ → [akɔʲi] 'beans'

Homorganic nasal assimilation, to Udoh (2015:p34) is a kind of contiguous assimilation. This process involves the sharing of the same place of articulation of a nasal and a consonant, such that the nasal becomes a syllabic nasal. For example, in Ibibio

liv. [nʔań] 'sand'

lv. [nʔsu] 'lie'

lvi. [nʔdòm] 'white clay'

lvii. [mbaŋ] 'wing'

lviii. [ŋkòŋ] 'leaf'

Nasal assimilation occurs when one segment takes on the nasality of a neighbouring segment (Dirven and Verspoor, 2004:p120). Eme (2008) describes nasalisation as a situation where the velum is lowered to allow the airstream to flow out through the nasal cavity during the production of a nasal sound and remains in this position to produce a following non-nasal sound. The airstream now flows out through the nasal cavity as well as through the oral cavity, thereby causing the sound to be nasalised. In her opinion, this phenomenon is

language universal and a common feature among the Igbo dialects. The difference between Dirven and Verspoor (2004) and Eme's (2008) views on nasalisation is that while in the former, only one segment (whether in front of or after) can be nasalised, such that it could be perseverative or anticipatory, as in nnà [nnã̀] 'father' in Igbo or can't [kãnt] in English; in the latter, it is only perseverative example; m̀ madù [m̀ mãdù] 'person'. The former could be described as general, and the latter is specific. Examples of progressive, regressive and bi-directional nasal assimilation in Efik:

lix.	/inó/	→	[ì-nó]	'thief'
lx.	/sàṅjá/	→	[sàṅǎ]	'walk'
lxi	/únék/	→	[ú-něk]	'dance'
lxii	/kóm/	→	[kǒm]	'greet'
lxiii.	/dóm/	→	[dǒm]	'bite'
lxiv.	/àkǎñ/	→	[àkǎ]	'famine'
lxv.	/màn/	→	[mǎn]	'give birth'
lxvi.	/nèn/	→	[nǎn]	'make straight'
lxvii.	/mùm/	→	[mǔm]	'catch'

Eme (2008) submits that elision is the dropping of a sound or some sounds in a word during connected speech. To Dirven and Verspoor (2004), elision involves the omission of sounds in the stream of speech, especially in informal speaking styles. Mbah and Mbah (2010) present elision as a phonological process which involves the omission or deletion of some sound segments in rapid speech. From the foregoing, the scholars are saying the same thing and that in elision, sound segment is omitted or deleted. Example of elision in Anaang:

lxviii.	/ala` + ámi/	→	[alaà□m]	'this one'
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lxix. /aḍʒeń + ańmi/ → [aḍʒeńeńm] ‘this child’

In Efik:

lxx. /ke + ukot/ → [kukot] ‘on (the) leg’

lxxi. /ke + itak/ → [kitak] ‘at (the) base’

lxxii. /ke + akaɪm/ → [kakaɪm] ‘in prayer’

2.2 Empirical Framework

Kuperus (1985) on ‘the Londo Word: its phonological and morphological structure’ described the morphological and phonological structure of Londo words and variants. The study covered the Londo vocabulary, phonological and morphological rules. The Andre’ Martinet’s functionalist theory (Kuperus 1978), Word structure conditions (Stewart 1983) and Lexicalist hypothesis by Chomsky (1970) was adopted as a theoretical thrust that accounts for the inventory of phonemes, variants of morphemes and word structures in Londo. The descriptive method was used to collect data through participant observation, interaction with Londo natives, and members of the Grassfields Bantu Working Group. Findings revealed that there are twenty consonants and seven systematic phonetic vowels in Londo [b β φ t d k g kp gb c j m n ɲ ŋ ŋm ɽ w j] [i e ε a ɔ o u]. It is a two-tone language with automatic and occasional non-automatic downstep. Tone bearing segments are syllabic (vowels and syllabic nasals). Findings also revealed that the most common stem structure for nouns is CV(N)CV while verb radicals has CVC. The maximal sequence of consonants are NC, NG, and CG. Prefixes, verbal final markers and verb suffixes take structures as CV, V

and VC respectively. Kuperus concluded her book with a Londo-English word list on verb radicals and noun stems. She also presented the following alphabet in Londo as in: a b c d ε φ (h) i k kp m n n o ɔ (p) (r) s t u (v) w y, thus segment in parenthesis come from borrowed terms or ideophones in Londo.

Atta (1993) on 'Bakundu/Lukundu Phonology' presented 40 phonetic consonant [p, b, t, d, k, kp, s, tʃ, dʒ, m, n, ŋ, mb, nd, ng, ngb, ndʒ, l, ɕ, w, j] and 11 phonetic vowel sounds [a aa, i, e, ε, ə, ɔ, u uu o oo] in order to come out with distinctive sounds in the language. Corpus of 920 words and sentences were collected from four (4) informants through purposive sampling in Banga and Mbakwa Supe villages, Cameroun. The study made use of phonemic theory. Findings from the study revealed that the most predominant syllable structure is V and CV structure. The Bakundu language has low, high, rising and falling tones. In addition, the study established a writing system which is made up of monographs, diagraphs [bw, by, cw, dw, kp, kw, ky, mb, mb^w, mw, nd, ng, ng^w, nj, sw, sy, ty, ɕw, ɕy] and graphemes [ny ng].

Egbe (1996) on 'The Phonology and Orthography of Ejagham' designed orthography for Ejagham. In a view to arriving a workable alphabet for the language, she examined the phonology of six dialects: Ètùng, Èkìn, Ngùnáyá, Èchùghì, Obáng and Ejagham. The sound inventory of the different consonants and vowels were described alongside with the distribution of the sounds in the six dialects. She went further to examine the suprasegmental feature of Ejagham where she discussed tone, intonation, length, and syllable structure. She was able to also propose an orthography for the language with the following letters /a b bh ch d e ẹ f g gb h i j k kp l m n ng ny o ọ p r s t u ù ụ w y z/. She maintains that Ejagham does not introduce alien sounds into its sound inventory. She argues that new words borrowed into

the language will have to be pronounced the Ejagham way. For example, the word “pound” is pronounced “pang”. Her argument makes the present study on the phonology of Efik and English loanword adaptation unique because it aimed at discovering how Ejagham language generates its loanwords to suit its phonology.

Meeuwis (1998) in his book ‘Lingala Phonology’ presented seven vowel phonemes [a, i, e, ε, ɔ, u, o] and thirteen phonemic consonants [p, b, t, d, k, g, f, v, m, n, s, z, l]. The [o] is pronounced slightly higher than the cardinal vowel, thus approaching [u]. All vowels are short and oral, nasalisation of vowels occurring only very exceptionally and without phonological value. The consonants [p, b, z, t, d, s, k, g] appear in prenasalized form. Lingala Diphthongs occur as in [ei, ɛi, ai, ɔi, oi]. He went further to present that Lingala has a CVC syllable structure and two basic tonemes; low and high, which can combine to form two additional tonemes: rising (low-high) and falling (high-low).

Urua (2007) on “Ibibio phonetics and phonology” described the phonetic sounds in Ibibio; the phonemic sounds, the phonological as well as the morphophonemic and morphosyntactic processes that occurs in the Ibibio language. Urua submits that the Ibibio has sixteen occurring vowel sounds /i, ɪ, ii, ʌ, e, ee, a, aa, uu, u, oo, o, ɔɔ, ɔ, ʊ/ which includes short and long vowels and twenty-one phonetic consonants. In these consonants, six are oral stops, six nasal stops, and one syllabic nasal stop, one trill, one tap, three fricatives and one approximant. She examined phonological processes prevalent in the Ibibio language as it relates to vowel and consonants as in vowel deletion, vowel assimilation, glide formation, vowel lengthening, vowel shortening, vowel epenthesis, vowel harmony, consonant germination, geminate integrity, glide formation, consonant lenition, consonant deletion, compensatory lengthening. Furthermore, Urua avers that the vowel and the syllabic nasal in

Ibibio are the nucleus of the Ibibio syllable, thus, the syllable structure of the Ibibio language is (V/N)C(G/(r)V(V)(C). The Ibibio language is a terraced level tone language with two contrastive level tones, high (H) and low (L) plus a contrastive downstepped high (!) tone. It is worth mentioning that Urua concluded that the Ibibio common intonation pattern is usually the high-low falling pattern.

Bassey (2014) on 'the consonant system of Ekin' examined the consonant inventory in Ekin. The study classifies the consonants of Ekin by highlighting the areas of disparity with early works by scholars. The phonemic theory was adopted, and data was collected through oral interview and participant observation. The study revealed that Ekin has 19 phonetic consonants and 18 phonemic consonants. Consonantal processes discussed were lengthening, labialization, deletion, assimilation and nasalization.

Njoku (2016) on 'Aspects of Khohumono Phonology' presented the sound patterns, phonemic and phonetic inventories, description and distribution of Khohumono sounds and the function of tone in the Khohumono language. The study which was descriptive and expository was based on the phonemic theory, autosegmental theory and distinctive feature theory. Simple random sampling method was used and the data for the research was collected from twenty-one native speakers from the seven villages. Finding show that there are thirty two (32) phonetic consonants (among which twenty six (26) are phonemic) and eleven (11) phonetic vowels [p, b, t, d, k, g, kp, gb, k^w, g^w, b^w, b^h, t^h, m, ŋm, n, ɲ, ɲ, f, v, s, z, ʃ, dʒ, l, w, r, ɣ, ɾ, ɸ, h] and [i, ɪ, e, ɛ, a, aa, ə, u, ʊ, o, ɔ] of the Khohumono language of Cross River state. The Khohumono syllable operates on three basic structures which are; V, or N, CV CVC, all other existing structures are modifications of these. The study also revealed that Khohumono language has a high tone, mid tone, and low tone. The study further proposed

the Khohumono alphabet as in: a b d e ẹ ê f g gb gh gw h i j k kp kw m n ñ ny o ọ p r s sh t u
u v w y z.

Ukpe (2018) on ‘Aspects of the Efik phonology’ examined the segmental, suprasegmentals and phonological processes of the Efik language to establish the exact phonemic status of the language with spectrographic evidence. Goldsmith’s Auto-segmental Phonology (1976) was adopted as the theoretical frame for the study. A reduced 1700 SIL Comparative African Wordlist (SILCAWL) was used as wordlist. Thirty native speakers were selected for the study using random sampling techniques. Findings from this study show that Efik has 23 phonetic consonants and 9 phonetic vowels. There are 21 phonemic segments in Efik: 15 consonants and 6 vowels. The Efik language has two distinctive tones: high [´] and low [ˋ], other tones are modifications of the high and the low tone sequences. Efik Tones undergo delinking and linking process. The language maintains simple syllable structures: (N)(C)V, with either vowel or syllabic nasal constituting the peak. Assimilation is common in all phonological processes and homorganicity is observed. Intra-word deletion is attested in the language. Consonant/vowel ambivalence causes labialisation, palatalisation and glide formation.

2.3 Theoretical Framework

The researcher adopts the Phonemic theory and the Auto-segmental theory as basis for the analysis and test for the phonemes and prosodies.

2.3.1 Phonemic Theory

According to Akam and Ikegwonu (2024:p81, p84), Classical phonology which is the theoretical framework for this study, is an earliest theory of phonology which makes reference to phonemes. It is a theory about how to describe the sounds of a language (and

also for some scholars) how sounds are stored and processed. It believes that the phoneme which is the smallest unit of sound is the means by which a change can be effected in any language. There are three views of the phoneme as seen by some scholars: firstly, the phoneme as a phonetic reality. Here, phoneme is viewed as a physical reality, rather than a psychological concept. It is what is conveniently used to represent a number of phonetic units. Daniel Jones and Gleason belong to this school of thought. Secondly, phoneme as a psychological reality, which is a school of thought that views the phoneme as a mental reality. It views the intention of the speaker and the impression of the hearer or both. This view holds that when a speaker pronounces for example the sound segment [p], it can be realized as the aspirated [p^h] as in pin and the unaspirated [p] as in spin [spɪ n] which are all allophones of the same phoneme /p/ in English. Baudouin de Courtenay belongs to this school of thought. Thirdly, the phoneme as a phonological reality. This is the idea of the Prague school of phonology, which sees the phoneme as the sum of the phonologically relevant properties of a sound (Trubetzkoy, 1939:p36). What is most important to this school is 'function'. In other words, a phoneme is a phonological unit that can function to distinguish meanings. It is seen as an abstraction and not a sound or even a group of sounds. To them, it is a theoretical construct on the phonological level, which is defined in terms of its contrast within a system. This school of thought considered the concept of the phoneme extensively under the idea of minimal pairs, complementary distribution, phonemic overlapping, neutralization, distinctive features among others. Ezenwafor (2017) in her study on patterns of variation in S.I and Ekwuluobia Igbo (EI) examines the phonological, lexical and syntactic variations and their patterns of existence in the Standard Igbo (S.I) and Ekwulobia Igbo. At the phonological level, she identifies nine vowels in EI, of which eight

are phonemic and one (ɛ) [ɛ] as phonetic, while the SI has eight vowels. In her analysis, she posits that phonological variation is evident in the vowels and consonants of these two varieties. Considering the variation patterns of the consonants, a regular pattern of variation where [h f] in SI are replaced with a voiced bilabial fricative [ɸ] in EI. She goes further to establish that the [r] of the SI is usually replaced with the alveolar lateral nasal [n] while the [l] is replaced with [n] or labialized alveolar nasal [ŋ^w]. The voiced alveolar trill [r] is replaced with the voiceless glottal fricative [h] and randomly with [l], while the voiced labiovelar approximant [w] and voiced velar plosive [g] in SI are replaced with [h] in EI. She further states that the voiceless and voiced bilabial plosives [p b] in SI are replaced with the voiceless and voiced alveolar plosive [t d]. She goes on to explain that, though common patterns of variation existing in the SI and EI might not apply in all cases. She buttresses this by maintaining that vowels unlike the consonants vary scantily in the SI and EI. It is evident in this her analysis. Eme and Uwaezuoke (2015) in their study of issues in phoneme variation between Umuolum Igbo and S.I observe that while S.I has thirty-six phonemes, Umuolum Igbo has thirty-two (24 consonants and 8 vowels). They discover that the phonemes /f/, /z/, /ʃ/ and /ɦ/ which are found in S.I do not exist in Umuolum Igbo. In their analysis, they establish that where /f/ and /ɦ/ appear in any S.I word, they are realized as /v/ in Umuolum. Wherever /z/ and /ʃ/ are found in S.I words, they are realized as /r/. They point out that the non-existence of /f z j ɦ/ in Umuolum would definitely constitute pronunciation and spelling problems for speakers of Umuolum learning the S.I as they would substitute them with other sounds. They conclude that this would result in pronunciation and spelling errors.

Udoh (2015) submits that the phonemic theory is a theory which posits the conditions under which a sound would qualify as a phoneme. Various views have, however, emerged from this theory:

a. The Phoneme as a phonetic reality (Phonetic view) was held by a group of American Linguists, like Daniel Jones, Gleason, etc. They developed a methodology popularly known as Discovery Procedures for establishing the phoneme. This discovery procedure or test include identifying phoneme, establishing minimal pairs, identifying allophones and complementary distribution of which this is one of the research objectives. For them, the phoneme is a physically audible sound whose membership is defined by some physical “characteristic patterns of distribution” (Gleason 1955:p261 cited in Udoh 2015:p12).

b. The Phoneme as a phonological reality (Phonological/functional view) of the Prague School, viewed the phoneme as a phonological reality, in terms of the sum of the phonologically relevant properties of sounds which are defined in terms of phonological oppositions in a language functioning as a minimum unit to distinguish meaning. It was ‘an abstraction’, ‘a theoretical construct on the phonological level defined in terms of contrasts within a system’ (Hyman 1975 cited in Udoh 2015:p14).

c. The Phoneme as a Mental Reality (Psychological view): On the other hand, a phoneme as a psychological reality is when speakers of languages that share the same sounds will perceive these sounds differently, according to whether they flag meaning differences or not. This, in turn, is consistent with Jakobson’s claim that ‘if we compare any two particular languages, we will see that from an acoustic and motor point of view their sounds could be identical, while the way they are grouped into phonemes is different’ (Jakobson 1990:p223). Twaddell (2000) assembles some characteristic definitions: the phoneme is a constant acoustic and

auditory image; a thought sound; a sound idea; a psychological equivalent of an empirical sound. In modern terms all these definitions amount to the claim that the phoneme is some sort of mental representation. Twaddell criticizes these psychological accounts on two grounds. First, he points out, correctly, that such definitions are not particularly helpful in characterizing what phonemes are. His second critique is more sweeping and arises from his empiricist view of philosophy and psychology: following Bloomfield, Twaddell argues that mentalistic notions have no place in science, because they cannot be empirically tested. While it is no doubt correct that appealing to a vague and unknown “mind” cannot serve as an adequate explanation of any phenomenon, the cognitive revolution that began in the 1950s has shown the fruitfulness of studying mental representations and processes as things to be explained

However, for the purpose of this work, the phonetic view would be used as a framework making use of the methodology or set of procedures proposed by its proponents for establishing phonemes.

2.3.2 Auto-segmental Theory

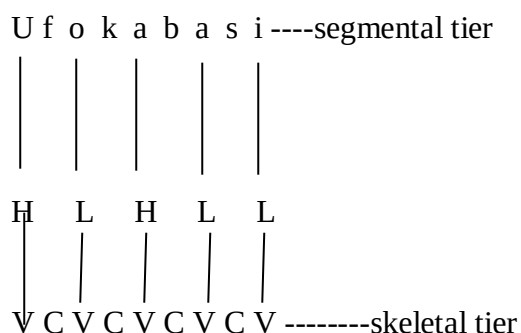
Autosegmental phonology (AP) is a framework of phonological analysis proposed by John Goldsmith in his PhD thesis at the Massachusetts Institute of Technology in 1976. This theory is concerned with the analysis of syllables, tones, and phonological processes. The major premise of autosegmental phonology is that phonological representations consist of more than one linear sequence of segments, each linear sequence constitutes a separate tier. A phonological representation is depicted on several distinct tiers, be it a segmental tier that contains the features that define the segments articulated in the phonological representation or tone tier that contains the features that show the distribution of tones in the phonological

representation. The tiers are connected to each other by association lines that allow a neat one-to-one mapping between tiers. Matthew (2007: p33) indicates that autosegments are represented at a structural level which is higher than that of the individual vowel or consonant segments. Goldsmith (1976:p48) stated the following well-formedness conditions which are:

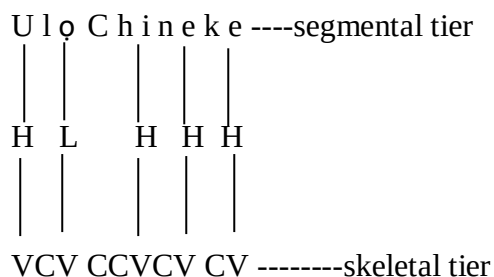
- a. All vowels are associated with at least one tone, and all tones are associated with at least one vowel.
- b. Association lines do not cross,
- c. Association convention: only the rightmost member of a tier can be associated with more than one member of another tier.

Example is shown below in Efik:

1.



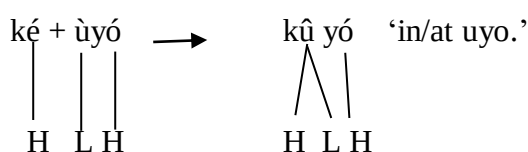
2. Example in Igbo:



Example (1-2) shows that the tonal tier is specified for segments which are tones. The segmental tier on the other hand is specified for other features. The line that links the segmental tier with the tonal tier is called the association line

Autosegmental views about tones are as follows:

- a. They should be regarded as separate levels with tiers of analysis.
- b. They do not have any connection with the segmental system.
- c. They have independent existence not in relation to consonants and vowels but occur at upper layers or tiers of consonants and vowels.
- d. When vowels are deleted, tones get deleted and subsequently delink to the nearest Tone Bearing Unit (TBU). The example below in Efik shows that the vowel [e] and the tone is deleted. The tone gets delinked to the nearest tone bearing unit [u] giving rise to a contour rising and falling tone. It can also be seen that association line is linked to a single syllable with two distinctive tone unit. This is called many -to-one association.

ké + ùyó → kû yó 'in/at uyo.'


[-cons] → ∅ / [-cons]

CHAPTER THREE

RESEARCH METHODOLOGY

This section is concerned with research design, population of the study, sampling procedures and sampled size, instrument for data collection, method of data collection, method and of data analysis.

3.1 Research Design

The qualitative research method was adopted for this study as it aims to describe the phonological patterns (segments and suprasegments) of the Balondo language, the description of sounds as well as the syllable/tonal structure of the language. It would also delve into some phonological processes in the language from the data collected. In that case, the data collected would help to do a fine description of the Balondo language.

3.2 Population of the Study

According to the Communal Development Plans for the Bamusso and Ekondo-Titi Councils; a field survey compiled by Cyprian Nanji (2011), the actual population of Balondo speakers (men, women and children) is about 42,563. The target population for this study is made up of Twenty native speakers of the Balondo language. The participants consisted of 16 males and 4 females, with ages ranging from 40 to 75 years with varying age brackets considered to avoid confusion. They were selected based on their native competence in the Balondo language, long-term residence in Balondo-speaking communities, and willingness to participate in the study. The names of some of the consultants include Late Dr Aja Oro, Mr Eyuka Obie Felix, Martha Oro, Nokuri Oro, Chief Nangoh Joseph Ambang, Naseli Bau Okha, Nekena Ambang, Ekoli Divine Niko and Naseri Julius. The consultants included civil

servants, retirees, petty traders, farmers, teachers, Chiefs, politicians, businessmen/women and clergymen.

3.3 Sample and Sampling Procedures

The stratified sampling method was adopted as it would involve the choice of location, family and the linguistic background of the informants. From the target population, the researcher selected twenty (20) native speakers drawn from Ekondo-Titi Township in Southwest region of Cameroon, to constitute the sample size. It is assumed that these native speakers have lived in the land for years and tend to possess fluency in the language; the smaller the population, the more accurate and reliable is the result of the findings. Age ranging from 40 to 75 years also would form the basic prerequisite as elderly people tend to know the history of their people, actual pronunciation and variations of words in their language than the youths.

3.4 Validity of Research Instrument

The instruments used for data collection in this study, including a field notebook (notepad) and an audio recorder, were carefully selected to ensure the validity of the data collected. A total of two hundred and forty-two (242) words were drawn from the Summer Institute of Linguistics Comparative African Word List (SILCAWL). Additionally, forty-four (44) simple English sentences and ten (10) phrases were translated into the Balondo language as part of the phonological and syntactic files. The word list covered key vocabulary categories, including body parts, body processes, interpersonal relationships, numerals, events, and actions, and these items were translated into their Balondo equivalents to facilitate phonological analysis. The audio recorder was employed to capture oral interviews, songs,

riddles, storytelling, and spontaneous speech forms from language consultants, while the notepad was used to record observations during interviews. This combination of tools ensured the collection of authentic linguistic data from native speakers in Ekondo-Titi. Asking participants to provide Balondo equivalents of SILCAWL words ensured that the data accurately reflected both segmental and suprasegmental features of the language. Furthermore, the use of Praat software for acoustic analysis of complex sounds strengthened the validity of the phonetic and phonological data collected. The transcribed data were analyzed using procedures from phonemic theory to determine phonemes and allophones, while autosegmental theory was applied to examine syllable structures and tones. The findings were systematically presented in tables and sentential formats, ensuring that the instruments produced accurate and valid linguistic information for the study.

3.5 Reliability of Instrument

The reliability of the research instruments was ensured through systematic and consistent methods of data collection. The researcher employed telephone conversations and interviews to gather data from language consultants in Ekondo-Titi, Cameroon. Data were collected in both formal and informal settings, which allowed for the capture of accurate and natural linguistic information. The words recorded from the consultants were transcribed perceptually, and complex sounds were subjected to instrumental analysis using Praat mono-sound recordings to examine their acoustic features. Formal interviews ensured that accurate and structured data were obtained, while informal interactions encouraged consultants to engage in casual conversations, generating corpus data that captured variations in their speech forms. Additionally, the Summer Institute of Linguistics Comparative African Word

List (SILCAWL) was used for transcription and analysis. Consultants were asked to provide Balondo equivalents of the SILCAWL words, enabling the researcher to systematically identify and analyze segmental units, while suprasegmental features were derived from natural speech forms such as storytelling, riddles, songs, and interviews. The combination of these careful and repeatable procedures ensured that the instruments produced reliable and reproducible linguistic data.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

This section presents data in line with the study objectives.

4.1 Data Presentation

4.1.1 Data Presentation on the Segmental Units of the Balondo Language

1. Face	/bòsò/	[bòsò]
2. Eyes	/mísò/	[mĩsò] (plu.) [dísò/ Sing.]
3. Eyebrow	/efòròfòrò-yà-ísò'/	[eφòròφòrò-yà-ísò]
4. Nose	/mòfikì/	[mòφiki]
5. Head	/mòlòfò/	[mòlòφò]
6. Ear	/rìtó/	[rìtó/ Sing/] [mato /plu.]
7. Cheek	/dìdámà/	[dìdāmā]
8. Chin	/ndzèrì/	[ndzèrì]
9. Mouth	/wànà/	[wānā]
10. Lip	/mùmbù/	[mùmb ^w ù]
11. Tongue	/ìjèmè/	[ìjèmè]
12. Tooth	/dìsòngá/ or /màsòngà/	[disòŋgá]
13. Molar Tooth	/ètɕ əkò/	[ètɕ əkò]
14. Neck	/dìbòrì/ or /rìbòrì/	[dìbòrì]
15. Nape of Neck	/mbúsà dìwòrì/	[mbúsà dìwòrì]
16. Back of the head	/dìórò/	[dìórò]
17. Frontelle	/ìbóbó/	[ìβóβó]
18. Hair	/nùngà/	[nũŋgà]
19. Beard	/nùngà ja njèrì/	[nũŋgà ja ndzèrì]

20. Larynx, Adam's apple /muonga nwa kìngó/ [mwoŋga ŋwa kìngó]

21. Body /ɲoro/ [ɲoro]

Trunk

22. Shoulder /ètùrì/ [èt^wùrì]

23. Chest /ngèngè/ [ŋgèngè]

24. Breast /dìbé/ [dìbé]

25. Waist /èwè/ [èwè]

26. Navel /dìtèngù/ [dìtèngù]

27. Umbilical cord /èsànà/ [èsãñã]

28. Stomach /mèjà/ [mèjà]

29. Back /mbùsà/ [mb^wùsà]

30. Buttock /màsòsò/ [màsòsò]

(See appendix IV for more data)

4.1.2 Data Presentation on the Tonal Pattern of the Balondo Language

4.1.2.1 Distribution of Low Tones

1. [ja] 'stay'
2. [fo] 'come'
3. [mùrì] 'chief'
4. [kènde] 'go/walk'
5. [dibe] 'breast'
6. [aɲwa] 'cat'
7. [mòréma] 'heart'
8. [ŋgíɲà] 'force'
9. [dìβòtò] 'cap'

10. [kpɛ̀sɛ̀mɛ] ‘shiver out of fear’

4.1.2.2 Distribution of High Tones

1. [rá] ‘eat’
2. [fɛ́] ‘to pick up’
3. [tátà] ‘father’
4. [tókò] ‘spoon’
5. [óné] ‘there’
6. [kpásuá] ‘rape’
6. [ɲgámá] ‘because, as, since’
7. [ésàkà] ‘melon’
9. [úfójò] ‘umbrella’
10. [téterì] ‘star’
11. [túkésé] ‘punish’
12. [éfáfé] ‘cloth’

4.1.2.3 The Downstepped High Tone

1. [m!bɔ́] ‘please’
2. [ka!nde] ‘go and buy’
3. [i!ro] ‘tradition’
4. [m!búmé] ‘question’
5. [ná!ngá] ‘like that/that’s right’
6. [m!fí] ‘periwinkle’

4.1.2.4 Lexical Contrast

1. [ɛ̀jò] ‘cry’
[ɛ̀jó] ‘yam’
2. [kùtwà] ‘tell story’
[kútwà] ‘short’
3. [kòkà] ‘grow’
[kókà] ‘grumble, complain’
4. [kwèrèné] ‘blaze, catch fire’
[kwéréne] ‘support, side with’

4.1.2.5 Grammatical Contrast

1. [fo] 'come'
2. [árua] 'leave, go away'
3. [bére] 'call'
4. [rẽte] 'write'
5. [kìre] 'cook'
6. [nańga] 'lie down'
7. [da] 'eat'
8. ['ándé] 'buy'
9. M̀gbà àndí m̀ò-kòbò m̀ò-kórónó 'Mgba has bought a new clothe' (past)
Mgba bought -concord prefix clothing -concord prefix-new
10. Èfáfè è- kórónó Martha ándá-ké 'Martha is buying a dress' (progressive)
Dress concord-new Martha buy-ing
11. M̀gbà à- r̀etí - ñgwèrì 'Mgba has written a book' (completive)
Mgba concord prefix written book
12. M̀gbà ñgwèrì à- r̀etè- ke` 'Mgba is writing a book' (progressive)
Mgba book concord prefix write - durative
13. ísúma! 'run' (imperative)
14. M̀írá na` ísuima`- kè 'I am running' (progressive)
race - I- run - durative
15. Ò èká na` kèndé kè 'I am going to the market' (statement)
to concord-market 1st-verb-prefix go - durative
16. Ká t̀ondà- kè 'come and play' (statement)
Come play
17. ñ-dókò dítòndà 'I am coming to play' (progressive)
I am coming to play
nà nè fò dítòndà
1st person sing. asp- come - to -play
18. ká - ndé 'go and buy' (statement)
Come buy
19. Nà nè ándá 'I am going to buy' (progressive)
1st- asp - buy

20. nà dá ka or [nà nè da] ‘I shall eat’ (aspectual)
 1stperson(sing.) eat -asp-mood I -asp- eat.

21. ò dá ka` or [ò nè da] ‘You will eat’
 2nd sing.You eat asp.mood

22. à nè dà ‘He/she will eat’
 He/she - asp,will eat

23. bèjò nà rá ke` ‘I am eating yam’ (progressive)
 yam 1st-(sing). eat- durative

24. à má - rà ‘S/he has eaten’ (completive)
 she/he has-(time marker) eat

25. tátà ándí mótò ‘My father has bought a car’ (past)
 -father has-bought a car

26. ema ò kìrè ke? ‘Are you cooking?’ (question)
 are you cook - durative

27. ò mo` kìrè mòrélí? ‘Did you cook food?’ (question)
 You verb-asp-(PAST) cook food

28. Ò n̄wákà mím̄bá - máyake? ‘Do you drink alcohol?’ (question)
 You verb-do drink hot (alcohol)

29. nà nè kèndé` ‘I am going’ (statement/progressive)
 1st person sing.- asp- going

- 30.. n̄ dó kò ‘I am coming’ (statement/progressive)
 I am coming

31. íyà - moreli à- kìrè- ke` ‘My mother is cooking ‘
 mother food concord prefix cook- durative

32. bá- fo-kò`       ejaña` ‘They will come tomorrow’ (statement/future)
 they-come will tomorrow

33. sí sà kèndé`kè ‘We shall not go’ (statement/negative)

we neg-not go durative

- | | | |
|-----|---|------------------------------------|
| 34. | si' kènde'kè
We go durative | 'We shall go' (statement/positive) |
| 35. | ndzá -sak-ì
I neg- -asp.mood | 'I do not look for' |
| 36. | à sàk í`
verb prefix for person- look for- asp.mood marker | 'He/she looked for' |
| 37. | à kà sàk è
verb prefix for person- polar look for -asp.mood | 'He/she should not look for' |
| 38. | bá nè sàk à
verb prefix for person- asp, look for -asp.mood | 'They are looking for' |
| 39. | bá mò sàkí`
verb prefix for person - asp, look-asp.mood | 'They looked for' |
| 40. | à nè sáká ñgò mò
verb prefix for person- asp, want-asp.mood dance | 'She/he is dancing' |
| 41. | bá nè sáká ñgò mò
verb prefix for person- asp, look-asp.mood dance | 'They are dancing' |
| 42. | à mò sàk ì
verb prefix for person- asp-pst look-asp.mood | 'He/she was looked for' |
| 43. | à nè sàk à
verb prefix for person- asp, look for-asp.mood \ | 'he/she is looking for' |

4.1.3 Data Presentation on the Syllable Structure of the Balondo Language

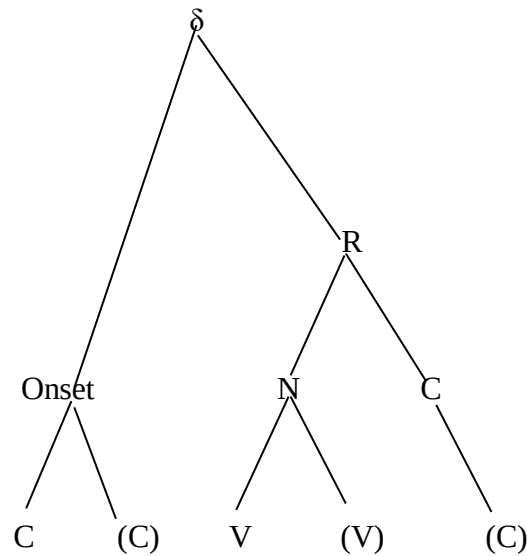


Figure 4.1: The syllable structure of Balondo
 Source: Field data (2024)

4.1.4 Data Presentation on the Segmental Processes in the Balondo Language

The segmental processes in this research include assimilation, weakening, deletion, labialization, palatalization and nasalization.

4.1.4.1 Assimilation

- | | | |
|---------------------|---|------------------------|
| i. [n̩+ bó] | → | [m̩bó] ‘sea’ |
| ii. [n̩+ d̩ŋgé] | → | [nd̩ŋgé] ‘love’ |
| iii. [n̩+ d̩zèwú] | → | [nd̩zèwú] ‘gorilla’ |
| iv. [n̩+ g̩j̩nà] | → | [ŋg̩j̩nà] ‘power’ |
| v. [n̩+ gb̩k̩k̩b̩i] | → | [ŋmgb̩k̩k̩b̩i] ‘chain’ |
| vi. [nwánà] | → | [ɲwánà] ‘child’ |
| vii. [nwéá] | → | [ɲwéá] ‘fire’ |
| viii. [nwèndì] | → | [ɲwèndì] ‘message’ |

- ix. [nwáráná] → [ɲwáráná] ‘woman’
- x. [bátè] ‘put’ → [dìbátè] ‘to put’
- xi. [bísé] ‘turn’ → [mòbísé] ‘one who turns’
- xii. [bòtò] ‘curse’ → [dìbòtò] ‘to curse’
- xiii. [bòkò] ‘spoil’ → [dìbòkò] ‘to spoil’
- xiv. [bomene] ‘get it right’ → [dìbòimène] ‘to get it right’
- xv. [bué] ‘marry’ → [dìbué] ‘to marry’
- xvi. [maðu] → [m̀u] ‘fire place of three stones to support cooking pot’
- xvii. [maða] → [m̀a] ‘rubbish pit’
- xviii. [boðuka] → [bòuka] ‘marriage’
- xix. [doða] → [dòa] ‘be sharp’
- xx. [dóngá] → [dìróngá] ‘to build’
- xxi. [díbá] → [mà̀íbá] ‘water’
- xxii. [dìkì] → [mò̀kì] ‘bush/forest’

4.1.4.2 Weakening

- i. [báté] ‘put’ → [dìbáté] ‘to put’
- ii. [dóngá] ‘build’ → [dìróngá] ‘to build’
- iii. [bódwá] → [bórwa] ‘kill’
- iv. [àdwá] → [àrwa] ‘leave’
- v. [kòdwá] → [kòrwa] ‘fly’
- vi. [efafe] → [eḡaḡe] ‘cloth’
- vii. [fèfè] → [fèḡè] ‘tickle’

4.1.4.3 Deletion

- | | | | | |
|-------|-------------------------------|---|-------------|------------------|
| i. | [mà + ín bá] | → | [mím bá] | ‘wine’ |
| | Noun Prefix/plural wine | | | |
| ii. | [bà + ó ṅgò] | → | [bó ṅgò] | ‘sweepers’ |
| | Noun Prefix/plural sweeper | | | |
| iii. | [ma` + o ṅ gi] | → | [mo ṅ gi] | ‘recoveries’ |
| | Noun Prefix/plural recovery | | | |
| iv. | [di` + e ṅ a] | → | [de ṅ a] | ‘poverty’ |
| | Noun Prefix/singular poverty | | | |
| v. | [ba` + ɔ ka. ke`] | → | [bɔ kake] | ‘let them hear’ |
| | Noun Prefix/plural hear -asp- | | | |
| vi. | [di` + o ṅ a] | → | [d ṅ a] | ‘sky’ |
| | Noun Prefix/singular sky | | | |
| vii. | [ma` + e ṅ a] | → | [me ṅ a] | ‘poverties’ |
| | Noun Prefix/plural poverty | | | |
| viii. | [ba` + i ṅ gɔ] | → | [bi ṅ gɔ] | ‘those who look’ |
| ix. | [ba` + i ṅ e ri] | → | [bi ṅ e ri] | ‘they ask’ |
| x. | [ra` + ɔ fe re] | → | [rɔ fe re] | ‘eat soup’ |
| | eat soup | | | |
| xi. | [na` + e ne] | → | [ne ne] | ‘let me see’ |
| | I see | | | |
| xii. | [na` + ɔ t. i] | → | [nɔ ti] | ‘I fainted’ |
| | I fainted | | | |

4.1.4.4. Labialization

- | | | | | |
|-----|-----------|---|-------------------------------------|-----------|
| i. | /kùmè/ | → | [k ^w ùmè] | ‘meet’ |
| ii. | /kéntf ú/ | → | [kéntf ^w ú] | ‘cunning’ |
| iv. | /ndùtù/ | → | [nd ^w ùt ^w ù] | ‘work’ |

vi. /muʷù/ → [mʷusʷù] ‘morning’

v. /kuʷé/ → [kʷute] ‘cover’

4.1.4.5. Palatalization

i. /bíà/ → [bʲa] ‘escape’

ii. /sìbàmà/ → [sʲbàmà] ‘jump down/dive’

iii. /etiti/ → [etʲitʲi] ‘darkness’

iv. /kìrè/ → [kʲrè] ‘cook’

v. /tʃia/ → [tʃʲià] ‘refuse, reject’

vi. /sia/ → [sʲia] ‘grind/grate’

vii. /siba/ → [sʲiba] ‘to jump, to land’

4.1.4.6 Nasalization

i. /ìnéṅṅ / → [ì.né̃,ṅṅ] ‘big’

ii. /òamá/ → [ò.má̃] ‘what/then’

iii. /éne/ → [ẽ.nẽ] ‘see/find’

iv. /kánda/ → [kã.nda] ‘shout/rebuke’

v. /èkòndò/ → [è.kò̃n.dò̃] ‘world’

vi. /mòréma/ → [mò.ré̃.mà̃] ‘heart’

vii. /jàmà/ → [jà̃.mà̃] ‘fish’

4.1.5 Data Presentation on the Tonal Processes in the Balondo Language

Tonal processes in this research include downstep, downglide, tonal spreading and delinking.

4.1.5.1 Downstep

1. [mʲbɔ́ŋ] ‘please’

2. [ka!nde] 'go and buy'
3. [i!ro] 'tradition'
4. [m!buime] 'question'
5. nà mó` bá → nàmó! bá 'I was hitting'
6. kà`nd.é → ká!ndé 'go and buy' (imperative)
7. nàmú`ngéké → nàmú!ngéké 'I was blowing'
8. ká`káté → ká!káté 'go and tie' (imperative)
9. á`síkátí → á!síkátí 'to continue tying'

4.1.5.2 Downglide

1. [moɲa] [- -] 'in-law'
2. [mòkpaɾi] [- - - -] '1 driver'
3. [mɔkɔ] [- -] 'arm'
4. [mòtò] [- -] 'person'
5. [mòtò mòtiti] [- - - - -] '1 small person'
6. [iɲèkà] [- - -] 'clay'
7. na` mo` kuɲd a` [- - - -] 'I fell'
verb prefix for (1st person sing) asp-pst fell- asp.mood
8. à + sàk + í` [- - -] 'he/she looked for'
verb prefix for person- look- asp.mood marker
11. bá + mò + sàk _ + í` [- - - -] 'They looked for'
verb prefix for person (plu.)- asp, pst look-asp.mood
12. nà + kát + í` [- - -] 'I tied'
verb prefix for (1st person sing) tie asp.mod marker
11. è + már+ í` [- - -] 'has conceived'
verb prefix for person- conceive - asp.mod marker
12. à + bé + í` [- - -] 'He/she has told'

verb prefix for person – tell - asp.mod marker

4.1.5.3 Tonal Spreading and Delinking

1. [sí + èmb + í'] → [sémbí'] 'we recognised'
We recognise asp.mood marker
2. [bá + ìjér + í'] → [bíjérí'] 'they asked'
2 ask asp.mood marker
3. à + ší + sàk + àk + ì → àsísàkàkì 'He has not just been looking for'
verb prefix for person NEG look for DUR asp.mood marker
4. bá + 'sà + sàk + ì → básàsàkì 'They did not look for'
They NEG look for asp.mood marker

4.2. Data Analysis

4.2.1 Data Analysis on the Segmental Units of the Balondo Language

The segmental units of the Balondo language consist of the consonant and vowel sounds. There are twenty-six and seven vowel phonetic segments in the Balondo language. The phonetic consonants and vowel sounds include: [p b t d k g kw kp gb ɸ f β s tʃ dʒ m ŋ n ɲ ŋ ɲm ŋ^w w j ɾ l] and [i e ε a ɔ o u] respectively.

4.2.1.1 Phonetic description of Balondo Consonants

- [p] - it is a voiceless plosive stop. - [puŋ gu] 'gossip'
- [b] - it is a voiced plosive stop. - [baŋ] 'people'
- [t] - it is a voiceless plosive stop. - [toko] 'spoon'
- [d] - it is a voiced plosive stop. - [da] 'eat'
- [k] - it is a voiceless plosive stop. - [kɔβi] 'cup'
- [g] - it is a voiced plosive stop. - [baŋ ga] 'blame, accuse'
- [kw] - it is a labial-velar glide. - [kwa] 'take'

- [kp] - it is a voiceless implosive labia-velar stop. – [kpàma] ‘collide’
- [gb] - it is a voiced implosive labia-velar stop. – [ŋ mgbàṅ gàrì] ‘dish’
- [m] - it is a voiced bilabial nasal stop. – [mòténǵ] ‘backbone’
- [ŋ] - it is a labio-dental nasal stop. – [m̩fi] ‘periwinkle’
- [n] - it is an alveolar nasal. – [nàǵ gǵ] ‘take’
- [ɲ] - it is a palatal nasal. – [ɲàǵ ga] ‘suck’
- [ŋ] - it is a velar nasal. – [ŋ gweja] ‘pig’
- [ŋm] - it is a labial-velar nasal. – [ufàniǵmgbǵ] ‘scissors’
- [ŋ^w] - it is a labial-velar nasal. – [ŋ waǵa] ‘child’
- [ɸ] - it is a voiceless bilabial fricative. – [eɸaɸe] ‘cloth’
- [β] - it is a voiced bilabial fricative. – [eβaǵda] ‘foolishness’
- [f] - it is a voiceless labio-dental fricative. – [faka] ‘sprinkle’
- [s] - it is a voiceless alveolar fricative. – [saǵa] ‘split’
- [tʃ] - it is a voiced post alveolar affricate. – [tʃi] ‘quiet’
- [dʒ] - it is a voiceless post alveolar affricate. – [bénǵǵe] ‘to show off’
- [j] - it is a palatal approximant. – [ja] ‘stay’
- [ɽ] - it is a voiced alveolar retroflex flap. – [ɽiǵo] ‘ear’
- [l] - it is a voiced alveolar lateral approximant. – [lika] ‘keep/store’
- [w] - it is a labio-velar approximant. – [weǵe] ‘meet’

4.2.1.2 Phonetic description of Balondo Vowel

- [i] - it is a close front unrounded vowel. – [ika] ‘burp’
- [e] - it is a half-close, front unrounded high vowel. [eše] ‘bone’
- [ɛ] - it is a half-open front unrounded low vowel. [aɾɛ] ‘put’
- [a] - it is an open, front-central (not back) unrounded low vowel. – [akaɾika] ‘mist’
- [ɔ] - it is a half-open, back, rounded low vowel. - [ɔ́tɔ] ‘faint’
- [o] - it is a half-open, back, rounded high vowel with protruded lips. – [okońi] ‘leprosy’
- [u] - it is a close, back, rounded high vowel. – [úma] ‘place’

4.2.1.3 The Description and Distribution of Consonants in the Balondo Language

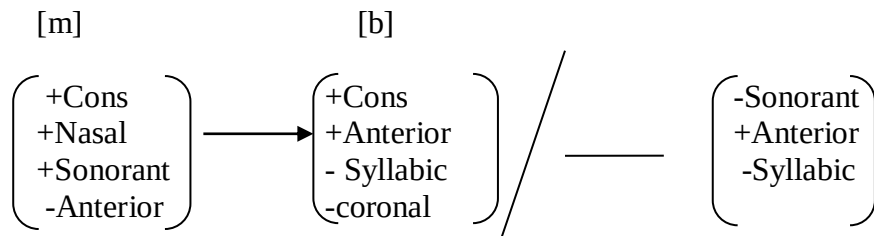
The plosives sound in Balondo are [p, b, t, d, k, g, kp, gb, kw]. They can be classified as bilabial, alveolar, velar, labio-velar and labialized velar stops based on where the closure takes place. The voiced stops [b, d, g gb] only appear in C₂ position following a homorganic nasals while their voiceless counterparts [p, t, k, kp kw] have a wider distribution and are found both initially and intervocalically. Data shows that in Balondo, it is obvious that no voiced stops appear intervocalically nor before a glide unless they are preceded before a nasal.

1. [p] - It occurs at only word initial position, medial position and final positions in exclamation words:

[pámàtʃòp]	‘red coco yam porridge’ (Pigin word in Balondo)
[puṅgu]	‘gossip’
[fep]	‘full’ (exclamation words)
[peja]	‘pear’ (loanword)
[pólísi]	‘police’ (loanword)

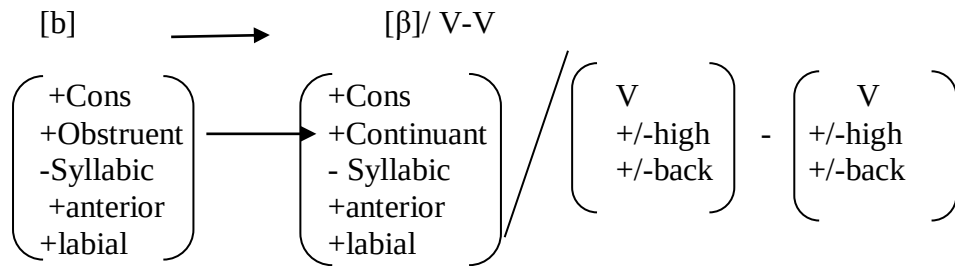
	[érop̥leèn]	‘aeroplane’	(loanword)
	[e̞p̥uma]	seed/fruit’	
	[pe̞nsu̞ru]	‘pencil’	(loanword)
2. [b] –	[bàtò]	‘people’	
	[bòròrò]	‘beauty’	
	[bàsà]	‘leave/allow’	
	[bàrì]	‘elders’	
	[bokambi]	‘anger’	
	[boka]	‘fence’	
	[be̞tò]	‘juju’	

After a homorganic nasal	[Mbèmbù]	‘a little’
	[Mbùsà]	‘back’
	[Mbonja]	‘shin’



When the obstruent is [+ant, - cor], it means that it is a labial segment. the nasal will assume its features and be produced as labial nasal [m]. If the obstruent is [- ant, + cor], it is either an alveolar or velar segment which will make the syllabic nasal to be produced as either [n] or [ŋ].

Intervocalic	[dìsòβénè]	‘mixed’
	[èβòkà]	‘outside’
	[íβá]	‘pant/underwear
	[dìβòtò]	‘cap’
	[ɔβàsè`loba]	‘God’
[bátè] ‘put’	~	[dìβátè] ‘to put’
[bísé] ‘turn’	~	[mòβísé] ‘one who turns’



The rule states that the voiced bilabial stop [b] becomes a voiced bilabial fricative [β] in an environment of two vowels.

Furthermore, [p, b] are the only bilabial stop in the Balondo language. Its voiceless counterpart [p] is phonemic in the Balondo language. Its occurrence brings about contrast with other sounds and its counterpart [b]. [p] occurs only at word initial, medial and final position. Its counterpart [b] occurs at word initial and after homorganic nasals. The voiced stop [b d] become weaken at intervocalic position to a continuant [β ɾ]. Example of weakening in intervocalic position follow the stems di- and mo-. There is no optional rule of weakening of these stops [b d] in initial position, so that the imperatives are often realized βátè, βísé, ɾóngá, and ɾíkà, but they can be heard in more careful speech as voiced stops and in emphatic speech as implosives [ɓ ɗ]. The allophones of [b] are [b, β,]. In addition, [b] is labialized before rounded back vowels and palatalised before front high vowels. For instance:

[buíme] → [b^wuíme] ‘close (with a lid)’

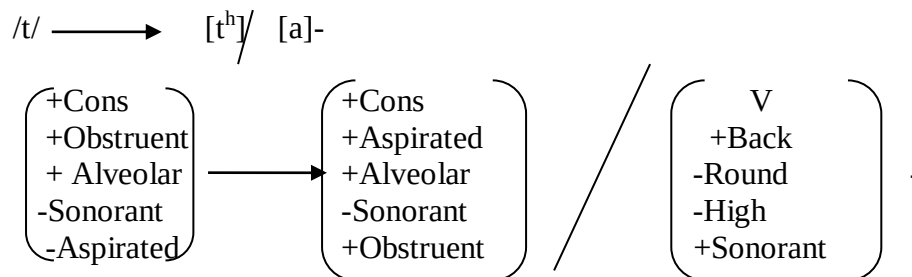
[bíà] → [b^jia] ‘escape’

[b^w] and [b^j] are not phonemic, they are secondary articulation features caused by an accompanied high and back or front vowel, respectively.

3. The alveolar stops [t d] are found in initial and intervocalic positions.

[t]- Initial [tómbà] ‘to cross/jump’

	[tìmbá]	‘to come back’
	[tókò]	‘spoon’
	[tònda]	‘play’
	[tete]	‘middle’
intervocalic	[ótirikaŋ]	‘lamp’
	[ìkpótó]	‘hat’
	[kòtà]	‘ligt/fire’

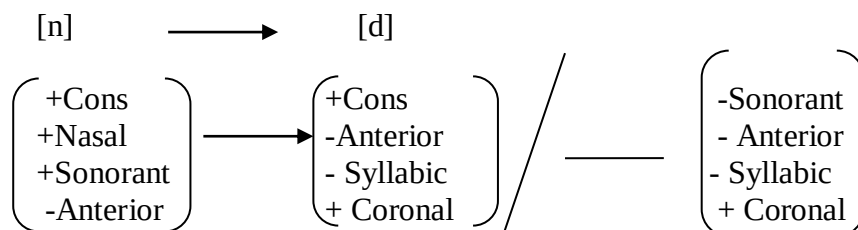


The rule states that the voiceless alveolar plosive [t] becomes aspirated [t^h] in an environment of a back vowel [a].

[t] is aspirated depending on the vowel sound and aspiration is a secondary articulation that has to do with the puff of air that accompanies the articulation of voiceless stops. For example:

	[ít ^h à]		‘to chase’
	[kótà]		‘be tired’
4. [d]	initially	[diòɾɔ̀]	‘back of the head’
		[dóò]	‘death’
		[dá]	‘eat’

After a homorganic nasal	[ndùtù]	‘work’
	[índa]	‘to wait’
	[tòndòra]	‘float’



The rule states that the nasal stop [n] assumes the feature and quality of a voiced alveolar plosive, an obstruent [d], thus making the syllabic [n] to be produced as [n].

Intervocalically	[ídè]	‘remove’
	[boḍuka]	‘marriage’
	[doḍa]	‘be sharp’

[d] is in free variation with [ɾ] and [l] at word initial and medial

[dá]	~	[ɾá]	‘eat’
[dìṇáà]	~	[ɾìṇáà]	‘eliminate, excrete’
[dóá]	~	[ɾóá]	‘excrement’
[dika]/[lika] ‘keep’	~	[dilika]/[diɾika]	‘to keep’ [mòríkà] ‘one who keeps’
[deta]/[leta] ‘hard’	~	[diɾeta]/[dileta]	‘to be hard’
[boḍuka]	~	[boɾuka]	‘marriage’
[doḍa]	~	[doɾa]	‘be sharp’
[dónḡá]	~	[dìrónḡá]	‘to build’
[díbá]	~	[màɾíβá]	‘water’
[dìkì]	~	[mòríkì]	‘bush/forest’
[dikede]/[likele]	~	[dirikere]/[dilikele]	‘to escort’
[dete]/[lete]	~	[direte]/[dilete]	‘to write’

/d/ → / [d] #-

$$\left\{ \begin{array}{c} [d] \\ [ɾ] \\ [l] \end{array} \right\} \text{Free variation}$$

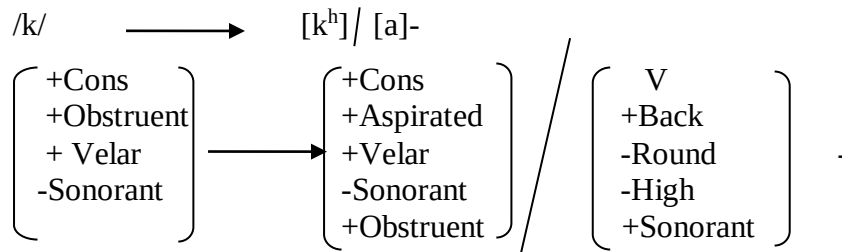
The voiced stop [d] becomes weaken at intervocalic position to a continuant [ɾ] as shown in data 4.2.1.3 (4) and it is in free variation with [ɾ, l]. Also, [d] can be labialized before rounded back vowels and palatalised before front high vowels. For instance:

[ndùtù] → [nd^wùt^wù] ‘work’

[dika] → [dʲik^ha] ‘keep’

[d^w] and [dʲ] are not phonemic, they are secondary articulation features caused by an accompanied ± high and back or front vowel, respectively.

5. [k]	initial	[kòsò]	‘red parrot’
		[kórò]	‘age group’
		[kɔ̌βi]	‘cup’
		[kaβa]	‘sell’
Intervocally		[ùkéɛm]	‘identical or sameness’
		[bòkútuɪ]	‘shortness’
		[ìkò]	‘vexation’
		[eke]	‘warm or boil’



The rule states that the voiceless velar plosive [k] becomes aspirated [k^h] in an environment of a back vowel [a].

Also, the voiceless velar stop [k] is aspirated at word initially, depending on the vowel type as shown below:

[k^hàbèné] ‘divide’

[dik^hàk^hà] ‘sour’

[ékémé] ‘to lean’

[k] is labialized before rounded back vowels [±u] and palatalised before front [+i] vowels high vowels. For instance:

[kùmè] → [k^wùme] 'meet'

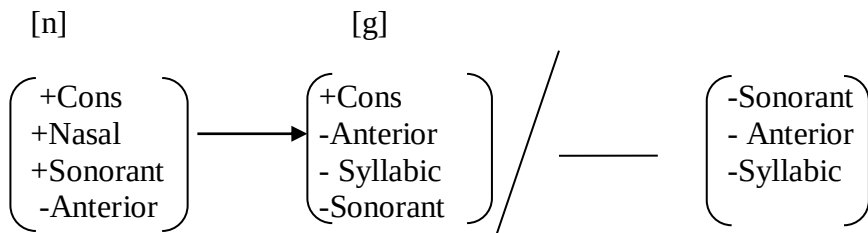
[kìrè] → [k^lirè] 'cook'

[k^w] and [k^l] are not phonemic, they are secondary articulation features caused by an accompanied ± high and back or front vowel, respectively.

6. [g] - The voiced velar stop [g] occurs at word medial positions and only after a syllabic nasal, as in:

After a homorganic nasal

[bàṅgà]	'blame, accuse'
[ṅgòmbá]	'porcupine'
[ikúṅgì]	'women's fishing net'
[mbáṅgá]	'down south'
[dàṅgà]	'fetch a liquid'
[ṅgòndò]	'a girl'
[màṅgò]	'news'



7. [kw] initially

[kùá ~ kwá]	→	[kwá]	'take'
[kuénè ~ kwénè]	→	[kwénè]	'bring inside'
[kuándì]	→	[kwándì]	'money'

Medially

[ɔkuénè ~ ɔkwénè]	→	[ɔkwénè]	'imitate'
[ókuà ~ ókwà]	→	[ókwà]	'learn'

8. [kp]- The Labio-velar voiceless stop [kp] do not occur at morpheme-finally. It is found at word initial and intervocalic positions.

initial [kpèmé] 'look after'

[kpéá] ‘stop, leave’

[kpàmà] ‘collide’

Intervocalic [èkpà] ‘bag’

[ekpáŋ] ‘ground cocoyam cooked in leaf’

[mòkpàrì] ‘driver’

Some words having [kp] are borrowed from the Efik language.

[àkpá] ‘all’

[àkpá] ‘first, foremost’ (Efik)

[àkpàrà] ‘prostitute’

[àkpàrà] ‘prostitute’ (Efik)

[ùkpókóró] ‘table’

[òkpókóró] ‘table’ (Efik)

[ekpáŋ] ‘cocoyam wrapped meal’ (Original/Balondo)
(Efik)

[ekpáŋ] ‘cocoyam wrapped meal’

[èkpàwò] ‘corn’

[ibòkpot] ‘corn’ (a less possibility in Efik)

[kpémé] ‘look after’

[kpémé] ‘look after’ (Efik)

[dìkpénì] ‘rectangular basket’

[àkpàn] ‘rectangular basket’ (a less

possibility in Efik)

[kp] becomes aspirated at initial position and depending on quality of the preceding vowel in intervocalic positions.

[kpàmà] → [kp^hàmà] ‘collide’

[èkpàwò] → [èkp^hàwò] ‘corn’

[kpémé] → [kpémé] ‘look after’

The lack of integration of [kp] in the system of stops, the scarcity of correspondence, and the evidence from Efik, indicate that they are most likely borrowed sounds, but because of the number of words in which they appear and the fact that some are likely to be frequently used (culinary terms: cocoyam roll, corn, household objects and tools: rectangular basket, bag, table, key; various verbs and ideophones) and are closely integrated in the Balondo language.

9. [gb] - it occurs following a homorganic nasal. [gb] only appear in C₂ position following a homorganic nasals:

[mgbà] ‘a man’s name’

[ŋmgbò'kò'bì] ‘prison.chain’

[mŋkpò'kò'bì] (Efik)

[ŋmgbángàrí] ‘dish’

[ufańĩmgboń] ‘scissors’

10. [β] – The voiceless bilabial fricative [β] occurs in word/syllable medial or intervocalic position.

[eβańda] ‘foolishness’

[moʃeβa] ‘horn’

[diβońo] ‘to curse’

[b] is its allophone

[bátè] ‘put’ [diβátè] ‘to put’

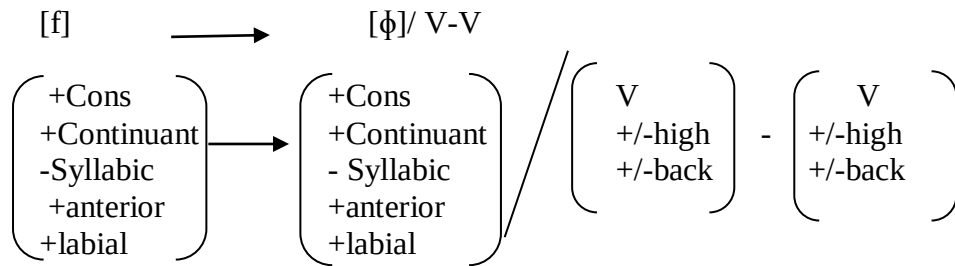
[bísé] ‘turn’ [mòβísé] ‘one who turns’

It could be used as imperatives as realised βáté, βísé. They can also be heard in more careful speech and emphatic as voiced stops.

11. [f]- it occurs only at initial and intervocalic position. At intervocalic position, it is perceived as the voiceless bilabial fricative [ɸ].

initial	[fambà]	‘dry’ (clothes)
	[fẽndʒo]	‘potential farm plot’
	[fàkà]	‘sprinkle’
	[fẽ]	‘to pick up’
	[fórońó]	‘cockroach’

intervocalic	[eɸaɸe]	‘cloth’
	[eɸòròɸòrò-ya-míso]	‘eyebrow’
	[dikoɸénè]	‘to owe’
	[diɸimbà]	‘to throw away’
	[úɸúruá]	‘to unwrap’
	[fèɸè]	‘tickle’
	[beɸuɸu]	‘dust’
	[diɸàɸè]	‘paper’



The rule states that the voiceless labiodental fricative [f] becomes a voiceless bilabial fricative [ϕ] in an environment of two vowels.

12. [s] - The voiceless alveolar fricative [s] sound is found in only two distributional environments; that is, initial and medial position.

initial	[sèwù]	‘palm thatch’
	[sìbàmà]	‘dive’
	[sóβì]	‘soap’
	[sàrà]	‘split’
Medial	[èsèré]	‘cricket’
	[mošèβa]	‘horn’
	[bèsùmbú]	‘grass’
	[àṇàsáí]	‘orange’

[s] is labialized before rounded back vowels [±u] and palatalised before front [+i] vowels high vowels. For instance:

[musù]	→	[m ^w u s ^w ù]	‘morning’
[sìbàmà]	→	[s ^j bàmà]	‘dive’

[s^w] and [s^j] are not phonemic, they are secondary articulation features caused by an accompanied ± high and back or front vowel, respectively.

13. [dʒ] – the voiced affricate [dʒ] occurs as onset after a nasal or vowel prefix and at only medial positions.

[béndzè]	‘to show off
[nd̥zuìma]	‘fight’
[nd̥zàmbè]	‘news
[ɔ̃dzìrè]	‘net’
[nd̥zèndze]	‘thorn’
[nd̥zeku]	‘elephant’
[nd̥zèwú]	‘gorilla’
[nd̥zème]	‘spermatozoa’

14. [tʃ] - The voiceless post-alveolar affricate [tʃ] orthographically is a combination of two consonants [ch] and it occurs at initial and intervocalic positions. It does not occur morpheme-finally

	[tʃiè]	‘contribute’
	[tʃi]	‘quiet’
	[tʃiá]	‘to crack’
	[tʃáni]	‘zinc’ (sing.)
Intervocalic	[etʃɔkɔ]	‘molar’
	[diʃià]	‘to refuse, reject’
	[diʃòmò]	‘be clumsy’
	[batʃ áni]	‘zinc’ (plu.)

[tʃ] is palatalised before front [+i] vowels high vowels. For instance:

[tʃ ià] → [tʃ^hiá] ‘refuse/reject’

15. [m] – it occurs at initial, medial, before bilabial consonants and voiceless labio-dental fricative as a homorganic nasal and in final positions, in ideophones/exclamations:

	[mòkárè]	‘pepper’
	[mìta]	‘press’
	[mòténdé]	‘backbone’
Medial	[dámà]	‘trap’
	[dómà]	‘send’

[betùmèrì] 'beginning'

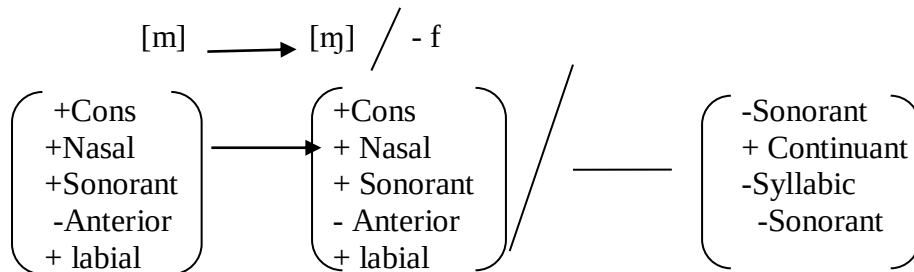
Before Bilabial consonants as homorganic nasal

[mbóli]/ [mbóri] 'goat'

[Mbèmbù] 'a little'

16. [ɱ] [ɱfá] 'dog'
[ɱfi] 'periwinkle'

Final [ùkém] 'identical' (ideophonic)
[bíómbíóm] 'very much' (ideophonic)
[fèṃ] 'full to the brim'
[tʃámʈám] 'very fast' ((ideophonic)
[ndèm] 'diety/spirit' (borrowed word)



The rule states that the bilabial nasal [m] becomes a labio-dental nasal [ɱ] in an environment of a continuant (fricative).

17. [n] it occurs at word initial, medial and as a homorganic nasal preconsonantal positions:

[nɔ́ŋgɔ] 'take'

[náŋga] 'lie down'

[ndʒèrì] 'chin'

Medial [mùnà] 'door'

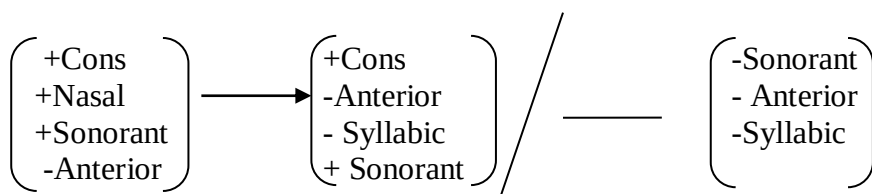
[múnfa] 'dust'

[énè] 'see'

	[fóno]	‘come with or bring’
	[eβanda]	‘foolishness’
preconsonantal positions	[ndáβò]	‘house’
	[ndímí]	‘blind person’
	[ndano]	‘history’

[n] also becomes a velar nasal [ŋ] when followed immediately by a consonant to which it assimilates in place of articulation as in:

[naŋga]	→	[naŋga]	‘lie down’
[noŋgo]	→	[noŋgo]	‘take’
[ŋgáníkán]	→	[ŋgáníkán]	‘bell/clock/hour’
[ŋgàndó]	→	[ŋgàndó]	‘crocodile’
[ŋgaŋo]	→	[ŋgaŋo]	‘proverbs’
[diŋgòŋgò]	→	[diŋgòŋgò]	‘frog’
/n/	→	[ŋ] / -g	



18. [ŋ] – it occurs word initially, medially and in preconsonantal positions:

Initial	[ŋǎŋgà]	‘suck’
	[ŋǎtuà]	‘tear’
	[ŋìŋgèsè]	‘shake off’
Medial	[áŋùŋgé]	‘crab’
	[éŋà]	‘lack’
	[íŋè]	‘give’

Preconsonantal positions	[ɲɔ̃ʒɛku]	‘elephant’
	[ɲànda]	‘finger’
	[ɲɔ̃ʒɛ̀rì]	‘chin’
	[ɲòh̃ji]	‘worries’
	[ɲàma]	‘fish’

19. [ɲ]- it occurs word initial, medial as homorganic variant nasal when immediately followed by a consonant to which it assimilates in place of articulation, and in final positions in borrowed words/ideophones/exclamations only:

Initial	[ɲ́gínà]	‘force’
	[ɲgwèjá]	‘pig’
	[ɲgàndó]	‘crocodile’
Medial	[ín̩gɔ̃]	‘look’
	[dɪngòngò]	‘frog’
	[kpéŋgére]	‘empty’
Final	[kéɛ̃ŋkéɛ̃ŋkéɛ̃ŋ]	‘sparkling’ (ideophones)
	[ekpã]	‘wrapped cocoyam’
	[mbɔ̃]	‘please’
	[ésáŋ]	‘staff’
	[mbànsàŋ]	‘groundnut’

Thus, [ɲ] has the following allophones as in:

/ɲ/ → [ɲ] word initial, medial and final positions

20. [ɲm] - it occurs at word initial as homorganic variant nasal when immediately followed by preceding consonants to which it assimilates in place of articulation as in:

[ɲmgbəkɔ̃bì]	‘prison/chain’
[ɲmgbángàrí]	‘dish’
[ufańíɲmgbɔ̃]	‘scissors’

21. [ɲ^w] – it occurs in word stem initial position and medial position:

[ãh̃wa]	‘cat’ (borrowed word from Efik)
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	[ŋwéá]	‘fire’
	[ŋwánà]	‘child’
	[ŋwáranà]	‘woman’
	[ŋwèrì]	‘caretaker’
Medial	[túnwámí]	‘depth’
	[buńwa]	‘open something’
	[buńwe]	‘blossom (plants)’

Data in (15-21) show that there are seven nasal stops sounds [m, ɱ, n, ɲ, ŋ, ŋm, ŋʷ] in the Balondo language and they are all voiced. Nasals in the Balondo language only appear in utterance-initial position (preconsonantal position), followed by stop and affricate [b, d, g, gb, dʒ] and fricative [f] or followed by a vowel. The non-velar nasals [m, n, ɲ] have wide distribution as they occur at word initial, intervocalic and preconsonantal positions.

22. [w] - [w, j] are also called semi vowels because they behave like consonant sounds phonemically and phonetically as vowels. [w] – the labialised velar approximant occurs initially, intervocalically and precedes non-labial voiceless stops or non-labial continuants as in [t, k, r, y, s].

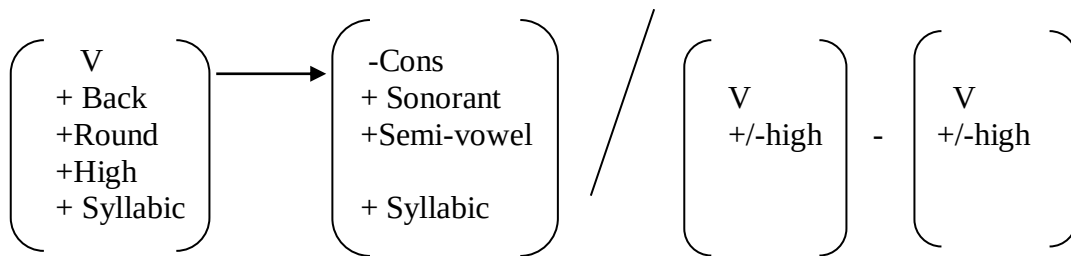
Initial	[waà]	‘quick’
	[wénè]	‘meet’
	[wuɾa]	‘come towards, go out’
Intervocalic	[júwa]	‘vomit’
	[èwá]	‘fever’
	[dùwa]	‘have’

The only nasal consonants occurring before [w] is [ɲ]. When [w] is preceded by a consonant, it sounds like /u/ as in;

/bóruǎ/ ~ [bórwá] ‘kill

/àduǎ/	~	[àdwá]	‘leave’
/bùá/	~	[bwá]	‘mix’
/fúruè/	~	[fúrwè]	‘bury’
/fùrua/	~	[fùrwà]	‘dig’
/ópnùè/	~	[ópwnè]	‘stretch’
/bòkútuí/	~	[bòkútwí]	‘shortness’
/suéré/	~	[swéré]	‘send away’
/kuá/	~	[kwá]	‘take’

/u/ → [w] /#V-V



The rule states that a vowel [u] becomes a semi-vowel [w] in an environment of occurrence of two vowels.

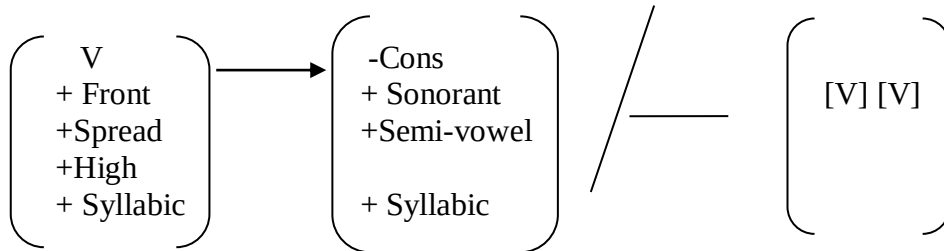
23. [j] – [j] -occurs at word initial and intervocalic position:

Initial	[jà]	‘stay’
	[júwà]	‘vomit’
	[jùwè]	‘close hole, as in bottle’
Intervocalic	[ìjérè]	‘ask’
	[íjà]	‘cry’
	[ijɔ]	‘dream’

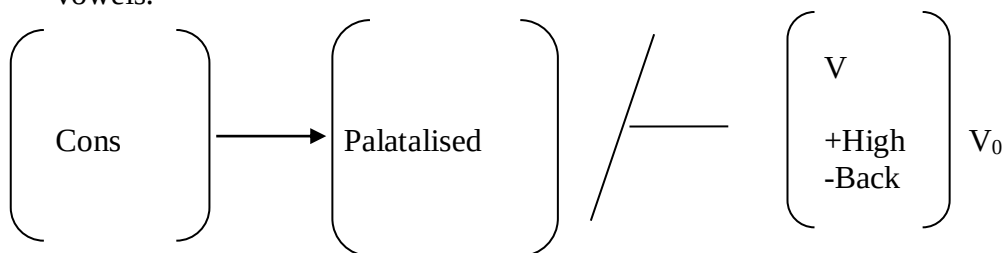
When it is preceded by a consonant, it sounds like /i/ as in;

/bíómbíóm/	→	[b ^h íómbjó ^h m]	‘very much’ (ideophonic)
/bíà/	→	[b ^h íà]	‘run’
/bíèrè/	→	[b ^h íèrè]	‘give final judgement’

/i/ → [j] / #V-V



The rule states that a vowel [i] becomes a semi-vowel [j] in an environment of occurrence of two vowels.



The rule states that a consonant becomes palatalised before a high back vowel followed by zero or any number of vowels.

24. [ɽ]- The alveolar retroflex [ɽ] only occur in word-initial and intervocalic position and between vowel sounds in the Balondo language.

[ɽìbòɽì] ‘neck’

[ɽókí] ‘swim’

[ɽìtó] ‘ear’

[fuɽè] ‘to bury’

[sàɽá] ‘split’

[màɽí bá] ‘water’

[muɽì] ‘chief/king’

[ɽ] occur in free variation with the voiced lateral [l]. The alveolar lateral [l] only occur in word-initial and intervocalic position and between vowel sounds in the Balondo language, as shown in data 4.2.1.3 (25)

/ɽ/ → { [ɽ] /# -
[l] }

25 [l]- it occurs at word initial and intervocalic position:

[liɸaɸe] ‘wing’

	[lìbià]	‘liver’
	[líkà]	‘keep/store’
Medial	[bila]	‘war’
	[mòlémà]	‘heart’
/l/	→	[l] /# - {[ɾ]}

[l] in free variation with [ɾ] at word medial

[mòlémà]	~	[mòɾémà]	‘heart’
[mulì]	~	[muɾì]	‘chief’
[bila]	~	[bíɾá]	‘war’
[màlíbá]	~	[màɾíbá]	‘water’

4.2.1.4. The Distribution of Vowels in the Balondo Language

The description and distribution of phonetic vowels in the Balondo language is presented as follows:

1. [i] - It appears to be the highest close front unrounded vowel in Balondo, and it seems to be longer than [e] which is half-close front unrounded high vowel. It occurs in word or syllable initial, medial and final positions. [i] is considered as a phoneme based on its contrast in identical and analogous contexts with other vowels as presented as in:

	[íbà]	‘carry on back’	[ébà]	‘file/sharpen cutlass’
	[eka]	‘sneeze’	[íkà]	‘burp, belch’
Initial	[ídè]	‘undress/remove’		
	[íkà]	‘belch’		
	[ìmánà]	‘stand’		
Medial	[ndímí]	‘blind person’		
	[màríbá]	‘water’		
	[sìkìrà]	‘fix’		

Final	[ókòtì]	‘tired’
	[ndòndòkì]	‘needle’
	[bòkàmbí]	‘anger’
	[ékpémí]	‘bottle’

2. [e] – it is a half-close, front unrounded high vowel. It occurs in all position. [e] is tenser than [i] during pronunciation. [e] is considered as a phoneme based on its contrast in identical and analogous contexts with other vowels as presented in below:

	[kìtà] ‘resemble’	[kétà] ‘stiff, numb’
	[késà] ‘break’	[késè] ‘cough’
Initial	[ésé] ‘bone’	
	[efafe] ‘cloth’	
	[èkoké] ‘feast’	
Medial	[tétéri] ‘star’	
	[kémà] ‘monkey’	
	[ɲwèsè] ‘afternoon’	
Finally	[kpé] ‘stop’	
	[núwè] ‘white hair’	
	[késè] ‘cough’	

3. [ɛ] - it is a half-open, front, unrounded low vowel. It occurs at medial and final positions and as a verbal suffix in words. [ɛ] also occurs as a conditioned variant of [e] before [ɛ]–and [ɔ] - initial stems. [ɛ] and [ɔ] appear as conditioned variants of [e o] in the Balondo language.

Example is shown below:

[mè + kòrí]	→	[mèkòrí]	‘ropes’
[mò + kòrí]	→	[mòkòrí]	‘rope’
[è + mètì]	→	[èmètì]	‘thought’
[mòɲètè]/ [mètètè]			‘soil’

It occurs word medial, final.

Medial	[mòṇèrè]	‘soil’
	[bàkwèrèṇì]	‘supporters’
	[dìtùmèrì]	‘beginning’

Final	[bánè]	‘suicide’
	[aíé]	‘put’
	[bèké]	‘give’

It also occurs as a verbal suffix in words/stem, for example:

- | | | |
|------------------------|---|-----------------------|
| i. -bó- ‘break’ | - | -bó-è- ‘be broken’ |
| ii. -bù- ‘mix’ | - | -bù-è- ‘be mixed’ |
| iii. -kés- ‘break’ | - | -kés-è ‘be broken |
| iv. -kút-w- ‘be short’ | - | kút-w-è ‘be shortened |

It can be deduced that /e/ and [ɛ] are in free variation.

4. [a] - it is a open, back central unrounded low vowel. It occurs at all word positions.

Initial	[ándà]	‘buy/purchase’
	[aṅgà]	‘yawn’
	[àkàríkà]	‘mist’

Medial	[kpàmà]	‘collide’
	[sákà]	‘dance’
	[mòkárè]	‘pepper’

Final	[sàrà]	‘split’
	[sìbàmà]	‘dive’
	[mòṇà]	‘inlaw’

[a] is established as a phoneme in the Balondo language through its opposition with other vowel sounds:

[kàndzè] ‘crack’	[kéndzà] ‘be clever/skillful’
[késà] ‘break’	[késè] ‘cough’

[a] is in free variation with the vowel lengthening [aa] as there is no contrast between them:

[bwáá]	~	[bwá] ‘birth of a child’
--------	---	--------------------------

[dààsú] ~ [dàsú] ‘our’

[báánì] ~ [bání] ‘four’

5. [ɔ̌]- it is a half-open, back, rounded low vowel. It occurs in all positions. It is one of the most frequent sounds in Balondo.

Initial	[ɔ̌tɔ̌]	‘faint’
	[ɔ̌ŋgɔ̌]	‘sweep’
	[ɔ̌ŋgɔ̌tɔ̌]/[ɔ̌ŋkɔ̌tɔ̌]	‘pull’
Medial	[mèsɔ̌sɔ̌]	‘quarrel’
	[bɔ̌ŋgɔ̌]	‘fear’
	[ɔ̌ŋgɔ̌tɔ̌]	‘pull’
Final	[ɔ̌ndɔ̌]	‘descend’
	[kɔ̌nɔ̌]	‘sing’
	[bɔ̌ŋgɔ̌]	‘fear’

[ɔ̌] is a phoneme in Balondo whose phonemic status is marked by its contrast with the vowels in the example below.

[naŋga] ‘lie down’ [ɲɔ̌rɔ̌] ‘rub’

[nɔ̌ŋgɔ̌] ‘take’ [ɲɔ̌rɔ̌] ‘scold’

[ɔ̌] is in free variation with the vowel lengthening [ɔ̌ɔ̌] as there is no contrast between them:

[ɪnɔ̌] ~ [ɪnɔ̌ɔ̌] ‘bird’

6. [o] - it is a half-open, back, rounded high vowel with protruded lips. [o] is tenser than [u].

The contrast [o] has with other vowels establishes its status as a phoneme as shown below:

[tòmbà] ‘cross’

[tímbá] ‘to come back’

[o] is in free variation with the vowel lengthening [oo] as there is no contrast between them:

[tókò] ~ [tòòkò] ‘spoon’

[fó] ~ [fòò] 'rat'

It occurs word initial, medial and final:

Initial	[òkónì] 'leprosy'
	[óndwà] 'climb'
	[ókwà] 'learn'
Medial	[kóndì] 'bean'
	[mòtò] 'person'
	[mbóri] 'goat'
Final	[ndèákò] 'advice'
	[dító] 'ear'
	[ètòkòtòkò] 'perspiration'

7. [u] -it is a close, back, rounded high vowel. It occurs at all word position.

Initial	[uba] 'steal'
	[úmà] 'place'
	[ùkém] 'identical'
Medial	[mùrì] 'chief'
	[mùṅgù] 'dirt'
	[èpùmá] 'seed/fruit'
	[èkútè] 'cover'
Final	[tʃ ákù] 'ant'
	[kpúkù] 'plenty'
	[mbú] 'ashes'

The contrast [u] has with other vowel establishes its status as a phoneme as shown below:

[kúndà] 'fall/forget'	[kíndà] 'overwhelm'
[dúmà] 'shoot/strike'	[dómà] 'red, yellow, light'

[u] is in free variation with the vowel lengthening [uu] as there is no contrast between them:

[mútútù] ~ [mútùútù] 'smoke'
[kú] ~ [kúù] 'tortoise'
[mbú] ~ [mbúù] 'ashes'

Furthermore, the vowels [i, e, ε] and [a] are phonetically unrounded and fronting (non-labial), while [u o ɔ] are phonetically rounded (labia) and back (velar). This phonetic grouping is seen in the behaviour of vowels in the Balondo language. When labial vowels are preceded by labial consonants in word initial position, and followed by non-labial vowels, the labial vowels are realised as the labial-velar glide[w].

4.2.1.5. Application of Phonemic Theory to the Consonants and Vowels in Balondo

The phonemic theory is a theory formulated by Prague school that specifies certain tests through which one can differentiate a phoneme from an allophone. It specifies four tests: the minimal pair test, the free variation test, the complimentary test, and the phonetic similarity test. The Minimal Pair Test: One of the ways of establishing phonemic contrasts in a language is the use of minimal sounds referred to as a minimal pair. A minimal pair/set is a group of words differentiated by each having only one sound different from all others. Since a phoneme is any sound that is distinctive and contrastive, the sounds would be subjected to this test by being exchanged in certain environments to see if they are contrastive enough to bring about a change in meaning.

Consonants and Vowels

/p/ and /m/		[ɲɔ̀rɛ̀] ‘scold’
[puɲgu]	‘gossip’	
[muɲgu]	‘dirt’	
/kp/ and /ɲ/		/o/ and /ɔ/
[kpàrà]	‘collide’	[foɔ́oɔ́] ‘cockroach’
[ɲàrà]	‘fish’	[bɔ̀ɛ̀ɛ̀ɛ̀] ‘beauty’
/ɔ/ and /ɛ̀/		/d/ and /ɲ/
[ɲɔ̀rɔ̀] ‘rub’		[íde] ‘undress/remove’
		[íje] ‘give’

/f/ and /k/		[tʃià]	'refuse'
[fɔ́nɔ́]	'come with or bring'		
[kɔ́nɔ́]	'sing'	/k/ and /b/	
		[ika]	'burp'
/a/ and /ɔ/		[iba]	'carry on back'
[ija]	'cry'	/b/ and /m/	
[ijɔ́]	'dream'	[uba]	'steal'
		[uima]	'place'
/ε/ and /o/			
[baɔ]	'people'	/o/ and /i/	
[baε]	'put'	[tɔ́mba]	'to cross/jump'
		[tiimba]	'to come back'
/a/ and /u/			
[baša]	'allow'	/b/, /f/ and /k/	
[buša]	'chase'	[bua]	'mix'
		[kua]	'take'
/b/ and /j/		[fuà]	'revive'
[iba]	'carry on back'		
[ija]	'cry'	/e/ and /a/	
		[keša]	'break'
/t/ and /k/		[keše]	'cough'
[bɔ́tɔ́]	'curse'		
[bɔ́kɔ́]	'spoil'	/u/ and /o/	
		[duima]	'shoot/strike'
/b/ and /k/		[doima]	'red, yellow, light'
[buime]	'close (with a lid)'		
[kuime]	'meet'	/u/ and /i/	
		[kuinda]	'fall/forget'
/e/ and /a/		[kinda]	'overwhelm'
[juwe]	'close hole, as in bottle'		
[juwa]	'vomit'	/f/ and /s/	
		[fe]	'to pick up'
/k/ and /b/		[se]	'peel'
[boka]	'fence'		
[koka]	'grow'	/a/ and /i/	
		[mfá]	'dog'
/b/ and /tʃ/		[mfi]	'periwinkle'
[bia]	'escape/run'		
[tʃià]	'to crack'	/d/ and /j/	
		[duwa]	'have'
/s/ and /tʃ/		[juwa]	'vomit'
[sia]	'grind'		

/e/ and /o/		/ŋ/ and /k/	
[boɾe]	‘tree’	[ŋ aŋ ga]	‘lie down’
[beɾe]	‘call’	[kaŋ ga]	‘too much’
/ŋ ^w / and /k/		/s/ and /m/	
[ŋ weɾe]	‘afternoon’	[se]	‘peel’
[keɾe]	‘cough’	[me]	‘swallow’
/ɛ/ and /a/		/b/ and /d/	
[tɛtɛ]	‘so much’	[bàŋgà]	‘blame, accuse’
[tata]	‘father’	[dàŋgà]	‘fetch a liquid’

Complementary distribution test: Words are said to be in complimentary distribution when they are mutually exclusive, wherein the occurrence of one lead to the non-occurrence of the other. This test shows which sounds do not occur in the same environment and are possibly allophones of a yet to be determined phoneme. In Balondo the sounds [b], [b^w], [b^j] and [β] are in complimentary distribution, this is so because swapping [b] for any of them does not change the meaning rather they are realizations of [b] in certain context. [b] is realised as [β] in intervocalic position giving us [eβanda] ‘foolishness’. Yet even if you pronounce [ebanda], the meaning does not change.

[diβɔtɔ] ‘to curse’

[diβátɛ] ‘to put’

[b^w] and [b^j] are a phonetic realisation of [b] caused by an accompanied high and back or front vowel, respectively. [b^w] and [b^j] in these words, the meaning does not change, but remains the same, which makes it ineligible to qualify as a phoneme.

[buíme]	————→	[b ^w uíme]	‘close (with a lid)’
[bíà]	————→	[b ^j ia]	‘escape’
[musù]	————→	[m ^w u s ^w ù]	‘morning’

[sìbàmà] → [sʰbàmà] ‘dive’

[s^w] and [sʲ] are a phonetic realisation of [s] caused by an accompanied high and back or front vowel, respectively. [s^w] and [sʲ] in these words, the meaning does not change but remains the same. [t^w], [t^h], [d^w] and [dʲ] are a phonetic realisation of [t] and [d] caused by an accompanied high and back or front vowel, respectively. [k^h] [k^w] and [kʲ] are not phonemic, they are secondary articulation features caused by an accompanied ±high and back or front vowel, respectively.

Also, [f] and [ɸ] are in complimentary distribution, in that [f] occurs at the initial position while [ɸ] occurs at intervocalic position. For instance:

[fàkà]	‘sprinkle’
[fě]	‘to pick up’
[éɸáɸé]	‘cloth’
[eɸòròɸòrò-ya-míso]	‘eyebrow’

[m] is realised as [ɱ] in an environment of a continuant (fricative).

[ɱfá]	‘dog’
[ɱfi]	‘periwinkle’

[n] is realised as a velar nasal [ŋ] when followed immediately by a consonant to which it assimilates in place of articulation as show in data 4.2.1.3 (17).

Free Variation Test: Sounds are said to be in free variation when they can be used interchangeably without a change in meaning. This test therefore shows sounds that are in free variation where words are interchanged and do not bring about a change in meaning.

/e/ and /ɛ/

[ètʃòkò]	~	[ètʃòkò]	‘molar tooth’
[bèké]	~	[bèkɛ]	‘give’
[áɾé]	~	[áɾɛ]	‘put’

[ŋm] and [ŋ] occurs in free variation as in:

[ŋm̀gbòkòbì]	~	[ŋgbòkòbì]	‘prison/chain’
[ŋm̀gbàngàrí]	~	[ŋgbàngàrí]	‘dish’
[úfáníŋmgbón]	~	[úfáníŋgbón]	‘scissors’

[d, ɾ, l] are in free variations, as as show in data 4.2.1.3 (4, 24, 25).:

[dika]/[lika] ‘keep’	~	[dilika]/[diɾika]	‘to keep’	[mòríkà]	‘one who keeps’
[deta]/[leta] ‘hard’	~	[diɾeta]/[dileta]	‘to be hard’		
[bòdúkà]	~	[bòɾúkà]	‘marriage’		
[dòdà]	~	[dòɾà]	‘be sharp’		
[dónɡá]	~	[dìrónɡá]	‘to build’		
[díbá]	~	[màɾíβá]	‘water’		
mòlémà]	~	[mòɾémà]	‘heart’		
[mulì]	~	[muɾì]	‘chief’		
[bila]	~	[bíɾá]	‘war’		
[màlíbá]	~	[màɾíβá]	‘water’		

Table 4.1: A Proposed Phonetic Chart of Balondo Consonant

Manner of Articulation	Place of Articulation							
	Bilabial	Labio-dental	Alveolar	Post Alveolar	Palatal	Velar	Labio-velar	Labialised - velar
Stops	p b		t d			k g	kp gb	k ^w
Fricatives	ɸ β f		s					
Affricates				tʃ dʒ				
Nasals	m	ɱ	n		ɲ	ŋ	ɱm	ɱ ^w
Retroflex			ɭ					
Lateral			l					
Approximants					j		w	

Source: Field data (2024)

Data in table (4.1) indicates that where symbols appear in pairs in a cell, the one to the right represents a voiced consonant, while the ones on the left are voiceless consonants. Phonetically, Balondo twenty-six (26) phonetic consonant sounds are classified into sixteen stops / p, b, t, d, k, g, kp, gb, kw, m, ɱ, n, ɲ, ŋ, ɱm, ɱ^w/ comprising nine oral stops (plosives) / p, b, t, d, k, g, kp, gb, kw /, four fricatives / ɸ β, f s/, two affricates / tʃ dʒ/ seven nasal stops /m, ɱ, n, ɲ, ŋ, ɱm, ɱ^w /, one retroflex / ɭ/, one lateral /l/ and two approximants /j, w/.

Table 4.2: A Proposed Phonemic Chart of Balondo Consonant

Manner of Articulation	Place of Articulation					Velar	Labio-velar	Labialised-velar
	Bilabial	Labio-dental	Alveolar	Post Alveolar	Palatal			
Stops	p b		t d			k g	kp gb	k ^w
Fricatives		f	s					
Affricates				tʃ dʒ				
Nasals	m		n		ɲ	ŋ		
Retroflex			ɭ					
Lateral			l					
Approximants					j		w	

Source: Field data (2024)

Since phonemes are significant units in a language. Any phonemes allocated to the Balondo language should only be those sounds that are significant. Following the principles of phonemic analysis in choosing the phonemes of a language, the study submits that there are twenty-one (21) phonemic consonants in the Balondo language. This is not in line with Kuperus (1985) on Londo word: its phonological and morphological structure. On these bases coupled with the findings from our analysis, what some analysis termed phonemic we established them as allophones as they do not contrast.

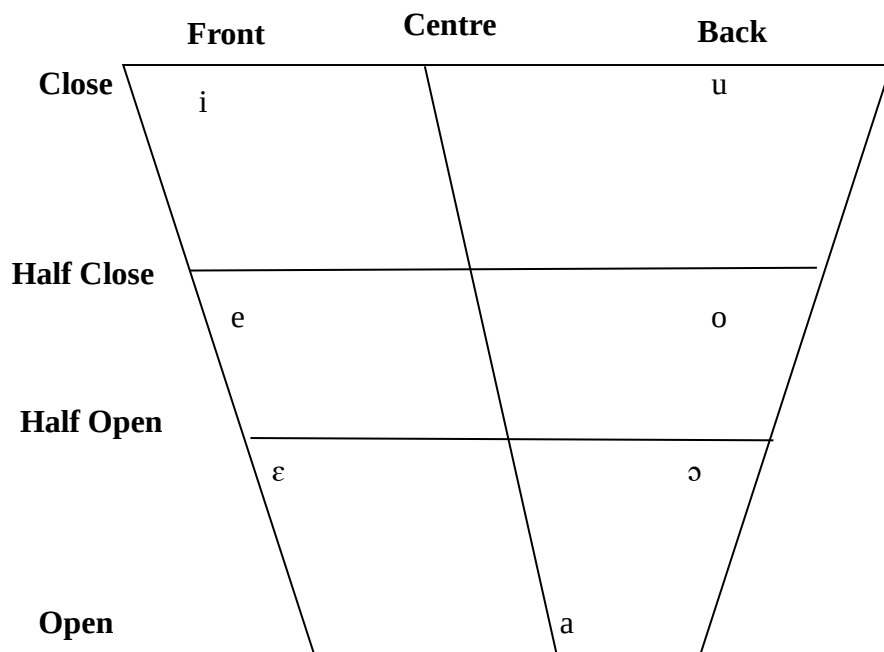


Figure 4.2: A Proposed Phonetic Vowel Chart of the Balondo Language
 Source: Field data (2024)

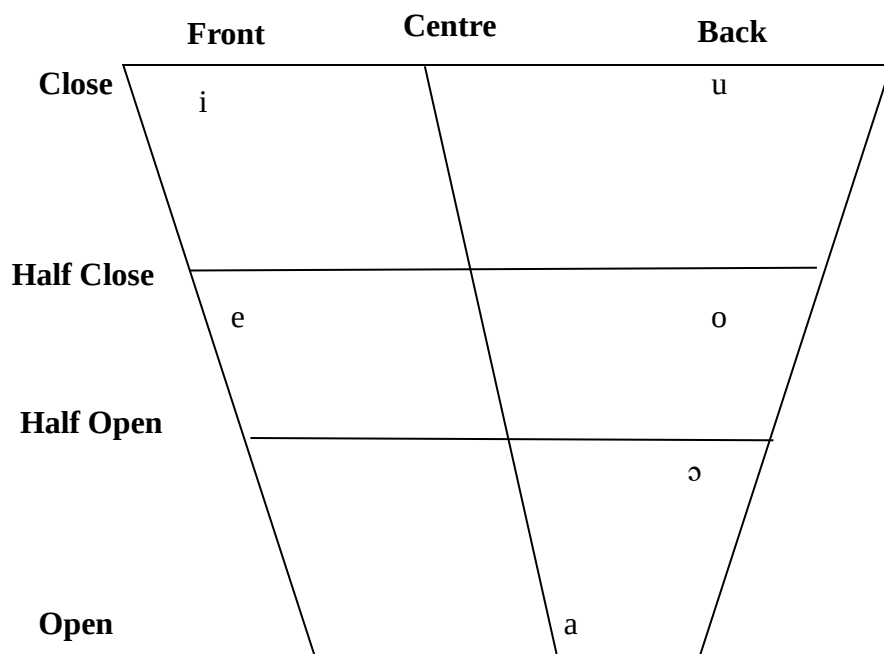


Figure 4.3: A Proposed Phonemic Vowel Chart of the Balondo Language
 Source: Field data (2024)

Data shows that six pure vowels are phonemic in the Balondo language which are /a, e, i, ɔ, o, u/ while [ɛ] occur in free variation. On this basis, a proposed Balondo phonemic pure vowel

chart is presented in figure 4.3. Data in figure (4.3) show that the vowel sounds are mainly pure vowels or monophthongs.

4.1.4. Acoustic Representation of Complex Sounds in Balondo

1.[bátè] ‘put’ → [dìβátè] ‘to put’

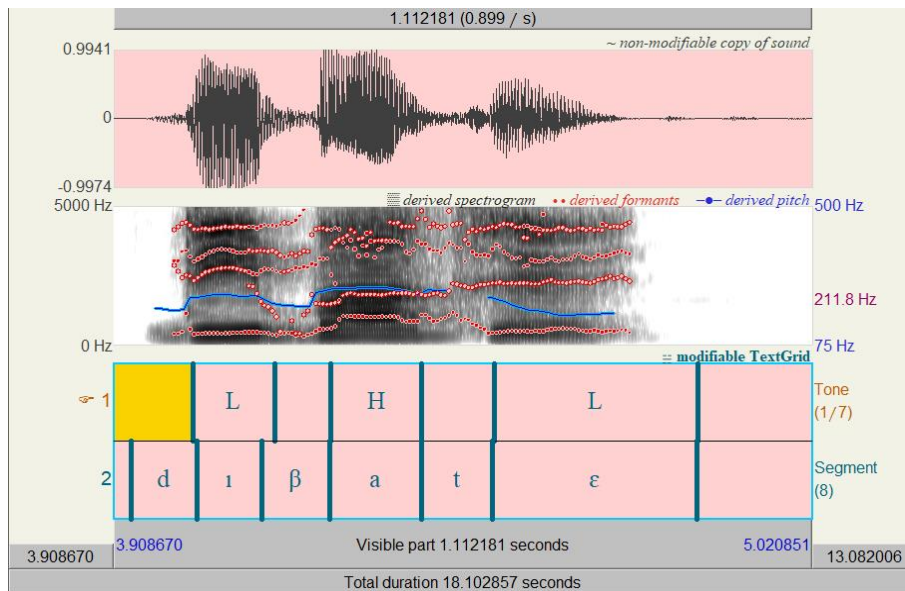


Figure 4.4: Acoustics of the Balondo Voiced Fricative [β]

Source: Field data (2024)

When the voiced bilabial plosive [b] occurs medially at morpheme boundary as in Fig.4.4, it becomes strengthened due to the preceding vowels intervocalically. The voiced bilabial plosive with thick wave forms becomes more thicker as it gains more acoustic quality of voicing and becomes [β], with changed articulatory and acoustic features as:

- i. articulatory is fricative, therefore air flow through a narrow channel causing turbulence.
- ii. phonation type is voiced, which means the vocal cords are vibrating during articulation.

The darker a formant in the spectrogram, the stronger and the more audible the sound. The formants and the wave form at where [β] is annotated at are thicker than [b] in initial position. These reflect the features of a fricative sound. The voiced bilabial fricative [β], has the presence

of increased resonance because of its phonological environment, that is, intervocalically. The change is caused by formant transition between the front vowel [i] and the partly central back vowel [á].

2. [dóngá] ‘build’ → [dìrónɡá] ‘to build’

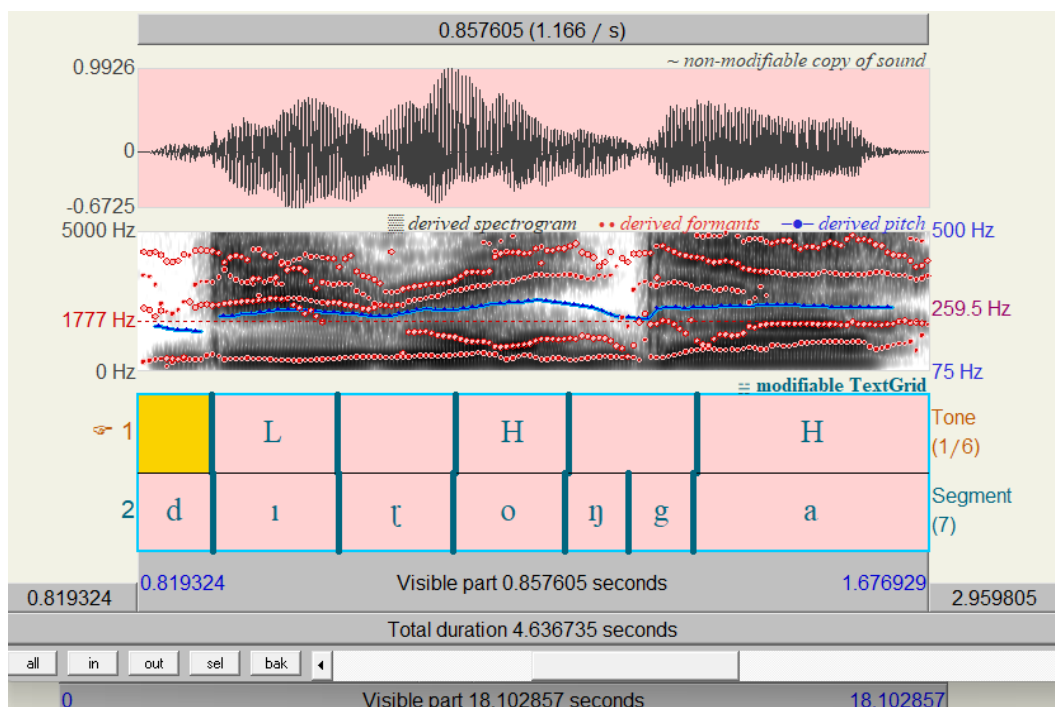


Figure 4.5: Acoustics of the Balondo Trill [ɾ]

Source: Field data (2024)

In Figure 4.5, there is a presence of formant at the production of [ɾ] sound. The presence of the formant shows the feature of voicing which is caused by the preceding vowel sound. The production of the [ɾ] sound in intervocalic position reveals increased formant traces at F_0 , F_1 , and F_2 which may be absent when [ɾ] occurs at word initial. The voicing influence of the vowel sounds strengthens the voiced alveolar trill [ɾ].

3. [ɲmgbəkəbɪ]

‘prison/chain’

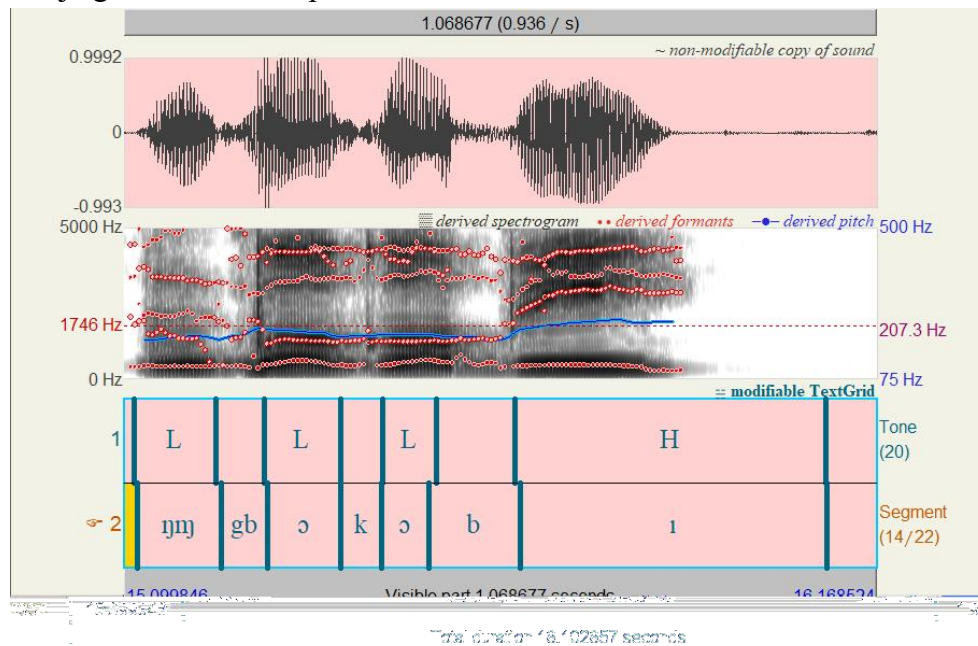


Figure 4.6: Acoustics of the Balondo Labial-velar [ɲm]

Source: Field data (2024)

Figure 4.6 is on the acoustics of the labio-velar [ɲm]. Scholars like Michael Cahill in his work ‘Aspects of the phonology of labial velar stops’ avers that the auditory difference between [ɲmkp] and [ɲkp] is not great, particularly when it is not preceded by a vowel. The reason for this is that [ɲm] has two places of articulation: a front [m] and a rear [ɲ]. [ɲm] has an intensity of 81.85db with a time duration of 0.11 seconds. From the spectrogram, [ɲm] is syllabic, high, back and sonorant. The spectrographic evidence also shows that voiced velar stop [g] precedes the voiced labial sound [b]. The presence of formant and dark patches in the spectrum indicates that [gb] is a voiced labial-velar stop and the voiceless velar sound [k] becomes voiced because of the preceding vowel. The spectrum also presents that during the production of [gb], air is sucked-in and released gradually.

v. [eφoɾoφoɾo] ‘eyebrow’

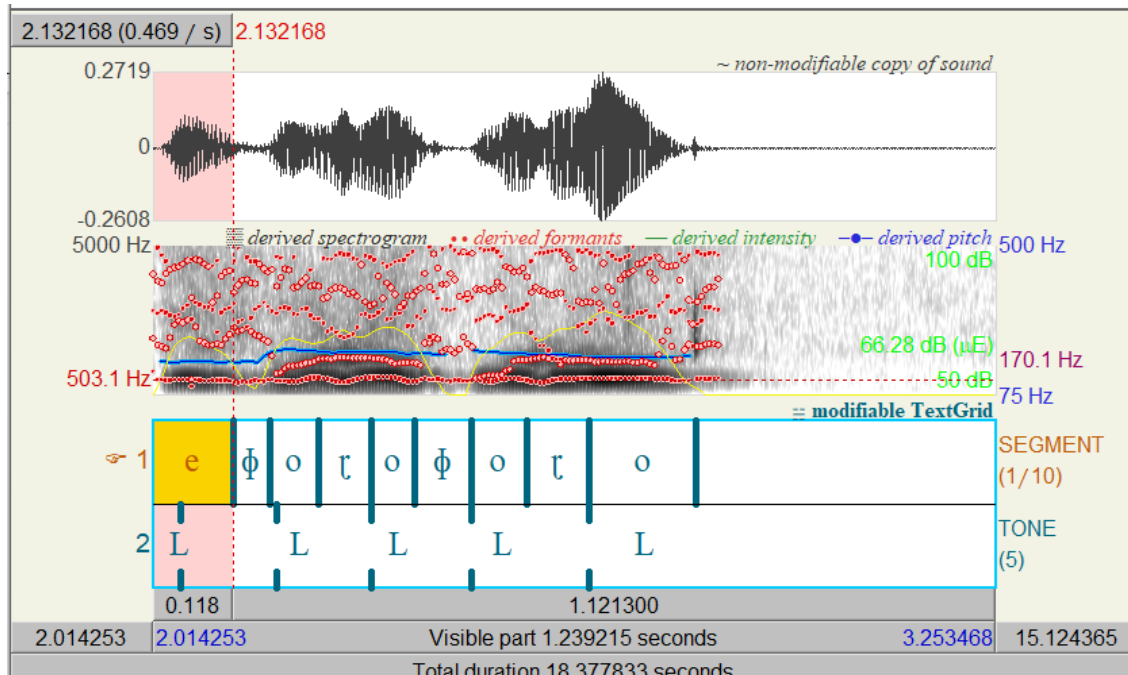


Figure 4.7: Acoustics of the Balondo voiceless bilabial fricative [φ]

Source: Field data (2024)

In Figure 4.7, the light patch in the spectrogram shows that [φ] is truly voiceless even at intervocalic position. The waveforms are not spiky, this means it is produced at the labial region fricative unlike the labiodental fricative [f] that involves the upper teeth and lower lip and generates intense friction. The darkening area of the spectrogram shows the feature of voicing caused by the preceding vowel sound [o] and the retroflex [ɾ] sound. [f] changing to [φ] in medial positions highlight a weakening or lenition process.

4.2.2 Data Analysis on the Tonal Pattern of the Balondo Language

This part is concerned with the suprasegmental units of the Balondo language. Suprasegment is the prosodic features of sounds. It takes cognizance of stress, syllable, tone, intonation, rhythm and it explicates the relationship that exists between prosodies and segments of a language. In this research, the tonal pattern and syllable structure would be considered. The

tonal structure of the Balondo language consists of High [´] and the grave or low tone [L] represented as [ˋ] and an occasional non-automatic downstep tone [!]. The high tone is represented by an acute mark over a vowel or syllabic nasal, for instance [sé] - ‘peel’. The low tone is represented by a grave mark over a vowel or syllabic nasal, for instance [jà] – ‘stay. The downstepped high tone by an exclamation mark before the syllable that bears the downstepped high tone followed by a high tone mark thus: [m!bɔ́ŋ] ‘please’

4.2.2.1 The Low Tone

Low tone in Balondo occurs at the beginning of a syllable (either on a syllabic prefix or in the stem), medially or syllable finally as we intend to illustrate shortly below. Secondly, after a low tone, it may be followed by either a high tone (H) or another low tone (L) but rarely by a downstepped high tone. In Balondo, disyllabic verb in the final syllable has more low tones than high tones occurring in the final syllable. The possible pattern after a low tone is L, L-L, L-H, L-H-L, L-L-L.

4.2.2.2 The High Tone

High tone in Balondo may be followed by either a high tone (H), a low tone (L) and a downstepped high tone. It also occurs on a syllabic prefix. The possible pattern after a high tone are H, H-L, H-H, H!H H-L-H, H-H-L, H-H-H. This can be seen in data presentation 4.1.2.2

4.2.2.3 The Downstepped High Tone

The downstepped high tone has restricted distribution in Balondo. The downstepped high tone occurs in the prefix or stem initially. It is a phenomenon where a high tone is realised at a lower pitch than the preceding high tone. Example can be see in data 4.1.2.3.

4.2.2.4 Balondo Contrastive Tones

Tones are important features in African languages. When tones are superimposed on words, they come out with different meanings. Balondo has two contrastive tones, which are High (H), Low (L). The downstepped high tone occurrence is usually occasional and non-automatic.

Tones in Balondo perform lexical or semantic function and the grammatical functions. Lexically, tones distinguish meanings of words in Balondo as shown below in data 4.1.2.4. Grammatically, tones in Balondo are used to mark persons, number, aspects, and sentence types as shown in 4.1.2.5.

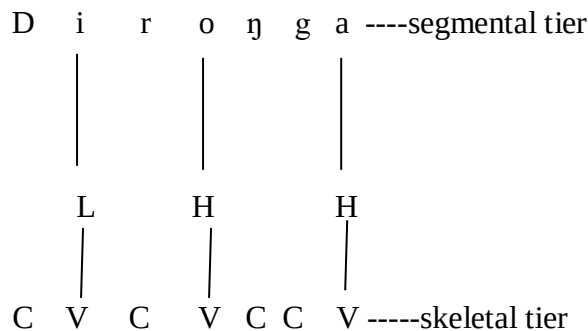
Data 4.1.2.5 (35-43) shows that the final vowel [-è, -à, -í, -á] shows aspect/mood in Balondo sentences. Time/aspectual markers are [-mò-, -mó-, -má-] used to indicate present or past tenses, while [-ne, -ke, ka] are aspectual/time marker that show motion and duration which are usually added to the main verb with a low tone. The CVC radical in data (35-41) means -sak- means look for, want'. Data also shows that the basic form of the first-person singular is [nà]. It can optionally be realised as a syllabic nasal [n̩ n̩] with low tone, when preceding voiced stops [b d ɖ ɡ] whereas the second and third person takes a vowel [ò] and [ɔ] marked with low tones. [ba-] means 3rd person plural 'they'. Concord prefixes as in mò, bà, mà, mè, dì, è, bè, ì, ò, à, dò, are assigned to stems to form different syntactic classes, and also to show singularity and plurality. The singular prefixes are [mò, dì, n-, è, ì, bò, ò, à] while the plural prefixes are [bà, mè, mà, bè, ì, dò,] For instance;

[bòre]	'tree' (sing.)	[màre]	'trees (plurality)
[ekòndo]	'world'	[mekòndo]	'worlds' etc

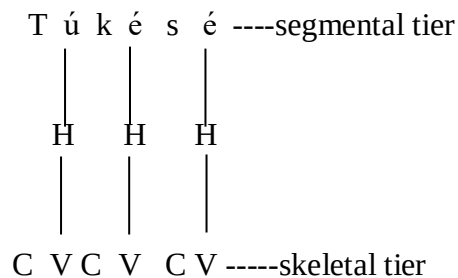
Also notice that the tone on the verb in the imperative form is different when used in constructions as seen in data (14 and 32). This means that the grammatical function of tone is so significant in Balondo language.

4.2.2.5. Application of Autosegmental Theory on Tones in Balondo

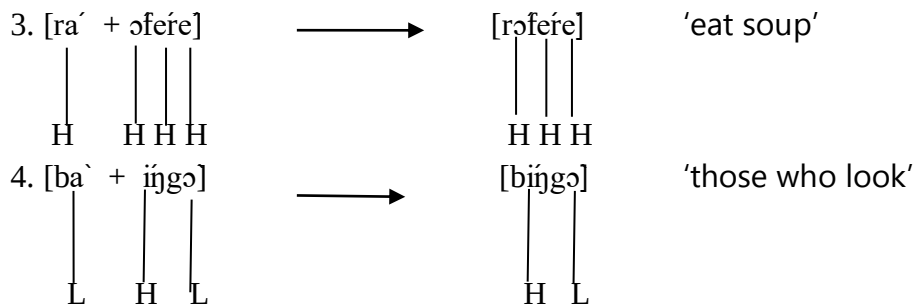
1. [diróngá] ‘to build’



2. [túkésé] ‘punish’



Data in 4.2.2.5 (1-2) show that each word is analysed using three tiers: the segmental tier, which contains the consonants and vowels; the skeletal tier, which shows the syllable structure using C (consonant) and V (vowel); and the tone tier, which displays the tonal pattern using High (H) and Low (L) tones. For the word [diróngá] ‘to build’, the tonal pattern is Low-High-High, where the low tone associates with the first syllable and the high tones attach to the following syllables. In [túkésé] ‘punish’, all the syllables carry High tones, resulting in a high-level tonal pattern across the word. The analysis demonstrates that tones in Balondo function independently from segments but link to vowels within the syllable structure, illustrating the main principle of Autosegmental Theory in explaining tonal organization in the language.



According to Autosegmental Phonology, tones are analysed as independent phonological units that occur on a separate tier from consonants and vowels through association lines. Because of this independence, tones do not permanently belong to specific segments but attach to Tone Bearing Units (TBUs), which are usually vowels. In the Balondo language, tone operates independently from consonants and vowels, consistent with the principles of Autosegmental Phonology. When phonological processes such as vowel deletion occur, the tone associated with the deleted vowel does not necessarily disappear. Instead, the tone becomes delinked and reassociates with the nearest available Tone Bearing Unit. This process illustrates the independence and flexibility of tones in Autosegmental analysis. In some cases, this reassociation may result in a contour tone, where more than one tone links to a single syllable, a process known as many-to-one association. Data in 4.2.2.5 (3–4) demonstrate this process. In constructions such as [rá + ɔfére] → [rɔfére] 'eat soup' and [bà + ɪŋgɔ] → [bɪŋgɔ] 'those who look', vowel deletion causes the tones associated with the deleted vowels to shift and reassociate with nearby vowels. In this case, the tone originally attached to the deleted vowel shifts to the nearest Tone Bearing Unit, thereby maintaining the tonal structure of the word. However, the examples do not show the presence of contour tones (rising or falling tones on a single vowel). Rather, they provide evidence of tonal linking or tone spreading, where tones attach to the

remaining vowel after vowel deletion. Thus, contour tones do not exist in the Balondo language rather tones are linked or spreaded.

4.2.3 Data Analysis on the Syllable Structure of the Balondo language

The Balondo syllable structure comprises an onset, which is optional, a nucleus which is obligatory and a coda, which is optional. The nucleus in Balondo syllable may be simple or branching, that is, it may have a single short vowel (V-single nucleus) or a long vowel (VV-branching nucleus). Some syllables in Balondo may occur without or a coda. A syllabic nucleus in Balondo can be a vowel or a syllabic nasal prefix. Another structure may have an onset and a nucleus without a coda (CV). It is possible in Balondo to have a structure with an onset, a nucleus and a coda (CVC). Diagrammatically, the syllable structure of the Balondo language can be represented in figure 4.1. The onset is a consonant, the rhyme consists of the nucleus and the coda. The nucleus is a vowel or a syllabic nasal while the coda is a consonant. The Balondo syllable structure types include:

- | | | | |
|-----|---|---------------|-------------------------------------|
| i. | V | [ò] | ‘at, to, on/second person singular’ |
| | | [í.ja] | ‘cry’ |
| | | [i.kwa] | ‘salt’ |
| | | [a.na] | ‘fight’ |
| | | [e.ne] | ‘see’ |
| | | [è.bèá] | ‘empty well’ |
| | | [ɔ.to] | ‘faint’ |
| | | [ù.wá.rà] | ‘catch’ |
| ii. | N | [n,dĩŋ.gé] | ‘love’ |
| | | [n.deĩm] | deity spirit’ |
| | | [n.jaĩ.da] | ‘finger’ |
| | | [n.dʒia] | ‘road’ |
| | | [ŋ.gá.ní.káŋ] | ‘bell/clock’ |
| | | [ŋwánà] | ‘child’ |
| | | [m.bà.ń.sàŋ] | ‘groundnut’ |

		[m̩.fá]	‘dog’	
iii.	VV	[í.ó]	‘so’	
		[è.ó]	‘why’	
		[í.ì]	‘yes’	
		[à.í]	‘no’	
		[ò.á]	‘you’	
iv.	VVV	[ò.à.í]	‘his/hers’	
v.	VVCV	[e.á.na]	‘tomorrow’	
		[e.á.bu]	‘their’	
		[e.á.wo]	‘today’	
		[è.ó.kò]	‘one’	
vi.	CV	[ra]	‘eat’	
		[me]	‘swallow’	
		[nò]	‘snake’	
		[se]	‘peel’	
		[tʃi]	‘quiet’	
vii.	CVC	[fè̃m]	‘full to the brim’	[ideophone]
		[fè̃p]	‘full/plenty’	[ideophone]
		[kpã̀]	‘plenty, properly well’	[ideophone]
		[tʃá̃mtʃám]	‘very fast’	[ideophone]
		[-woí-]	‘farm, cultivate’	
		[-sĩt-]	‘pinch’	
		[-tuk-]	‘suffer’	
		[-kaí-]	‘tie’	
		[-ret-]	‘write’	
		[-ruk-]	‘get married’	
		[-kĩt-]	‘resemble/share’	
		[-tòk-]	‘talk, speak, say’	
		[-kò̃n-]	singer/song	
viii.	VCVC	[a.ká̃]	‘limestone’	
		[u.kẽm]	‘identical/sameness’	
		[e.sã]	‘staff’	
		[e.kpã]	‘a wrapped cocoyam meal’	

ix.	CVV	[tʃi.é]	‘contribute’
		[tʃi.á]	‘to crack’
		[ɲ.wéá]	‘fire’
		[bi.à]	‘run’
		[bé.à]	‘tell’
		[ki.ó]	‘twist’
x.	CGV	[tuà]	‘pierce, break out’
		[buà]	‘mix’
		[kue]	‘enter’
		[kuá]	‘take’
		[fùà]	‘revive’
		[tʃi.é]	‘contribute’
		[tʃi.á]	‘to crack’
		[bi.à]	‘run’
		[ki.ó]	‘twist’
xi.	CVCV	[tʃá.kù]	‘ant’
		[ɲà.kà]	‘cow’
		[bò.ré]	‘tree’
		[bé.rè]	‘call’
		[tá.tà]	‘father’

There are no consonant clusters in Balondo. The structure in (x) are initial consonants followed by glides (G) which are phonetic manifestation of the corresponding vowels. The structure in (vii-viii) shows that CVC structure in Balondo can be found in ideophones and exclamations, borrowed or loanwords and in verbal base, that is, in derivation from verb to noun. When prefixes as [mo, i-, mɔ-, bo-] and any of the suffix vowel [-a, -i, -o, -u, -ɛ, -ɔ] is added to the verb stems it changes to noun, thus creating additional structures as in CV.CVC.V from the affixation of a CV prefix and V or VC suffix to a CVC verb stem. It is imperative to note that common stem structures for nouns are CV(N)CV while verbal bases comprise a CV or CVC plus a VC/V- suffix:

[n.dʒe.ku]	‘elephant’
[mo.koɲ.do]	‘tail’
[di.tuá]	‘corner’

[bo.ku.twi] 'shortness'

Verbal bases:

	[fo]	'come'		
	[ra]	'eat'		
	[me]	'swallow'		
Radicals	[-sib-]	'jump'	[-sib-àm-]	'dive'
	[-rik-]	'keep, stay'	[rik-er-]	'excort/lead'
	[-túk-]	'suffer'	[i.tú.ká]	'suffering'
	[-kát-]	'tie'	[mò.ká,tà]	'one who ties'
	[-rèt-]	'write'	[mo.rè.tì]	'writer'

4.2.3.1 Syllable Weight

In Balondo, the weight of a syllable is determined by the structure of the syllable itself. A light syllable has a V, VCV, CV structure while a heavy syllable has a VV, VVCV, CVC, CVV, because of the nucleus branches.

i. Light

rhyme

|

nucleus

|

V

[ò]

'at, to, on/second person singular'

ii. Light

rhyme

|

nucleus

|

V CV

[í. ja]

'cry'

iii. Light

rhyme

|

nucleus

|

CV

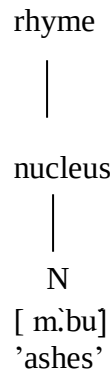
[se]

'peel'

In some cases, the rhyme which consists of the nucleus and the coda may not have the coda portion as shown above in (i,ii, iii). The nucleus consists of a single vowel or a long vowel. When the nucleus has a long vowel, the vowels are always identical and often bear identical tones. This creates a branching rhyme as opposed to a non-branching rhyme of the single vowel rhyme. The rhyme also corresponds to just a syllabic nasal as in:

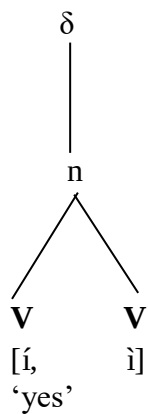
iv.

Light

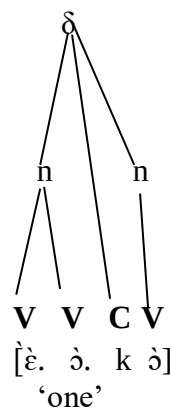


When the rhyme has no coda it is non-branching (i-vi, viii). When there is a coda, then the rhyme is regarded as a branching rhyme in (vii).

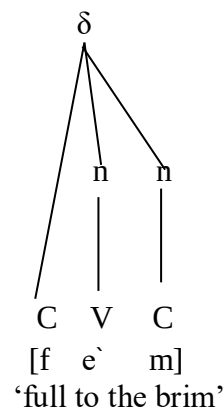
v. Heavy



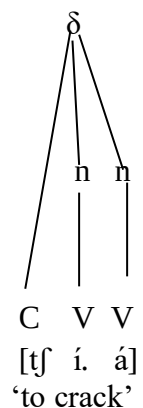
vi Heavy



vii Heavy



viii Heavy



The structure in figure 4.1 shows that the Balondo syllable structure consists of onset (O) and a rhyme (R). The onset on the left margin position of the syllable is a consonant. The rhyme on its part may be branching or non-branching. When it is non-branching, it may consist of a short vowel, a long vowel or a syllabic nasal. A branching rhyme consists of the nucleus, with a coda which is always a single consonant. When the nucleus is branching, it means there is a long vowel, VV.

4.2.3.2 Phonotactics of the Balondo Syllable Structure

Vowels and nasals constitute syllables and as prefix in the Balondo language: [i e u ε a ɔ o u] and [m n ŋ, ɲ, ŋm] respectively. Balondo syllables have onset and coda constraints. Only some oral stops [b t d k kp kw], fricative [f, s], affricate [tʃ], approximants [w, j], lateral [l], retroflex [ɭ] can occur as onset and medial positions. [p] occur in initial, medial and final position. Nasal as in [m ŋ] occurs in all positions. Other oral stops as [gb], affricate [dʒ] do not occur in word initial and word final positions. Other constraints as to the constituents of the Balondo syllable include the non-occurrence of consonant clusters. The structure in 4.2.3. (x) is the initial consonant followed by the glide [w j], is the phonetic manifestation of the corresponding vowel [u i]. Data in 4.2.3.1 (vii, viii) show that coda structure in Balondo is prevalent in ideophones and exclamation, verb radicals and most borrowed or loanwords. Other syllable structures are mostly open syllable without codas as seen in the examples in 4.2.3.1.

The following segments [dʒ, g gb] do not occur as onset of words as seen in 4.2.1.3 (6, 9, 13). Phonetically, the phones, [β ɾ φ] are transitional onset sound as they become weaken at intervocalic position to a continuant. The weakening in intervocalic position follows di- and mo- prefix or between two vowels. Example:

[báté] ‘put’ and [diβáté] ‘to put’
[dóngá] ‘build’ and [dìróngá] ‘to build’
[íβá] ‘pant’
[áɾé] ‘put’
[fèφè] ‘tickle’
[maφèrɔ] ‘argument’

The voiced stops [dʒ g gb] only appear in C₂ position following homorganic nasals while their voiceless counterparts [tʃ k kp] have wider distributions. The following segments [b d, f] are not allowed to occur in medial/intervocalic positions in words.

[ŋ g gb ŋm] are the only consonants that do not occur in intervocalic positions. [g gb] occur in C₂ positions in which, C₁ must be a nasal. Thus, no voiced stops appear intervocalically, nor before a glide unless they are preceded by a nasal. [tʃ kp] do not occur in morpheme final position. [t k r j s ŋ] occurs before [w], for instance:

- i. [ɲàdwà] ‘defecate’
- ii. [kòrwá] ‘fly’
- iii. [ìkwá] ‘salt’
- iv. [swéré] ‘send away’
- v. [bòkútí] ‘shortness’
- vi. [dìjwà] ‘to know’
- vii. [ɲwáranà] ‘woman’

4.2.4 Data Analysis on Segmental Processes in the Balondo Language

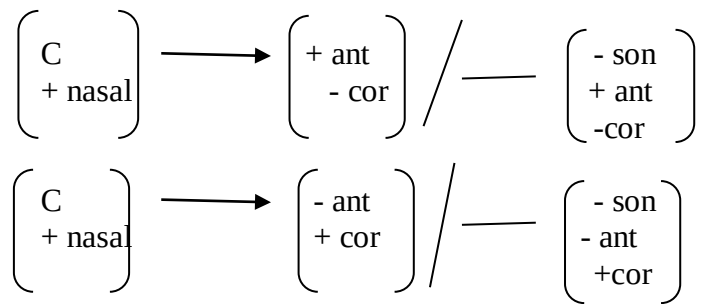
4.2.4.1 Assimilation

This is by far the most common phonological process and the mother of all phonological processes because it consists of many processes such as: nasalisation, homorganicity, vowel deletion, amongst others. In Balondo, place feature specification of syllabic nasal or what may be regarded as homorganic assimilation are always determined by the articulatory properties (place/manner) of the contiguous phoneme. Examples can be seen on 4.2.4.2 (i-xxii).

4.2.4.2 Homorganic Assimilatory Effect

The nasal consonant assimilates to the following non-nasal consonant in all three cavity features:

- i. [n̩+ bó] → [mbó] ‘sea’
 ii. [n̩+ d̩ngé] → [nd̩ngé] ‘love’
 iii. [n̩+ d̩zèwú] → [nd̩zèwú] ‘gorilla’
 iv. [n̩+ g̩ɲà] → [ɲg̩ɲà] ‘power’
 v. [n̩+ gb̩kòbì] → [ɲmgb̩kòbì] ‘chain’



Thus, when the obstruent is [+ant, - cor], it means that it is a labial segment. Therefore, the syllabic nasal will assume its features and be produced as labial nasal [m]. If the obstruent is [- ant, + cor], it is either an alveolar or velar segment which will make the syllabic nasal to be produced as either [n] or [ɲ] as the case may be .

Nasal also assimilates to [w] in the cavity features velar:

- vi. [nwánà] → [ɲwánà] ‘child’
 vii. [nwéá] → [ɲwéá] ‘fire’
 viii. [nwèndì] → [ɲwèndì] ‘message’
 ix. [nwáránà] → [ɲwáránà] ‘woman’

4.2.4.3 Voiced Stop Assimilation of Voicing Feature of Vowels

- x. [bátè] ‘put’ → [dìbátè] ‘to put’
 xi. [bísé] ‘turn’ → [mòbísé] ‘one who turns’

- xii. [bòtò] ‘curse’ → [diβòtò] ‘to curse’
- xiii. [bòkò] ‘spoil’ → [diβòkò] ‘to spoil’
- xiv. [bomene] ‘get it right’ → [diβomène] ‘to get it right’
- xv. [buře] ‘marry’ → [diβuře] ‘to marry’
- xvi. [maðu] → [mɛ̃u] ‘fire place of three stones to support cooking pot’
- xvii. [maða] → [mɛ̃a] ‘rubbish pit’
- xviii. [boðuka] → [boɽuka] ‘marriage’
- xix. [doða] → [doɽa] ‘be sharp’
- xx. [dónǵá] → [dìɽónǵá] ‘to build’
- xxi. [díbá] → [màɽíβá] ‘water’
- xxii. [dìkì] → [mòɽìkì] ‘bush/forest’
- [b] → [β]/V-V [+/-high] front/back
- [d] → [ɽ]/ V-V [+/-high] front/back

4.2.4.4 Weakening

It is a process where voiced stops are both preceded and followed by continuants. In Balondo, voiceless stops are not affected in this process, consonants are weakened in intervocalic positions as seen below:

- i. [báté] ‘put’ → [diβáté] ‘to put’
- ii. [dónǵá] ‘build’ → [dìɽónǵá] ‘to build’
- iii. [bódwá] → [bórwá] ‘kill’
- iv. [àdwá] → [àrwá] ‘leave’
- v. [kòdwá] → [kòrwá] ‘fly’

- vi. [ɛfafe] → [ɛɸaɸe] ‘cloth’
vii. [fɛ̀fɛ̀] → [fɛ̀ɸɛ̀] ‘tickle’
[b] → [β]/V-V [+/-high] front/back
[d] → [ɾ]/ V-V [+/-high] front/back
[f] → [ɸ]/ V-V [+/-high] front/back

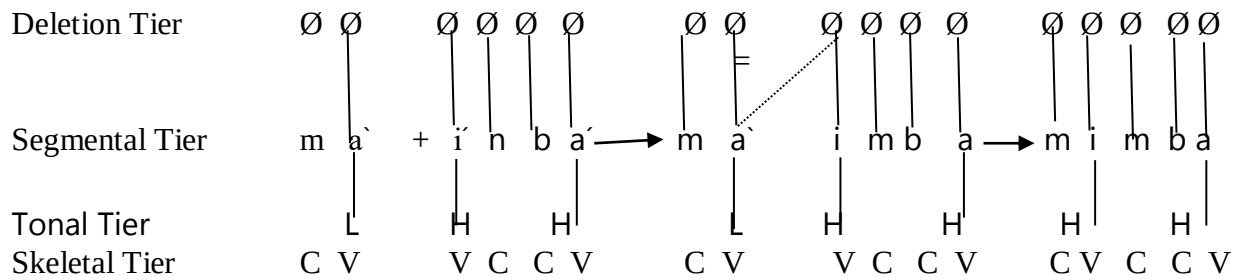
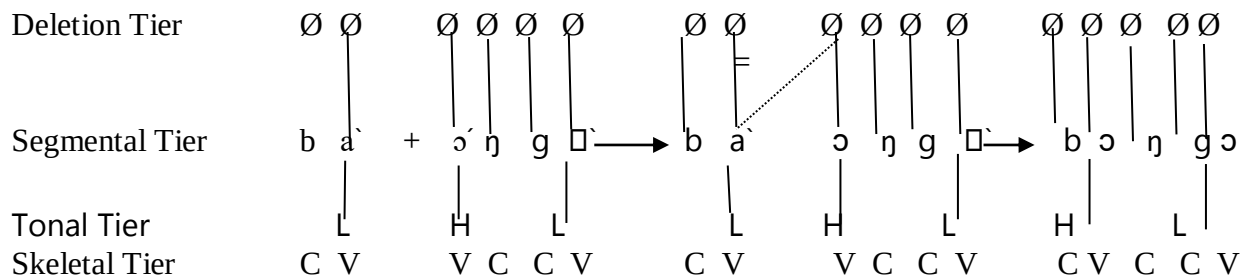
4.2.4.5 Deletion

It is the loss of segment in a word or in connected speech. Examples are presented below in (i-vi). In Balondo, the vowel and tone of CV prefixes are deleted when they precede a vowel in radicals/stem as shown in (i-xii), and although they may be exceptions to this rule. Deletion may be as a result of a higher vowel subsuming the lower vowel or a high tone in the CV prefix subsuming the low tone in the radical

- i. [mà + ín bá] → [mím bá] ‘wine’
Noun Prefix/plural wine
- ii. [bà + óṅgò] → [bón ṅgò] ‘sweepers’
Noun Prefix/plural sweeper
- iii. [ma` + oṅ gi] → [moṅ gi] ‘recoveries’
Noun Prefix/plural recovery
- iv. [di` + eṅa] → [deṅa] ‘poverty’
Noun Prefix/singular poverty
- v. [ba` + ɔka.ke`] → [bɔkake] ‘let them hear’
Noun Prefix/plural hear -asp-
- vi. [di` + oḃa] → [dḃa] ‘sky’
Noun Prefix/singular sky
- vii. [ma` + eṅa] → [meṅa] ‘poverties’
Noun Prefix/plural poverty
- viii. [ba` + iṅgɔ] → [biṅgɔ] ‘those who look’
- ix. [ba` + ijeři] → [bijeři] ‘they ask’

- x. [ra' + ɔfére] → [rɔfére] 'eat soup'
eat soup
- xi. [na` + éne] → [néne] 'let me see'
I see
- xii. [na` + ɔ.t.i] → [nɔti] 'I fainted'
I fainted

$$\left\{ \begin{array}{c} V \\ T \end{array} \right\} \rightarrow \emptyset / \#(C) - = V$$

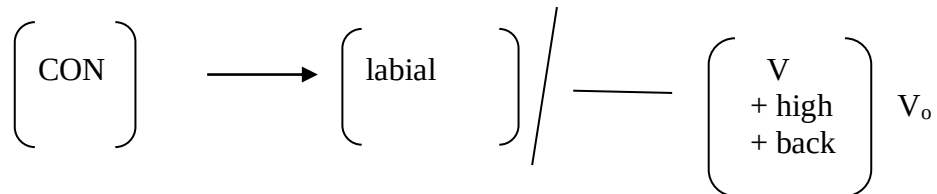


4.2.4.6. Labialization

It is a secondary articulation or a co-articulation process whereby a consonant sound that has no virtue of labial absorbs or captures the feature of lip rounding. The symbol used to denote labialization is raised [w] on the labialized phoneme. In Balondo, labialization occurs in a

restricted phonological environment, that is, before rounded vowels only. The environment normally provides a motivation for lip rounding as shown below in (i-v).

- i. /kùmè/ → [k^wùmè] ‘meet’
- ii. /kéntf ú/ → [kéntf^wú] ‘cunning’
- iii. /ndùtù/ → [nd^wùt^wù] ‘work’
- vi. /mušù/ → [m^wus^wù] ‘morning’
- v. /kúte/ → [k^wute] ‘cover’



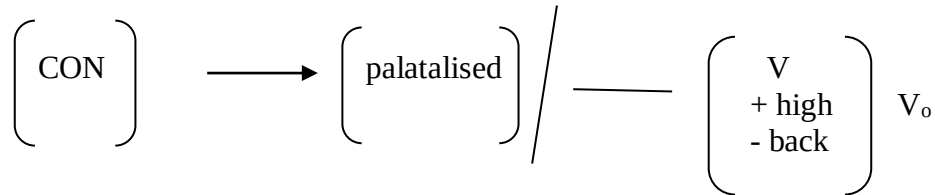
This means that consonant becomes labialised before a high back vowel followed by zero or any number of vowels.

4.2.4.7 Palatalization

Palatalisation, occurs when a non-palatal segment, normally a stop picks the palatal feature because it occurs in an environment of a following high front vowel. The tongue position of the front vowel is superimposed on the adjacent consonant which acquires an additional feature [+ high] vowel as in (i-vii)

- i. /bíà/ → [b^jà] ‘escape’
- ii. /sìbàmà/ → [s^jbàmà] ‘jump down/dive’
- iii. /etiti/ → [et^jit^ji] ‘darkness’
- iv. /kìrè/ → [k^jrè] ‘cook’
- v. /tʃ íà/ → [tʃ^jíà] ‘refuse, reject’

- vi. /sia/ → [s^hia] ‘grind/grate’
- vii. /siba/ → [s^hiba] ‘to jump, to land’



Consonant becomes palatalized in an environment before a high front vowel followed by zero or any number of vowels.

4.2.4.8 Nasalization

It is a common assimilatory process that affects vowels. Nasalization is a secondary articulation whereby oral vowels capture the feature of a nasal sound simply because the sound occurs in a nasal environment. Nasal effect could also spread from both left and right, right to left and bi-directional (both progressive and regressive) as seen below (i-viii). Nasalization affects only the vowels found in the environment of nasal sounds and within the same syllable as the nasal consonant. Nasalization can be blocked by the syllable boundary, that is, if two vowel sounds occur at both sides of a nasal sound and one of the vowels is separated by the syllable boundary, then the nasal feature would not spread across the syllable boundary to nasalize the vowel, as the boundary forms an opaque structure and prevent the spread penetrating across as shown in (vi-vii)

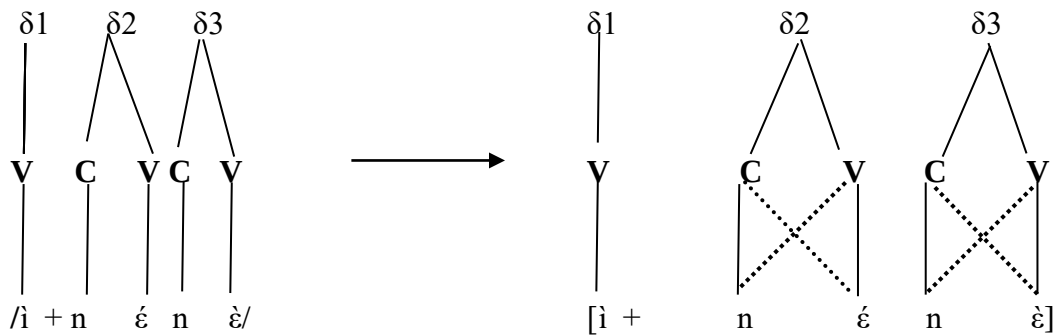
- i. /ĩnéně / → [ĩ.né,ně] ‘big’ (progressive)
- ii. /òamá/ → [ò.mǎ] ‘what/then’ (progressive)
- iii. /éne/ → [e.ne] ‘see/find’ (progressive)
- iv. /kańda/ → [kań.da] ‘shout/rebuke’ (regressive)

v. /èkòndò/ → [è.kòn.dò] ‘world’ (regressive)

vi. /mòré mà/ → [mò.rě.mǎ] ‘heart’ (bi-directional)

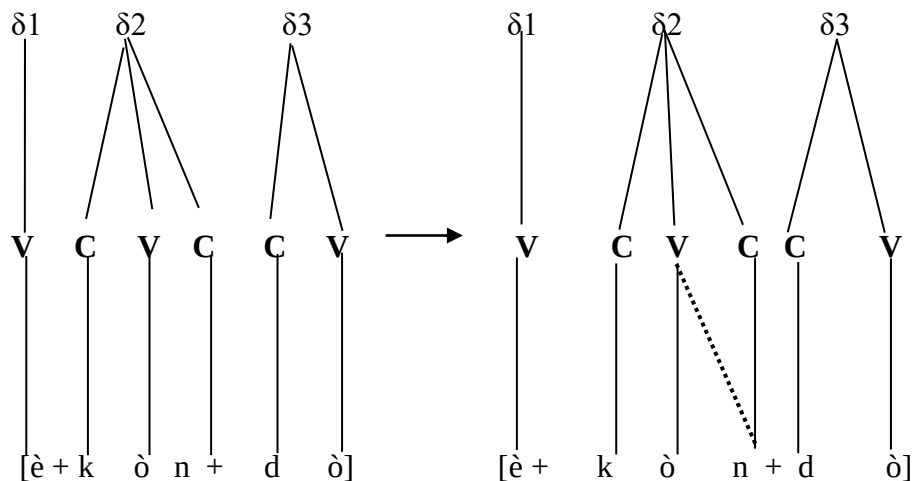
vii. /jà mà/ → [jà.mǎ] ‘fish’ (bi-directional)

/ínénè/ → [ì.né.nè] ‘big’



Underlyingly, the /è/ is an oral vowel but at the phonetic representation it has been nasalised, while /i/ still remains an oral vowel because it belongs to another syllable.

[èkòndò] ‘world’



Underlyingly, the /o/ is an oral vowel but at the phonetic representation it has been nasalised, while /e/ still remains an oral vowel because it belongs to another syllable.

4.2.5 Data Analysis on the Tonal Processes in the Balondo Language

4.2.5.1 Downstep

As earlier stated in data 4.2.2.3, downstep involves key lowering of high tones. It is indicated with an exclamation mark before the syllable that bears it. Examples can be seen in data 4.1.5.1 (1-4). When there is a floating tone between two segmental high tones, the second high tone being the radical realises a downstep on the radical. Examples can be seen in data 4.1.5.1 (5-9).

4.2.5.2 Downglide

This involves tone lowering in the final syllable position of a lexical item as shown in data 4.1.5.2 (1-7). Also, in Balondo, tone lowering is seen in floating low tone in the aspect final vowel suffix and final syllable as shown in data 4.1.5.2 (8-12)

4.2.5.3 Tonal Spreading and Delinking

This is a rightward spreading where a high tone is associated with adjacent segments or syllables. In Balondo, a stem or root initial vowel carrying a low tone assimilates in tone to a preceding word-initial vowel carrying a high tone. Examples can be seen in data 4.1.5.3 (1-2). Also, in Balondo, a floating tone is deleted when either the preceding or following segmental tone is identical to it. That is, a floating tone followed by two segmental tones in the same word must not be identical either to the segmental tone immediately preceding it or to the segmental tone immediately following it. Examples can be seen in data 4.1.5.3 (3-4).

4.3 Discussion of Findings

In line with the set objectives, the study findings are:

Firstly, the segmental units of the Balondo language consist of the consonant and vowel sounds. There are twenty-six and seven vowel phonetic segments in the Balondo language. The phonetic consonants and vowel sounds include: [p b t d k g kw kp gb ɸ f β s tʃ dʒ m ŋ n ɲ ŋm ŋ^w w j ɾ l] and [i e ε a ɔ o u] respectively. The voiced stops [b, d, g gb] only appear in C₂ position following a homorganic nasals while their voiceless counterparts [p, t, k, kp kw] have a wider distribution and are found both initially and intervocalically. voiced stops do not appear intervocalically nor before a glide unless they are preceded before a nasal. The following segments [dʒ, g gb] do not occur as onset of words. Nasal as in [m ŋ] occurs in all positions. Alveolar /n/ becomes velar nasal in the environment of a voiced velar [g]. Phonetically, the phones, [β ɾ ɸ] are transitional onset sound as they become weaken at intervocalic position to a continuant. The weakening in intervocalic position follows di- and mo- prefix or between two vowels. The vowel [u] becomes a semi-vowel [w] and the vowel [i] becomes [j] in an environment of occurrence of two vowels.

Secondly, the tonal structure of the Balondo language consists of High ['] and the grave or low tone [L] represented as [ˋ] and an occasional non-automatic downstep tone [!]. Tones in Balondo perform lexical or semantic function and the grammatical functions. The contrastive nature of tones brings about different meanings when they are superimposed on words. The possible pattern after a low tone are L, L-L, L-H, L-H-L, L-L-L, while a high tone has H, H-L, H-H, H!H H-L-H, H-H-L, H-H-H. Concord prefixes as in mo^ˋ, ba^ˋ, ma^ˋ, me^ˋ, di^ˋ, e^ˋ, be^ˋ, i^ˋ, o^ˋ, a^ˋ, do^ˋ, are assigned to stems to form different syntactic classes, and to show singularity and

plurality. Tone on the verb in the imperative form is different when used in constructions. The final vowel [-è, -à, -í, -á] shows aspect/mood in Balondo sentences. Time/aspectual markers are [-mò-, -mó-, -má-] used to indicate present or past tenses, while [-ne, -ke, ka] are aspectual/time marker that shows motion and duration which are usually added to the main verb with a low tone, The basic form of the first-person singular is [nà]. It can optionally be realised as a syllabic nasal [n̩ n̩] with low tone, when preceding voiced stops [b d ɖ ɡ] whereas the second and third person takes a vowel [ò] and [ɔ̃] marked with low tones, while [ba-] means 3rd person plural.

Moreover, the Balondo syllable structure consists of (V), (N), CV and CVC. That is, the language has an onset, which is optional, a nucleus which is obligatory and a coda, which is optional. The CVC structure in Balondo can be found in verbal base, ideophones and exclamations and borrowed or loanwords. Structural possibilities for prefixes are [N and V]. Common stem structures for nouns are CV(N)CV while verbal bases comprise a CV or CVC plus a VC/V- suffix. Data further show that Balondo V, VCV, CV are light weight structure with no branches while a heavy syllable has a VV, VVCV, CVC, CVV, because of the nucleus branches.

Finally, assimilation is the most dominant of all processes as it does not only affect segments but suprasegments as well. Consonant/vowel ambivalence causes weakening, deletion, labialisation, palatalisation and glide formation. Tonal processes include downstep, downglide, tonal spreading and delinking. The downstepped high tone occurrence is usually occasional and non-automatic, as it has restricted distribution. Downglide involves tone lowering in the final syllable position of a lexical item. Tonal spreading is the rightward spreading of high tone with adjacent segments. There is no underlying contour tone in Balondo. Balondo tone undergo

delinking process usually with a floating low tone whereby the preceding or following segmental tone is identical tone.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This research has examined aspects of Balondo phonology, using phonemic and autosegmental phonology as a theoretical frame. The segments, the tones and the syllable were investigated, as well as some segmental and tonal processes. Relevant literatures were reviewed to establish the relationship between the current work and what had already existed in the field. To ascertain the segmental and suprasegmental units, 1700 SIL Comparative African Wordlist (SILCAWL) as our data source and phonological and syntactic files were opened to capture the word list. The study revealed the distribution and classification of consonants and vowels in Balondo, as well as the syllable structures employed in the language. It was observed that the Balondo language has specific patterns in syllable formation, including distinctions between light and heavy syllables, and particular structural possibilities for word stems, prefixes, and verbal bases. Tone was found to be an essential feature for distinguishing meaning, both lexically and grammatically. Balondo exhibits distinct tonal patterns and tonal processes, including spreading, delinking, and other phonological adjustments. The processes affecting consonants and vowels, such as assimilation and ambivalence, were also identified, influencing both segmental and suprasegmental features. The study further demonstrates the systematic and rule-governed nature of Balondo phonology and highlights the importance of both segmental and suprasegmental units in the structure and meaning of the language.

5.2 Conclusion

The study of Balondo phonology provides valuable insights into the linguistic structure and sound patterns of the language. Through the application of the phonemic and autosegmental theory, the researcher has been able to analyse and understand the behavior of sounds (vowel and consonant sounds), features of syllable structures, tonal patterns, and phonological processes in the Balondo language. Findings from this study have not only deepened the understanding of the phonological system of the Balondo but have highlighted the complexity and richness of its linguistics. Further research would contribute to more scholarships and literatures to enhance knowledge on phonological theories.

5.3 Implication of Findings

Aspects of Balondo phonology have shed light on the phonological features and characteristics of the language in terms of its genealogy, consonants, vowels, syllable, tones, segmental processes and tonal processes, using the principles of phonemic and autosegmental theories.

The application of phonemic and autosegmental theory in this study demonstrates the significance of these theories in analysing the juxtapositions of sounds in their different environments and suprasegmental features in the language. In this sense, the fundamental rules governing the Balondo sound system and suprasegmental properties have been revealed, thus, providing a deeper understanding of the Balondo linguistics.

Furthermore, the findings of this study have practical implications as it would serve as a documentation strategy towards promoting and preserving the Balondo language since writing on a language's phonology is the first step in developing its linguistics. It would be of benefit to other researchers, who would want to carry out further research on this area of discourse. Also,

language education materials could be developed based on the study's findings. For instance, a book on Balondo phonetics would be significant to contribute to language scholarship and literature.

In addition, findings from this study would rekindle the interest of the youths of Balondo-bakonja in Cameroun, and Efut-Balondo in Calabar, Nigeria, on the need to develop their language and cultural heritage. This could be done by encouraging new generation speakers to consistent usage of the Balondo language in communication, through language learning and teaching by models who are of Balondo and have adequate mastery of the Balondo language, carrying out more research and developing initiatives that would create awareness on the Balondo culture and language.

Overall, the findings on Balondo phonology would contribute to the field of linguistics by expanding our knowledge of phonological systems, showcasing the importance of tone, syllable, and phonological processes in language, and highlighting the need to preserve and study diverse linguistic systems.

5.4 Contribution to Knowledge

Phonology plays a crucial role in how sounds are produced, perceived and organised within a language, as such a study of this nature would provide insights into the underlying structure and patterns of segments, suprasegments and segmental processes in the Balondo language and in the field of linguistics.

Additionally, this study would help provide details on the linguistic diversity of the region where the language is spoken and would shed light on historical events, linguistic patterns, and tendencies. It would also assist in language preservation efforts and contribute to language documentation projects aimed at promoting and documenting endangered languages.

Finally, this study would promote awareness on Balondo linguistics, thereby contributing to language literature since there are a few published works.

5.5 Recommendations

It is recommended that:

- i. Deliberate attempts and advancements by native speakers, youths and linguists alike are recommended to further authenticate the orthography, if possible.
- ii. Moreover, parents should use the language at home with their children to preserve the Balondo language which is entrenched. In addition, many write-ups and published works on the language should be encouraged. Native speakers should take pride by adding more to what has been done.
- iii. The Government and national language planners in Cameroun should make sure that the enshrinements of the National Policy on Education are used. If this is implemented, it would make it possible for the Balondo language to be used as a medium of instruction in the region where it is spoken.
- iv. The Ministry of Education should aid this advancement by including this language into the state curriculum and sponsor research to promote the continuous growth, development, recognition on the linguistic map and atlas of world languages.

5.6 Suggestions for Further Studies

- i. Lots of research on the Balondo language should concentrate on an in exhaustive laboratory and experimental testing of the segments and suprasegments to ascertain some of the allophonic and overlapping features in the language.

- ii. More investigation should be done into all other aspects of the language phonology not yet touched like diphthongs, other phonological processes like insertion and germination, the tonal processes and other areas of linguistics fields. These will provide better coverage and information on the nature of the Balondo language.
- iii. A comparative study should be carried out on the phonological features of the Balondo language and other related languages. This is to identify similarities and differences in language contact and historical development.
- iv. Study on morphophonology and syntactic analysis in Balondo language should be carried out.

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- Olagunju, T. S. & **Ukpe, Q. L. (2025)**. A contrastive study of reduplication in Yoruba & Efik languages. *International Journal of Language and Linguistics*. 12:126-136. <https://doi.org/10.30845/ijll.v12p12>
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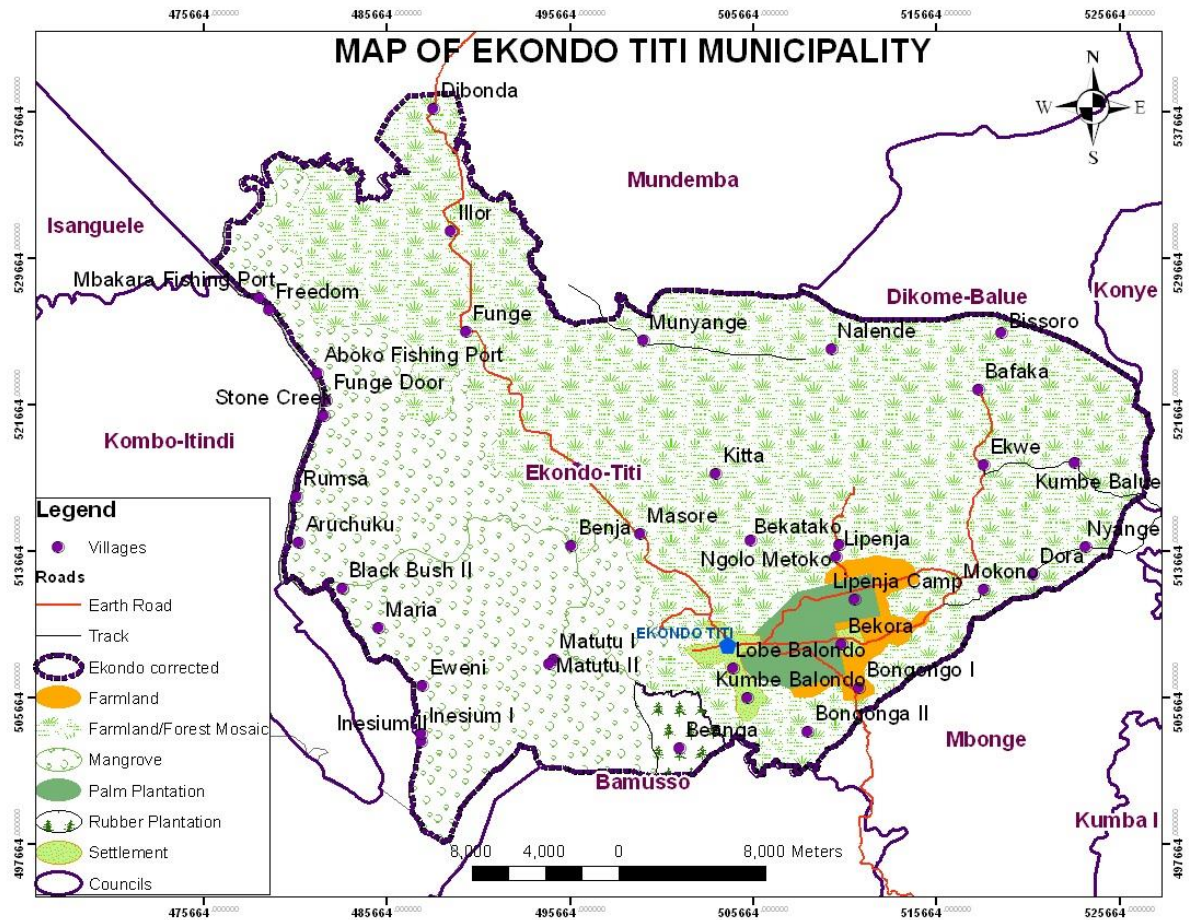
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- Ukpe, Queen Lucky (2018).** *Aspects of Efik Phonology.* A B.A. Project, University of Calabar, Calabar, p.114 . A project work supervised by Mr. M .B Ekpe, Ph.D.

EXPECTED PUBLICATION

- Okon, Ben, **Ukpe, Queen Lucky** & Colette Bassey, 'A Contrastive Analysis of English and Efik Vowels'. A paper presented at Conference of the Linguistic Association of Nigeria (CLAN), 2nd-6th, December, 2019.
- Ekpe, M. B. & **Ukpe Queen Lucky** (n.d) 'Spectral Tracking of English Rhythmic Patterns of Selected Television Broadcasters'. A Festschrift of Prof. Demola Jolayemi.
- Ukpe, Queen Lucky, Ogbuagha, Godslove & Agbor Kismet (2018)** 'The Learning of English Consonants: a case study of Efik children in Calabar South between the ages of 2-5 years'. A paper presented at the Maiden Undergraduate Students' Conference, University, of Port Harcourt, Nigeria.

APPENDICES

APPENDIX I: LINGUISTIC MAP OF THE STUDY AREA (LMSA)



APPENDIX II

Figure 4.3: Acoustics of the Balondo Voiced Fricative [β]

[bátè] ‘put’ → [dìβátè] ‘to put’

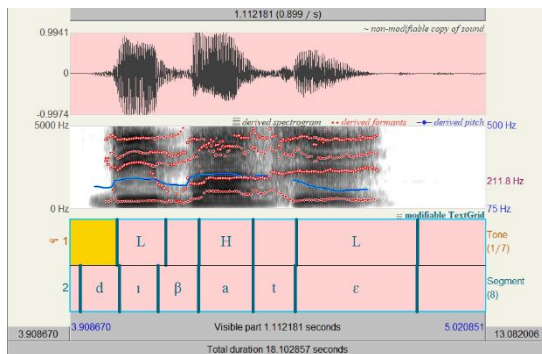


Figure 4.4: Acoustics of the Balondo Trill [ɾ]

[dóngá] ‘build’ → [dìróngá] ‘to build’

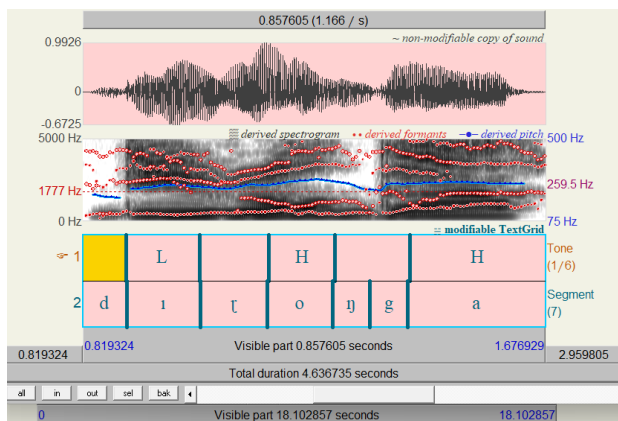
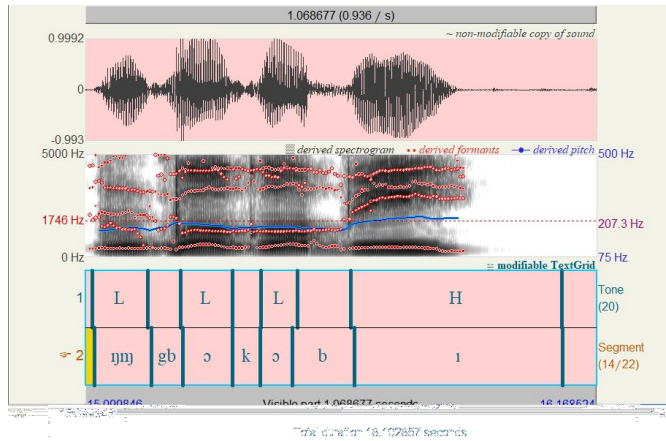


Figure 4.5: Acoustics of the Balondo Labio-velar [ŋm]

[ŋmgbòkòbɪ] ‘prison/chain’



[eφoɾoφoɾo] ‘eyebrow’

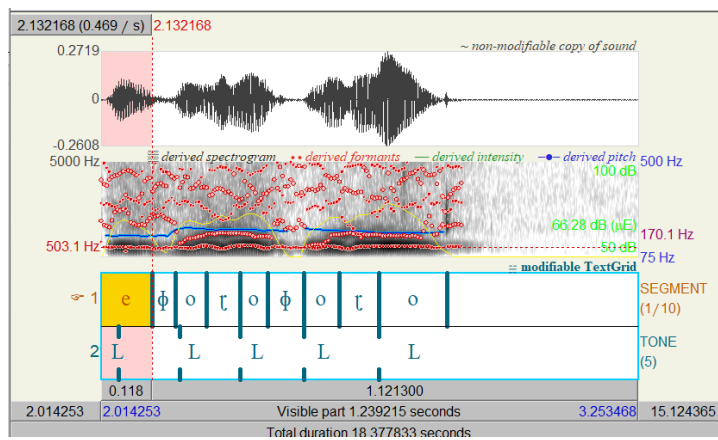


Figure 4.6: Acoustics of the Balondo voiceless bilabial fricativeL [φ]

Queen Lucy Ukpe

APPENDIX III:



(L-R: The researcher with the Balondo Chiefs)

Queen Lucy Ukpe

BALONDO LANGAUGE INSTITUTE [BALI] BUEA, CAMEROON.

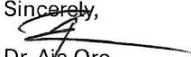
TO WHOM IT MAY CONCERN

This brief note is to certify that, we the members of the Balondo Language Institute, welcomed Mrs. Queen Daniel-Nsima Imah, a graduate student in the Department of Linguistics and Nigerian Languages, University of Uyo, Akwa-Ibom State. During our interaction with the student on her field study trip here, we mutually explored the Balondo Phonology segments, tones, syllable structures, and ways of revitalizing the Balondo Language so it would not become extinct.

We would like to add that in the course of this intellectual activity, Ms. Queen Daniel-Nsima Imah displayed extraordinary mastery of her field of study, which was indicative of the caliber of training she had received at the University of Uyo, from an equally competent and diligent staff/faculty.

Finally, we were so satisfied with her performance that we would gladly appreciate working with any future students from your institution.

Sincerely,


Dr. Aja Oro.

June 21, 2024.

APPENDIX IV:

The 1700 Words adapted from SIL Comparative African Wordlists (SILCAWL) thematically grouped to serve as the basis of a Bilingual Dictionary for the Balondo Language.

A. BACKGROUND INFORMATION

- (1) Investigator's Name: Ukpe, Queen Lucky
- (2) Investigator's Address: 10 Andem Street off 8miles Junction, Calabar, Cross River State, Nigeria
- (3) Informant's Name(s): - Dr Aja Oro
 - Nokuri Oro
 - Chief Nangoh Joseph Ambang
 - Naseli Bau Okha
 - Nekena Ambang
 - Eyuka Obie Felix
 - Ekoli Divine Niko
 - Naseri Julius
- (4) Informant's Address: Buea, Ekondo-Titi township in Ekondo-Titi sub-division, Ndian, Southwest region of Cameroon, Maryland USA.
- (5) Informant's Language: Balondo
 - (a) Official Name: mentioned above.
 - (b) Name used by Speakers: Barondo
- (6) What other languages does the informant speak? Balondo, Kamtok, English, French
- (7) Informant's Home Town or Village: Ekondo-Titi township in Ekondo-Titi sub-division, Ndian, Southwest region of Cameroon,

- (8) How long has the informant lived in home town or village? 21yrs, 45yrs, 27yrs, 40yrs, 49yrs, 38yrs, 68yrs, 57yrs, 52yrs, 19yrs, 45yrs, 24yrs, 43yrs, 23yrs.
- (9) Where is this town? Ekondo-Titi township in Ekondo-Titi sub-division
- (10) List the nearest larger or known towns and state their distance and direction.
- (11) Name by which speakers of language are known: Balondo-bakonja
- (a) Officially: mentioned above.
- (b) Among themselves: mentioned above.
- (12) Does the language have a written form? Yes
- (13) What other towns (or Districts, Divisions etc) speak the same language as the informant's town? Calabar South, Nigeria, Ekondo-Titi township in Ekondo-Titi sub-division, Ndian, Southwest region of Cameroon, Democratic Republic of Congo.

Man's Physical Being (Body Parts)

1. Face	/bòsò/	[bòsò]
2. Eyes	/mísò/	[mĩsò] (plu.) [dísò/ Sing.]
3. Eyebrow	/efòròfòrò-yà-ísò/	[efòròfòrò-yà-ísò]
4. Nose	/mòfikì/	[mòfikì]
5. Head	/mòlòfò/	[mòlòfò]
6. Ear	/rìtó/	[rìtó/ Sing/] [mato /plu.]
7. Cheek	/dìdámà/	[dìdāmā]
8. Chin	/ndzèrì/	[ndzèrì]
9. Mouth	/wànà/	[wānā]
10. Lip	/mùmbù/	[mùmbù]
11. Tongue	/ìjèmè/	[ìjèmè]
12. Tooth	/dìsòngá/ or /màsòngà/	[disòngá]

13. Molar Tooth /ètʃ òkò/ [ètʃ òkò]
14. Neck /dìbòrì/ or /rìbòrì/ [dìbòrì]
15. Nape of Neck /mbúsà dìwòrì/ [mbúsà dìwòrì]
16. Back of the head /dìórò/ [dìórò]
17. Frontelle /ìbóbó/ [ìbóbó]
18. Hair /nùngà/[nũngà]
19. Beard /nùngà ja njèrì/ [nũngà ja ndzèrì]
20. Larynx, Adam's apple /muonga nwa kìngó/ [mwonga ɲwa kìngó]
21. Body /ɲoro/ [ɲoro]

Trunk

22. Shoulder /ètùrì/ [èt^wùrì]
23. Chest /ngèngè/ [ɲgèngè]
24. Breast /dìbé/ [dìbé]
25. Waist /èwè/ [èwè]
26. Navel /dìtèngù/ [dìtèngù]
27. Umbilical cord /èsànà/ [èsānā]
28. Stomach /mèjà/ [mèjà]
29. Back /mbùsà/ [mb^wùsà]
30. Buttock /màsòsò/ [màsòsò]
31. Penis /éyókó/ [éjókó]
32. Vagina /èwòmbò/ [èwõmbò]
- ### Arm
33. Elbow /ngórókòsi/ [ɲgórəkósi]
34. Leg /mòfàngà/ [mòfàngà]
35. Armpit /èbàkàbàkà/ [èβàk^hàbàk^hà]

36. Hand / rìkòndzò / [rìkòndzò]
37. Wrist / rìtòngò rá rìkòndzò/ [rìtòngò rá rìkòndzò]
38. Palm (of hand) /ebandza rìkòndzò/ [eβandza rìkòndzò]
40. Finger /ɲàndà/ [ɲāndà]
41. Thumb /ɲàndà ènènè/ [ɲāndà ènēnē]
42. Knuckle /ngótí/ [ɲgótí]
43. Finger nail /èsàsà (sing.)/Bèsàsà (plu.) [èsàsà]
44. Knee /dìbóngót/ sing./ /mabóngó Plu./ [dìbóngó]
45. Calf of leg /mbá-mbá mòfàngà/ [mbá-mbá mòfāngà]
46. Ankle /rìtòngò rá rìkò/ [rìtòngò rá rìkò]

Internal Parts

47. Intestine /èwùngá / [èwùngá]
48. Backbone, spine / mòténdé/ [mōténdé]
49. Brain /rongo/ [rōnggo]
50. Ribs /mèkàngá/ [mèkāngá]
51. Blood /màkiá/ [māk'á]
52. Bone /ésé/ [ééé]
53. Skeleton /èfùmbù yá mòròkò/ [èf'ùmb'ù já mōròkò]
54. Heart [mòlémà] [mōlémā]
55. Liver /libà/ [lìβà]
56. Kidney /fikò/ [fikò]
57. Bladder /épnàré -ɲàré/ [épnàré -ɲàré]
58. Saliva /èkònnò/ [èkònnò]
59. Nasal mucus /rìbòmbó èrètà/ [rìbòmbó èrèt'hà]
60. Tears /mísòrì/ or /mísódì/ [mísòrì]
61. Blood clot /mbùma já màkiá/ [mbūmā já māk'á]

62. Semen	/ndzèmé/	[ndzẽmẽ]
63. Urine	/mìṅàrí/	[mìṅā̀rì]

Body Processes

64. Blink	/mítá-mísò/	[mítá-mísò]
65. Breathe	/swè/	[s ^w è]
66. Snore	/ngórì/	[ngòrì]
67. Cough	/késé/	[késé]
68. Belch	/mòbìákò/	[mòbìákò]
69. Sneeze	/símá/	[sĩmã]
70. Groan	/kóká/	[kók ^h á]
71. Fart	/ìsùrì/	[ìsùrì]
72. Defecate	/ṅàdúà/	[ṅàdwa]
73. Sweat, Perspire	/ètókòtókò/	[ètókòtókò]
74. Faint	/ótó/	[ótó]
75. Sleep	/nàngà/	[nãṅgà]
76. Dream	/ìjọ/	[ìjọ]

Senses

77. See	/éné/	[ẽnẽ]
78. Hear	/óká/	[ók ^h á]
79. Smell	/ìṅúmbà/	[ìṅũmbà]
80. Touch	/síké/	[síké]
81. Taste	/ókáná/	[ók ^h ánã]

Body Movement

82. Sit	/súmámá/	[s ^w úmãímã]
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83. Rise up	/ímáná/	[ímãñã]
84. Lie down	/nàngá - òsè/	[nàŋgá - òsè]
85. Turn around	/ábá/	[áβá]
86. Walk	/ójùá/	[ójɔwá]
87. Run	/ísúamá/	[ís ^w úmã]
88. Swim	/rókí/	[rók ^ɪ]
89. Jump	/fémá/	[fémã]
90. Kick	/óbá/	[óβá]
91. Wave	/nìngésé/	[nìŋgésé]
92. Claps	/kùmbá màkòŋjɔ/	[kũmbá màkòndʒɔ]
93. Slap	/lìwumbè/	[lìwũmbè]
Body Positions		
94. Stand	/ínwá/	[íŋwá]
95. Bow (in greeting)	/óndó-ósé/	[óndó-ósé]
96. Squat	/núngámá/	[núŋgámá]
97. Kneel	/súmà-mà-bóngó/	[súmà-mà-bõŋgó]
98. Crawl	/óngóténé/	[õŋgótẽnẽ]
Body Conditions		
99. Hot	/dìjá/ or /rìjá/	[dìjá]
100. Hungry	/ndʒà/	[ndʒà]
101. Drunk	/mímbà/	[mĩmbà]
102. Rest	/òimè/	[òmẽ]
Abnormal Qualities		
103. Bald	/libòkò/	[lìbòkò]
104. Blind	/ndìmì/	[ndĩmĩ]
105. Impotent	/èkòmbà/	[èkòmbà]
106. Hug, Embrace	/óréne/	[órẽnẽ]
107. Kiss	/sósó-mìbù/	[sósó-mìb ^w ù]
Help and Care		
108. Help	/búná/	[búnã]
109. Protect	/kpèmè/	[kpẽmẽ]
Crime and Justice		
110. Steal	/úbá/	[úbá]
111. Rape	/kpásuá/	[kp ^h ás ^w á]
112. Punish	/túkésé/	[t ^w úkésé]
Eating Utensils		

113. Plate /tʃ áni/ or /ɲmgbángàrí/ [ɲmgbāŋgàrí] 'dish'

114. Cup /kɔ́bì/ [kɔ́βì]

115. Spoon /tókò/ [tókò]

War

116. Spy /tɔ́ró mó/ [tɔ́ró mó]

117. Peace /ɛ̀nàrèsì/ [ɛ̀nàrèsì]

118. Gun /mòkùmbá/ [mòkùmbá]

119. Prisoner /mótó-kɔ́bi waba/ [mótó-kɔ́βi waba]

Music/Dance

120 Music/song /mókòni/ [mókòni]

121. Sing /díkónò/ [díkónò]

122. Dance /sáká/ [sák^há]

Marry

123. Bride price /èkòjá bùrùkà/ [èkòjá b^wùr^wùk^hà]

124. Wedding / bùrùkà/ [b^wùr^wùk^hà]

Fruits

125. Banana /mbòró/ [mbòró]

126. Plantain /mòkèrè/ [mòkèrè]

127. Orange /anasari/ [anasari]

128. Pineapple /èkòkò yá mòkàrà/ [èkòkò yá mòk^hàrà]

Tubers

129. Cassava /kàsàrà/ [k^hàsàrà]

130. Cocoyam /mòséngù/ [mòséngù]

131. Yam /èjó/ [èjó]

Seasons

132. Rainy season /nìkúkè/ [nìk^wúkè]

133. Dry season /nàjó/ [nàjó]

134. Hot weather /dìyá/ [dìjá]

135. Cold weather /bónáí/ [bónáí]

Ambient Conditions

136. Light /ótirikaŋ/ [ótirikaŋ]

137. Moonlight /nwéí/ [ɲwéí]

138. Shadow /èrìngì/ [èrìngì]

139. Darkness /èti-èti/ [ètⁱ-ètⁱ]

Time

140. Time /ngwedi/ [ɲgwedi]

141. Now /nínànò/ [nínànò]

142. Before /bòsòsò/ [bòsòsò]

143. Early /kwéré/ [kwéré]

144. Always /ètètè/ or /kpòkòró/

Time Periods

145. Day /búná/ [búná]

146. Month /ngòndè/ [ɲgòndè]

147. Year /nwà/ [ɲwà]

148. Today	/èáwò/	[èáwò]
149. Yesterday, tomorrow	/èánà/	[èánà]
150. Day after tomorrow	/wásíbà/	[wásíbà]
151. Olden times	/kòwá/	[kòwá]

Animals

152. Pig	/ngwèá/	[ngwèá]
153. Elephant	/ndzèkù/	[ndzèkù]
154. Goat	/mbóri/	[mbóri]
155. Dog	/mfá/	[mfá]
156. Gorilla	/tʃ èwú/	[tʃèwú]
157. Hyena	/monunu ɲwa ngó/	[mon ^w un ^w u ɲwa ɲgó]
158. Horse	/ɔàkà/	[ɲàk ^h à]
159. Hippopotamus	/ndzèku ja maliba/	[ndzèku ja maliba]
160. Cat	/ànwá/	[àɲwá]
161. Sheep	/múréngù/	[múréngù]
162. Monkey	/kémà/	[kémà]
163. Leopard	/ngò/	[ɲgò]
164. Buffalo	/ɲìbò/	[ɲìbò]
165. Antelop	/kábé/	[kábé]

Reptile

166. Frog	/dingòngò/	[dingòngò]
167. Crocodile	/ngàndó/	[ɲgàndó]
168. Snake	/ɲò/	[ɲò]
169. Python	/kúmà/	[k ^w úmà]
170. Tortoise	/kúù/	[k ^w úù]

Bird

171. Eagle	/ijungu/	[ijungu]
172. Fowl	/kúà/	[k ^w à]

Poultry

173. Bird	/ìnó/	[ìnó]
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Rodents

174. Rat	/fó/	[fó]
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Cardinal Numbers

175. one	/èòkò/	[èòkò]
176. two	/bébà/	[bébà]
177. three	/bèàrò/	[bèàrò]
178. four	/bíni/	[bíni]
179. five	/bétá/	[bétá]
180. six	/bétá dìòkò/	[bétá dìòkò]
181. seven	/bétá nà bébà/	[bétá nà bébà]
182. eight	/bétá nà bèàrò/	[bétá nà bèàrò]
183. nine	/bétá nà bíni/	[bétá nà bíni]
184. ten	/róndàrò/	[róndàrò]
185. eleven	/róndàrò nà èòkò/	[róndàrò nà èòkò]
186. twelve	/róndàrò nà bébà/	[róndàrò nà bébà]

187. thirteen	/róndàrò nà bèàrò/	[róndàrò nà bèàrò]
188. fourteen	/róndàrò nà bìnì/	[róndàrò nà bìnì]
189. fifteen	/òkórò/	[òkórò]
190. sixteen	/òkórò nà èòkò/	[òkórò nà èòkò]
191. seventeen	/òkórò nà bébà/	[òkórò nà bébà]
192. eighteen	/òkórò nà bèàrò/	[òkórò nà bèàrò]
193. nineteen	/òkórò nà bìnì/	[òkórò nà bìnì]
194. twenty	/dóò/	[dóò]
195. thirty	/dóò nà rónàrò/	[dóò nà rónàrò]
196. forty	/mó mábà/	[mó mábà]
197. fifty	/mó mábà nà rónàrò/	[mó mábà nà rónàrò]
198. sixty	/mó mārò/	[mó mārò]
199. seventy	/mó mārò nà rónàrò/	[mó mārò nà rónàrò]
200. eighty	/mó mánì/	[mó mánì]
201. ninety	/mó mánì nà rónàrò/	[mó mánì nà rónàrò]
202. hundred	/mó mātāà/	[mó mātāà]
203. two hundred	/mó rónàrò/	[mó rónàrò]
204. three hundred	/mó òkórò/	[mó òkórò]
205. four hundred	/mó dóò/	[mó dóò]
206. five hundred	/mó dóò nà mó mātāà/	[mó dóò nà mó mātāà]
207. six hundred	/mó dóò nà mó rónàrò/	[mó dóò nà mó rónàrò]
208. seven hundred	/mó dóò nà mó òkórò/	[mó dóò nà mó òkórò]
209. eight hundred	/mó dóò nà mó dóò/	[mó dóò nà mó dóò]
210. nine hundred	/mó dóò nà mó dóò nà mó mātāà/	[mó dóò nà mó dóò nà mó mātāà]
211. one thousand	/íkórí/	[íkórí]
212. two thousand	/dókórí róbà/	[dókórí róbà]
213. hundred thousand	/èkpà éá/	[èkpà éá]
214. one million	/bèkpà rónàrò/	[bèkpà rónàrò]

GRAMMATICAL ITEMS

PRONOUNS

215. I (1 st sing)	/mbá/	[mba]
216. You (2nd sing)	/wè/ or /òá/	[wè] or [òá]
217. He(human)	/mòó/	[mòó]
218. She	/mòó/	[mòó]
219. We	/ sí/sé /	[sí/sé]
220. You (pl.)	/nè/	[nè]

221.	They (human)	/bó/	[bó]
222.	Her	/mò/	[mò]
223.	It	/éò/ or /jò/	[éò] or [jò]
224.	His/hers	/ràí/ or [òàí]	‘[ràí] or [ówa-è]
225.	That	/àmà/	[àmã]
226.	Them	/bó/	[bó]
227.	Which	/bá/ or /ndzúkú/	[bá] or [ndzúkú]
228.	This	/ònò/	[ònõ]
229.	Why	/ònañe/	[ònañe]
230.	Their	/èàbù/	[èàbù]
231.	There	/óne/	
231.	Who	/ndzá/	[ndzá]

CONJUNCTION

232.	And	/nà/	[nà]
233.	If	/já /	[já]
234.	Because, since, as	/ngàmá/	[ngàmá]
235.	Before	/òmà/	[òmà]
236.	Then	/ómá/	[òmã]
237.	Thus	/èté/	[èté]
238.	So	/íó/	[íó]
239.	So that	/éké/	[éké]
240.	Yes	/î/	[î]
241.	No	/àí/	[àí]

242. Even /ékéré/ [ékéré]

Sentences

1. Mgba has bought a new clothe (past)
2. Martha is buying a dress (progressive)
3. Mgba has written a book (completive)
4. Mgba is writing a book (progressive)
5. Run (imperative)
6. I am running (progressive)
7. I am going to the market (statement)
8. Come and play (statement)
9. I am coming to play (progressive)
10. Go and buy (statement)
11. I am going to buy (progressive)
12. I shall eat (aspectual)
13. You will eat
14. He/she will eat
15. I am eating yam (progressive)
16. S/he has eaten (completive)
17. My father has bought a car' (past)
18. Are you cooking? (question)
19. Did you cook food (question)
20. Do you drink alcohol?' (question)
21. I am going (statement/progressive)
22. I am coming (statement/progressive)
23. My mother is cooking
24. They will come tomorrow (statement/future)
25. We shall not go (statement/negative)
26. We shall go (statement/positive)
27. ñdʒá -sak-ì 'I do not look for'

28. à	sàk í`	‘He/she looked for’
29. à	kà sàk è	‘He/she should not look for’
30. bá	nè sàk à	‘They are looking for’
31. bá	mò sàkí`	‘They looked for’
32. à	nè sáká ògòmmò	‘She/he is dancing’
33. bá	nè sáká ògòmmò	‘They are dancing’
34. à	mò sàk ì	‘He/she was looked for’
35. à	nè sàk à	‘He/she is looking for’
36. Moreli na dake		‘I am eating food’
37. Na ne kende o eka		‘I am going to the market’
38. Na ne bia o moriki		‘I run away or escape in the bushes’
39. Na ne soswa befafe		‘I am washing clothes’
40. Na ne saka ògòmmò		‘I am dancing’
41. Na ne ama mokòbò		‘Putting on clothes/dressing’
42. Na ne bole Otinikang		‘Putting out flame [lamp]’
43. Na ne kpama mo		‘Pushing somebody’
44. Kòtá Nwèá nwá dikìrèné [moreli]		‘To make fire for food’

Phrases

1. A big fish [nàrà énéne]
2. A big goat [mòrí énéne]
3. A big cassava [càsàrà énéne]
4. A strange bird [ínó já bòngò]
5. A strange house [ndábò èsinwèni]

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|-----|---------------|-------------------------------------|
| 6. | At home | [Ò ndábò] |
| 7. | At the market | [Ò èká] |
| 8. | On the leg | [o`mófángá] |
| 9. | On the head | [Ò mórófò] |
| 10. | In the hand | [Ò likòndzò [sing/Makòndzò, plural] |