

DEDICATION

To my parents who taught me never to give up in my studies, even during the most challenging times.

ACKNOWLEDGMENTS

So many people deserve our cordial appreciation for their direct and indirect assistance in the realization of this dissertation. We would like to thank those who spent their time and shared their knowledge to help us complete this research with a better quality. Our sincere apology to those we have failed to keep in mind in these lines!

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We also appreciate the interesting contribution of our mate NGANGEP TCHIEMOUO Carine whose research work entitled *The Morphosyntactic Aspects of Fang*, was carried concomitantly with the present one.

Above all, we are very grateful to the ETERNAL GOD for having inspired and sustained us during this work. We must confess, nothing would have been possible without the ALMIGHTY GOD.

ABSTRACT

This work is entitled Aspects of the phonology of Fáj, a language which is spoken in the Menchum subdivision, in the North-West Region. Our main preoccupation was to do a descriptive study of the phonology of this language. Nevertheless, this dissertation has as a starting point, a sociolinguistic study of Fáj which reveals that this non-coded language belongs to zone 8 of the languages of Cameroun and to the Niger-congo sub-phylum. The data on which this analysis stands have been collected from the native speakers of Fáj who stay in Fang for some of them and in Wum and Yaounde for the others.

In this study, we have used many theoretical approaches to analyse the different segments and the phonological phenomena that occur in Fáj. We have thus used a structural approach to analyse sounds and tones. The autosegmental phonology has been adopted to represent tones whereas the generative phonology model was used to analyse phonological and tonological processes. This permitted us to better capture segments (consonants and vowels), tones, the syllable structure, the phonological and tonological rules of Fáj.

We retain that Fáj has a phonic system that exhibits thirty-eight (38) consonants among which there are thirty-two (32) phonemes on the one hand, and, on the other hand, eleven (11) vowels among which there are eight (08) with their equivalent eight (08) long vowels. In addition, we have come across five (05) syllabic structures in this language namely: V, CV, CVC, CGV and CGVC. Further, in Fáj, we have noticed the intervention of phonological processes such as: glides formation, vocalic elision, glide deletion, nasal deletion, vocalic insertion, nasal assimilation, vowel lengthening, vowel shortening, vowel rounding, vowel truncation, vowel highring, aspiration. Furthermore, the analysis of tones reveals that in Fang, we have three underlying tones: the high tone, the low tone, and the mid tone. The other tones (high-low, low-high, high-mid and mid-high) are considered as the result of tonological processes (gliding and vocalic elision) or through the intervention of a floating tone. The super high tone in its turn is a result of phonetic implementations. In sum, these contour tones are made up from the specific tonological processes of Fáj. The tonological rules that characterise this language are as follows: high tone insertion, high tone substitution, tone spreading, contour tone formation, tone docking, tone simplification, the stray erasure principle, the process of default mid, and finally, the delinking.

RESUME

Ce travail est intitulé Aspects de la phonologie du Fáj, langue parlée dans le Département de la Menchum, Région du Nord-Ouest. Notre principale préoccupation était alors de faire une étude descriptive de la phonologie de cette langue. Cependant, ce document présente au préalable une étude sociolinguistique du Fáj qui révèle que cette langue non codée jusqu'ici, appartient à la zone 8 des langues du Cameroun et au sous phylum Niger-Congo. Les données sur lesquelles porte cette analyse ont été recueillies auprès des locuteurs natifs du Fáj résidant à Fang pour certains, à Wum et Yaoundé pour d'autres.

Dans cette étude, nous avons eu recours à plusieurs approches théoriques pour analyser les différents segments et les phénomènes qui interviennent en Fáj. Nous avons ainsi utilisé une approche structuraliste pour analyser les sons et les tons. Le modèle de la phonologie autosegmentale a été adopté pour représenter les tons et le modèle de la phonologie générative pour analyser les processus phonologiques et tonologiques. Ceci nous a permis de mieux cerner les segments (consonnes et voyelles), les tons, la structure syllabique, les règles phonologiques et tonologiques de la langue Fáj.

Nous retenons que le Fáj a un système phonique qui exhibe trente-huit (38) consonnes dont trente-deux (32) phonèmes d'une part et onze (11) voyelles dont huit (08) phonèmes et leurs correspondantes voyelles longues, d'autre part. En plus, cinq (05) structures syllabiques ont été inventoriées dans cette langue à savoir: V, CV, CVC, CGV et CGVC. Par ailleurs, en Fáj, on note l'intervention des processus phonologiques tels que: la formation des glides, l'élision vocalique, l'effacement nasal, l'effacement de la glide, la troncation vocalique, l'insertion vocalique, l'aspiration, l'allongement vocalique, l'assimilation nasale, l'abrègement vocalique, l'arrondissement vocalique. En outre, l'analyse des tons révèle qu'en Fáj nous avons trois tons sous-jacents: le ton haut, le ton bas et le ton moyen. Le ton supra haut est considéré comme étant le résultat des implémentations phonétiques. Les autres tons (haut bas, bas haut, haut moyen et moyen haut) sont issus des processus tonologiques (la formation des glides et l'élision vocalique) ou par un ton flottant. En somme, ils sont issus des processus tonologiques spécifiques à la langue Fáj. Les règles tonologiques qui caractérisent cette langue sont: l'insertion du ton haut, l'assimilation tonale, la propagation du ton, la formation des tons modulés, le tone docking, la simplification tonale, l'effacement tonal, l'association du ton flottant moyen et le détachement tonal.

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ABBREVIATIONS AND SOME SYMBOLS

Abbreviations

(UAC): Universal Association Convention

(UR): Underlying Representation

ALCAM: Atlas linguistique du Cameroun

AM: Associative marker

Ant: Anterior

Asp.:Aspiration

ATR: Advanced tongue root

C: Consonant

Cd: coda

CDC (Cameroon Development Cooperative)

CLC: Cameroonian Languages and Cultures

Cons: Consonantal

Const: Constricted

Cont: Continuant

COS: Cameroonian Orthographic Symbols

D.H.T.: Default high tone

D.L.T.: Default low tone

D.M.T.: Default mid tone

F: Feature

F1: Future 1

Fig.: Figure

G.Del.: Glide delition

G: Glide

GLID FOR : Glide formation

Glid.: Gliding

H.T.S: High tone spreading

H: High tone

HL: Falling tone

HM: high-mid tone

IPA: International Phonetic Alphabet

L: Low tone

LAB: Labial

Lat: Lateral

LH: Rising tone

M: Mid tone

MH: Mid-high tone

MT: Mother Tongue

N.Assim.: Nasal assimilation

N.Del.: Nasal delition

N: Nasal

n: nucleus

N2: Second noun

Nas: Nasal

NGOs: Non-Governmental Organizations

O: Onset

OCP: Obligatory Contour Principle

P0: Present tense

P: Past

PR: Phonological representation

R: Rime

R1: Rule one

R2: Rule two

S.E.: Stray Erasure

SH: Super-high tone

Son: Sonorant

SPE (Sound Pattern of English)

Strid: Strident

Syll: Syllabic

TBU: Tone Bearing Unit

T.DOCK: Tone Docking

T.SIM: Tone Simplification

UR: Underlying representation

V. Del.: Vowel deletion

V. Rais.: Vowel Raising

V.Inser.: Vowel insertion

V. Leng.: Vowel lengthening

V. Round.: Vowel rounding

V.Short.: Vowel shortening

V.Trunc.: Vowel truncation

V: Vowel

V₁: First vowel in a syllable

V₂: Second vowel in a syllable

Symbols

[]: Phonetic representation

/ /: Phonological representation

/: or

□: Association line

↔: Transliteration

+: Plus

_: Minus

±: Plus or minus

=: Boundary between phonological words in compounds

→: Becomes

↙: In the context of

(): Brackets for features

—: Sound position

∅: Zero

#: Word boundary

CHAPTER I: GENERAL INTRODUCTION

I-0. Introduction

The purpose of this dissertation is to discuss as the title indicates, *aspects of the phonology of Fáj*, a language spoken in North-West Cameroon. No extensive analysis of this language has previously been undertaken, so this stands out as the initial work that presents the fundamental characteristics of the language. This introductory chapter begins by a presentation of the objectives and motivation of this study, the geographical, socio-cultural situations and the historical background of the language as well as the linguistic situation. It further exposes the previous works done on the language, the theoretical framework and the methodology used in this work. It ends up with an overview of the rest of the chapters of the study.

I-1. Purpose

Phonology, as a part of linguistics, presents its own importance as it deals with the sound systems of languages. Through a phonological study, one can give the structure of a language. It is only through a phonological study of a language that one can possibly determine pertinent sounds or distinctive sounds.

Since no deep linguistics work has so far been done on Fáj, this attempt of its phonology will hopefully provide a wider area for more studies on the language. This can also serve as a foundation for the development of the writing system of the language thus providing Cameroon with a written language added to its existing list of written languages.

I-2. Motivation

I-2-1. Scientific motivation

The choice of this topic emanated from the fact that up till now, the Fáj language has not undergone any deep linguistic study (except some sociolinguistic investigations). We have chosen to start with a descriptive work since it is necessary for any other further research to be carried out in this language.

I-2-2. Practical motivation

From purely academic and scholarly perspective, this work is designed as a contribution to the study of Cameroonian languages. By establishing a writing system, we will hopefully contribute to the development of Fáj and to the literacy of the native speakers since these are very important as

far as the cultural identity of a people is concerned. In fact, through the present analysis, we are contributing to the establishment of a stable grammar and orthography in the language in question.

We were equally motivated by the fact that, nowadays, there is a possibility of teaching local languages (national or Cameroonian languages) in schools, and even in adult literacy classes. This can however not be done without a thorough and concrete analysis of the languages. Textbook writers, didactic material elaborators, teachers, etc. need to understand the nature of a language before they can carry out their various tasks. They can only do so if linguists on their part carry out their own duty of analyzing a language in all its aspects. With a detailed analysis, in this language of the different aspects of phonology evoked in the overview (the last part of the present chapter), textbook writers, didactic material elaborators, teachers and all those involved in literacy will find it easier to carry out their respective tasks. This work can thus be seen as a relevant input to the development of this language. Thus, this study contributes to the promotion of Cameroonian languages which are the tools par excellence in the process of valorization and perpetuation of the cultural and the linguistic patrimony. In doing so, this research is an answer to the call of the Cameroonian government on the use, the teaching of the national languages in the educational system and moreover, the preservation of minor languages.

I-3. Geographical location

Fáj is a Cameroonian language spoken in the North-West Region, especially in a village called Fang. This village is situated in Wum subdivision, in an area known as Lower Fungom and at about 7 km from Aba. Fang people seem to be among the most recent people to have moved to this area (Pierpaolo 2011: 79-80). Fáj is spoken only by the Fáj people (Féñǎ): *(It is a one-village language spoken in the southeastern part of Lower Fungom. This is a completely separate language from the variety known as Fang associated to the Beti language cluster, which comprises Narrow Bantu languages spoken in southern Cameroon and bordering countries, and the name overlap appears to be coincidental)* (Jeff Good et al., 2011).

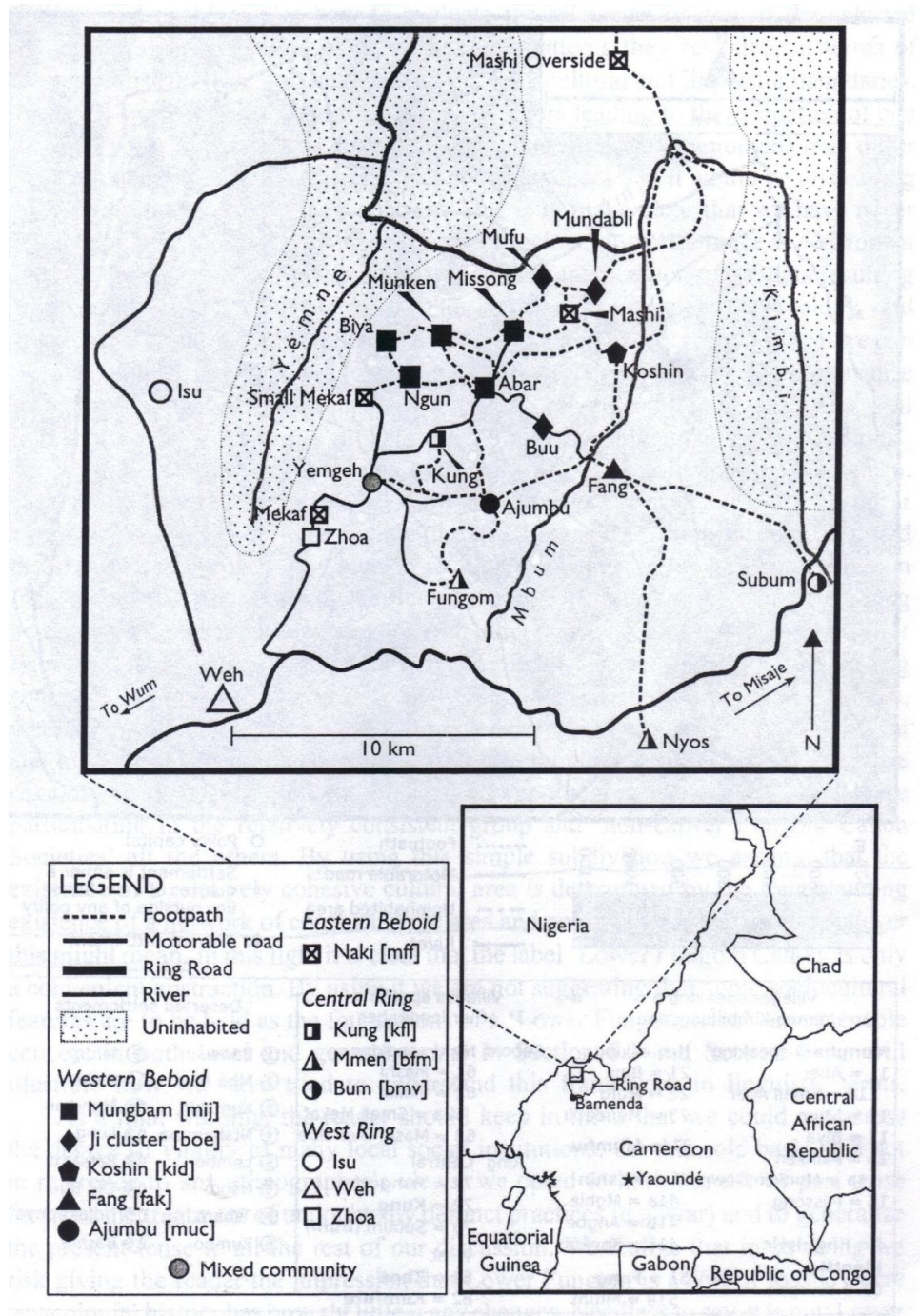
According to Pa Mba John Ntuh, one of the patriarchs of the Fang community, this language is also largely spoken (by Fang people) in the South-West region especially in Koumba (new town), in Buea, in Tiko, in Limbe and in Moyuka (Owe quarter). In fact, many Féñǎ decided to settle there in order to seek for a job when the CDC (Cameroon Development Cooperative) started functioning in the place.

Important groups of Fǎ́ǎ́ are also found in the littoral Region, precisely in Lung, Mbanga, Kompenja, Suza and in Bikoko.

In the Fang village, the population (Fang speakers) has been estimated in 1987 at 6000 (Hamm et al., 2002: 6). But according to Pa Mbam John Ntuh, this population has increased running up to about 10, 000 speakers of the language. Again, he estimates the entire fang population of Cameroon at about 20, 000 speakers. Therefore, “*Fang is, by far, the most populous village in Lower Fungom as well as the most spoken language*”(Jeff Good et al., 2011).

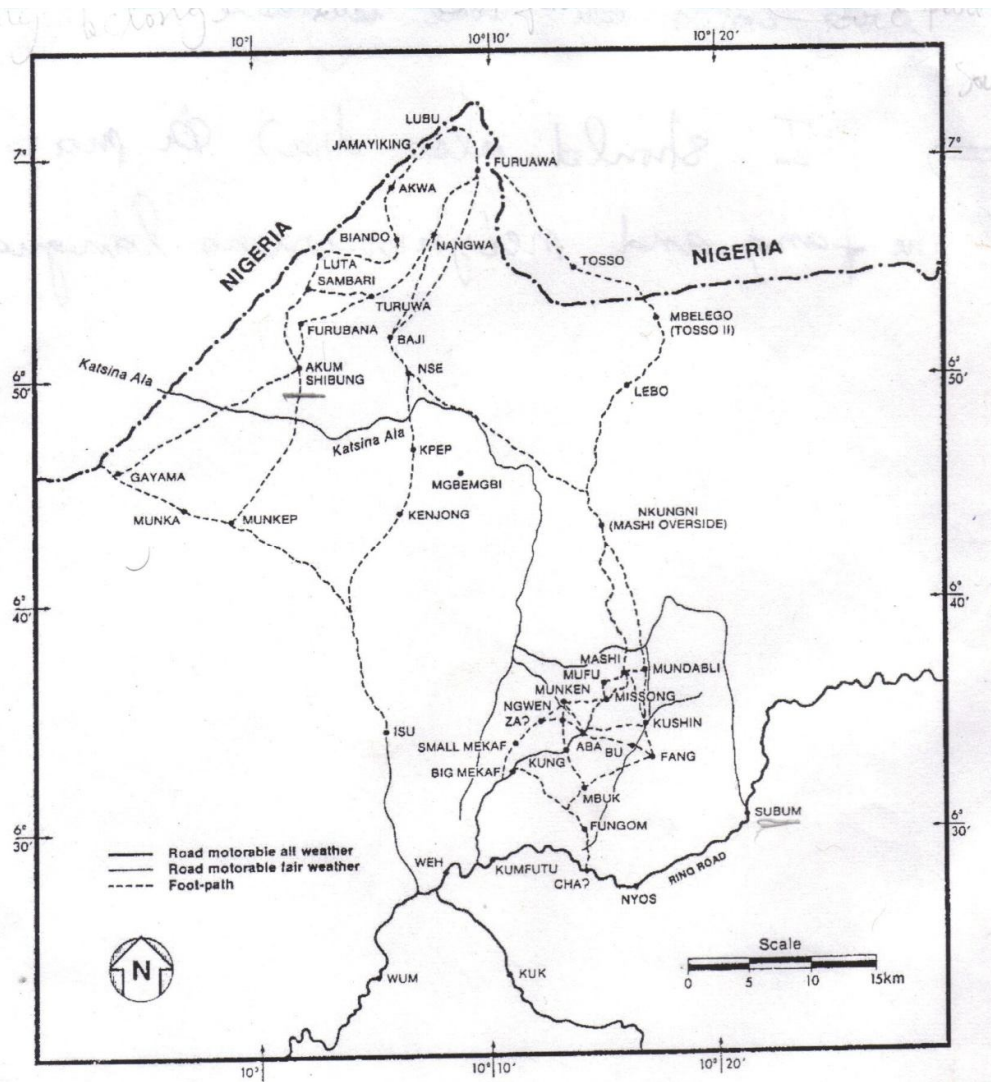
The Fang language cohabits with other languages (*Mbu, Naki, Bu, Missong, Koshin ...*), especially with *Koshin*. Indeed, some fang people claim to understand few words in *Koshin*. This led some to treat Fǎ́ǎ́ and *Koshin* as varieties of the same language. Yet, “*while there is at least one prominent grammatical connection between them in the Lower Fungom context- the present of a noun class that can be associated with class 13- it would be premature to suggest any specific close connection between the two*”(Jeff Good et al., 2011). The following maps give an account of the location of Fang within the Wum-Subdivision.

Fig1



(Source: P. Di Carlo 2011: 57)

Fig 2



(Source: Jeff Good and Jesse Lovegren 2009)

Moreover, the languages Fánj cohabits with are indicated with their codes on figures 3 and 4 below:

Fig 3

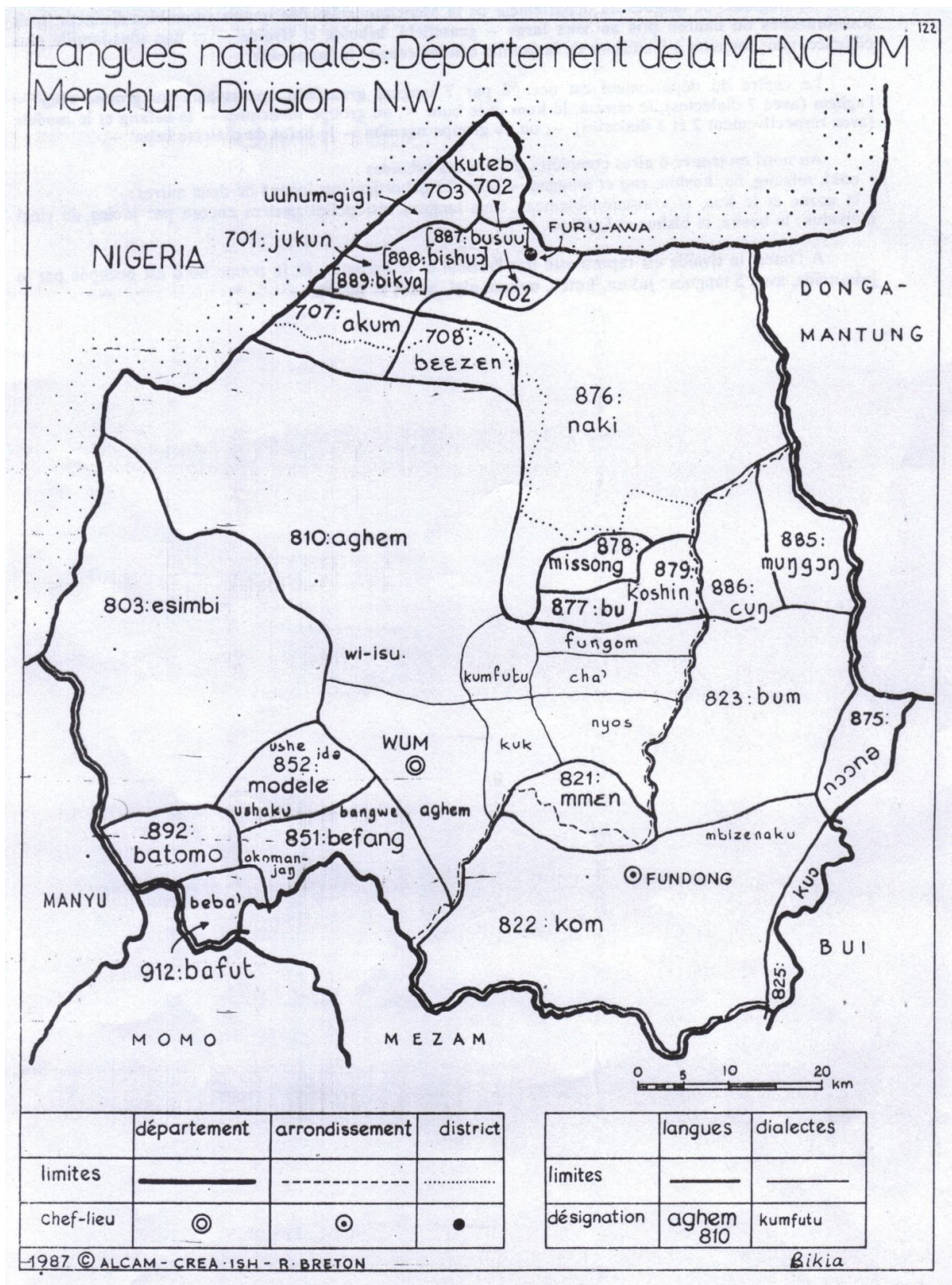
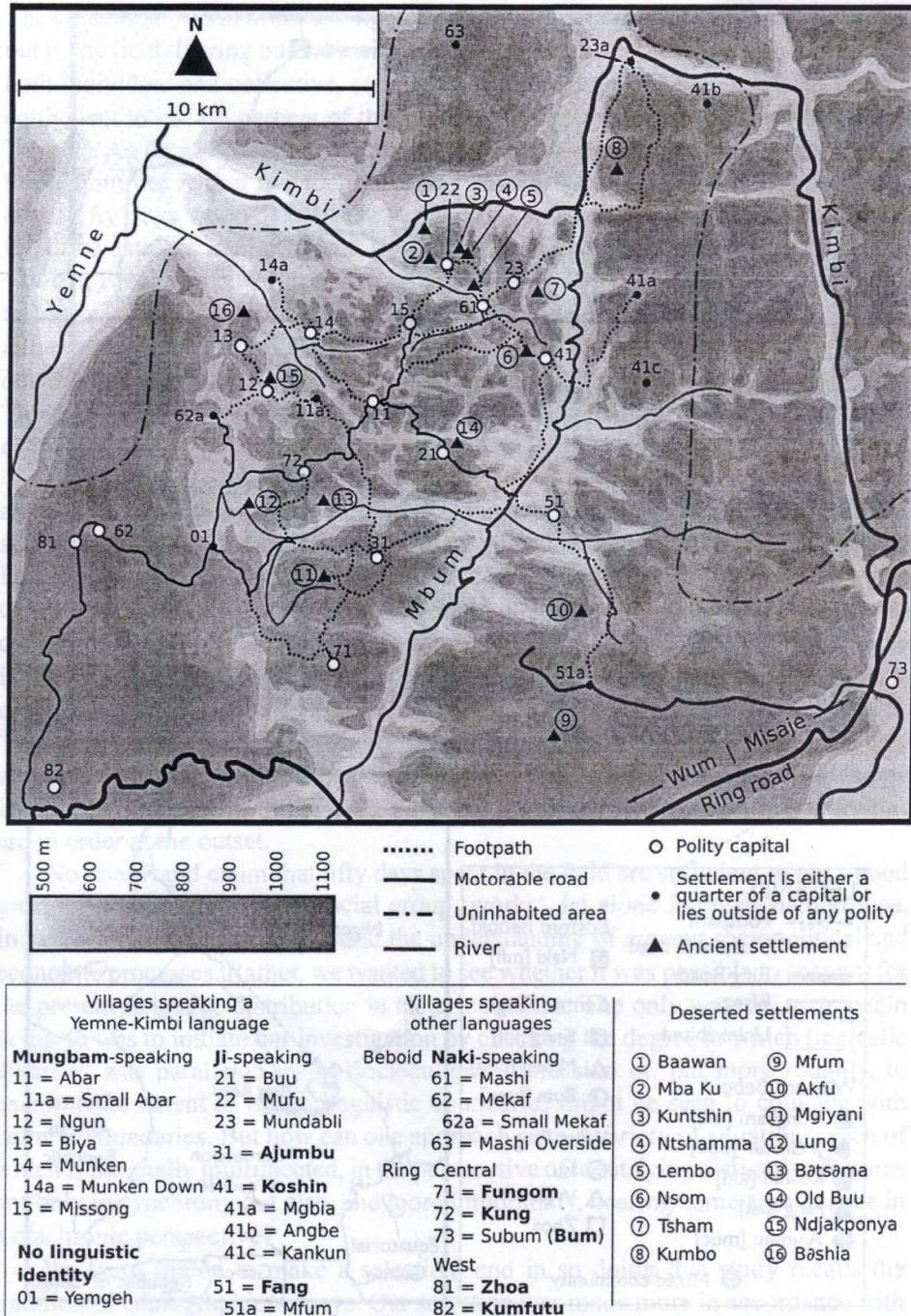


Fig 4



(Source: P. Di Carlo 2011: 58)

I-4. Historical Background

According to the Fang patriarch Pa Mbam, the Fang and Befang communities of Cameroon originated from Bafang (West region). Because of war, they had to leave and settle in Widikum (North West region) which they left at a given period. Then they all settled in the present Befang. This tradition is somehow shared by Pierpaolo (2011: 79-80). Fang people decided to leave again because of the insecurity caused by the Second World War. So, passing through Wum, they trekked up to Kungfutu and Bafmen whose name was *fsyè* those days. As the minority, Fang people were being tormented by the *fsyè* people who considered them as their slaves.

So they left there and settled at the top of a hill named *ákʰú* (meaning “town” in English). Moreover, according to Abre Charles Undjidi (2003:7), “*one of befang’s brothers called fang moved to the high hills towards Wum. He founded a place in Lower Fungom known as fang (meaning forest)*”. But the Bafmen people continued searching where Féñó settled to torment them again. So they had once more to leave after the alarm given to them by their *mystical stone*. And then, they reached the present Fang village which was still a big forest those days. They lived there in security, since they were protected by two rivers (Kedzume and Mbum) which surrounded the village. From the information collected from the patriarch, Pa Jacob Bah Munya, women constitute the majority of the Fánj community.

I-5. Socio-Political Organization

Fang people constitute only one and one community. As far as the organization of Fang people is concerned, the community is administered at two different levels: the traditional level and the official level. At the traditional level there is a traditional chief, the *təm* or the *ntol*¹ belonging to a special family known as *Kúlǽjún*. The latter is the one taking decisions and giving orientations within the Fang community. One should notice that the first traditional ruler of the people in question was a woman called *Kembanya*. But instead of holding a traditional broom, she, as woman, held a symbolic tree of peace.

At the official level, there is an official chief who is in charge of the external affairs. He himself receives from the traditional chief orders which he should obey scrupulously. The

¹ See Pierpaolo (2011: 80).

latter is the one managing and arguing for the village affairs out of the village. The first Fang official chief was called Chief Joh the first.

There are also some notables who are just the representatives of the chief within the different headquarters which make up the Fang village. But there is a special notable known as *Ntchinda*. He receives orders from the chief and transmits them to the villagers. That is, he is the chief's messenger. According to Pierpaolo (2011: 80), "*Fang quarters do not coincide with exogamous units since members of any given lineage live scattered among quarters; in Fang, quarters are more of an administrative than a kinship-based kind and this determines that the office of quarter heads is not hereditary but rather elective.*" He states again that "*the most apparent sociocultural differences are that, in Fang, each lineage owns a hunting lodge (Fang fəbwə) whose seat is an externally peculiarly decorated house of ritual located in the lineage head's compound and the kwifon seems more closely related with the exercise of political power by the chief.*"

From a socio-economic point of view, the Fang people practice farming. They generally grow corn and groundnut even if few people grow Bambara groundnut and traditional carrot just for local use. They also produce palm oil for a commercial goal. But few people rear sheep, goats, pigs and fowl for eating or selling and for some traditional ceremonies.

With regard to the culture of this people, it is worth noting that the Fang people, like many African communities, usually practice death celebration and other traditional events like traditional wedding. During such celebrations, they practice some traditional dances namely tèsóŋ, fūmbwə́n, kəŋgəŋ,... But the main traditional dance that the Fang people practice is Kəfə́nə notably during the harvesting celebration. This ceremony, which gathers Fang people of many places and which is celebrated by the traditional chief, takes place every year in the Fang village, before the 15th of October.

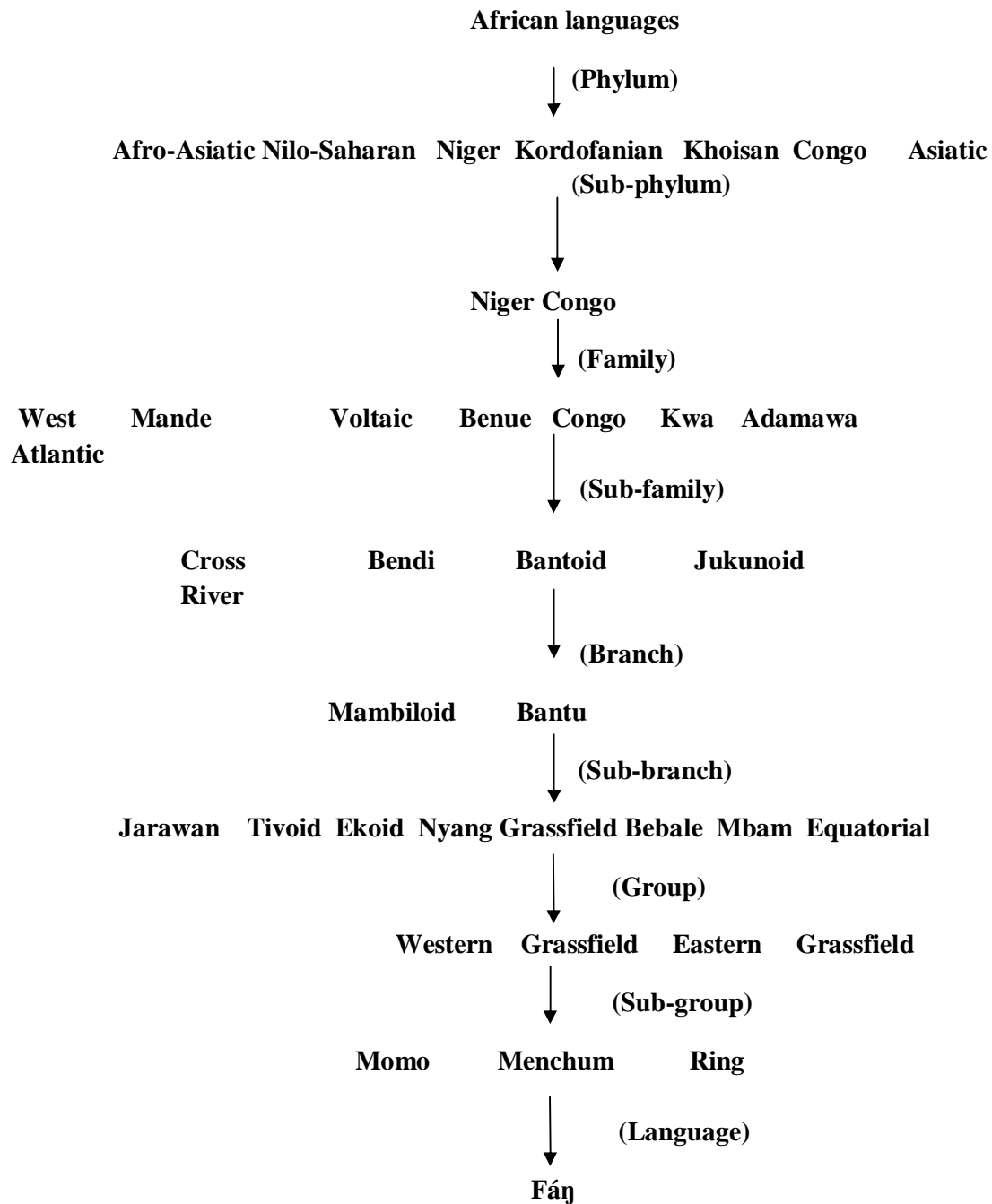
I-6. Linguistic classification

The classification of African languages has been done by several linguists among whom are Guthrie (1948), Welmers (1973), Greenberg (1963,1970, 1974) and Williamson (1973). In this study we will consider Greenberg's classification and ALCAM. According to ALCAM, languages found in the Wum sub-division fall under zone 8 of the languages of Cameroon. That is the languages spoken in the North West region of Cameroon. This is re-iterated by Mutaka and Tamanji (2000:15) when he states that Zone 8 is made up of "*north of south-west province and west of*

north-west province. It consists of the Bantu languages that are neither Narrow Bantu (Zone A of Guthrie) nor East Grassfields (former Mbam-Nkam. It includes Grassfields languages of the Momo, Menchum and Ring groups and also other languages that are considered Bantu although they exhibit many differences with the central Bantu: Tiv, Ejagham, Njwande, Esimbi, (...), Naki, Bu, Missong, Koshin, ...” Moreover, Watters (1989) treated the languages of Lower Fungom as part of the higher-level Semi-Bantu grouping conventionally referred to as Bantoid. These languages are therefore placed into the Beboïd subgroup which is considered as part of a South Bantoid group which contains Narrow Bantu and its closest relatives including the Grassfield Bantu languages (Hombert 1980, Schadeberg 2003, Troyer et al. 1995). Beboïd itself is conventionally broken into two branches, Eastern Beboïd and Western Beboïd which is restricted to the zone of Lower Fungom, Naki being the excepted language² (Hombert 1980, Brye 2002, Hamm et al. 2002). But, it should be mentioned here that Fáj is not yet among the languages coded by Dieu (1983) though it is a language of this area as one can see on the above figures. Greenberg’s genealogical classification traces the origin of a language from the phylum, family, the branch and even its group. This leads us to propose a genealogical classification of Fáj as follows:

²Naki is treated by these authors as an Eastern Beboïd language found in Lower Fungom and spoken in the villages known as Mashi and Mekaf.

The genealogical classification of fáɲ



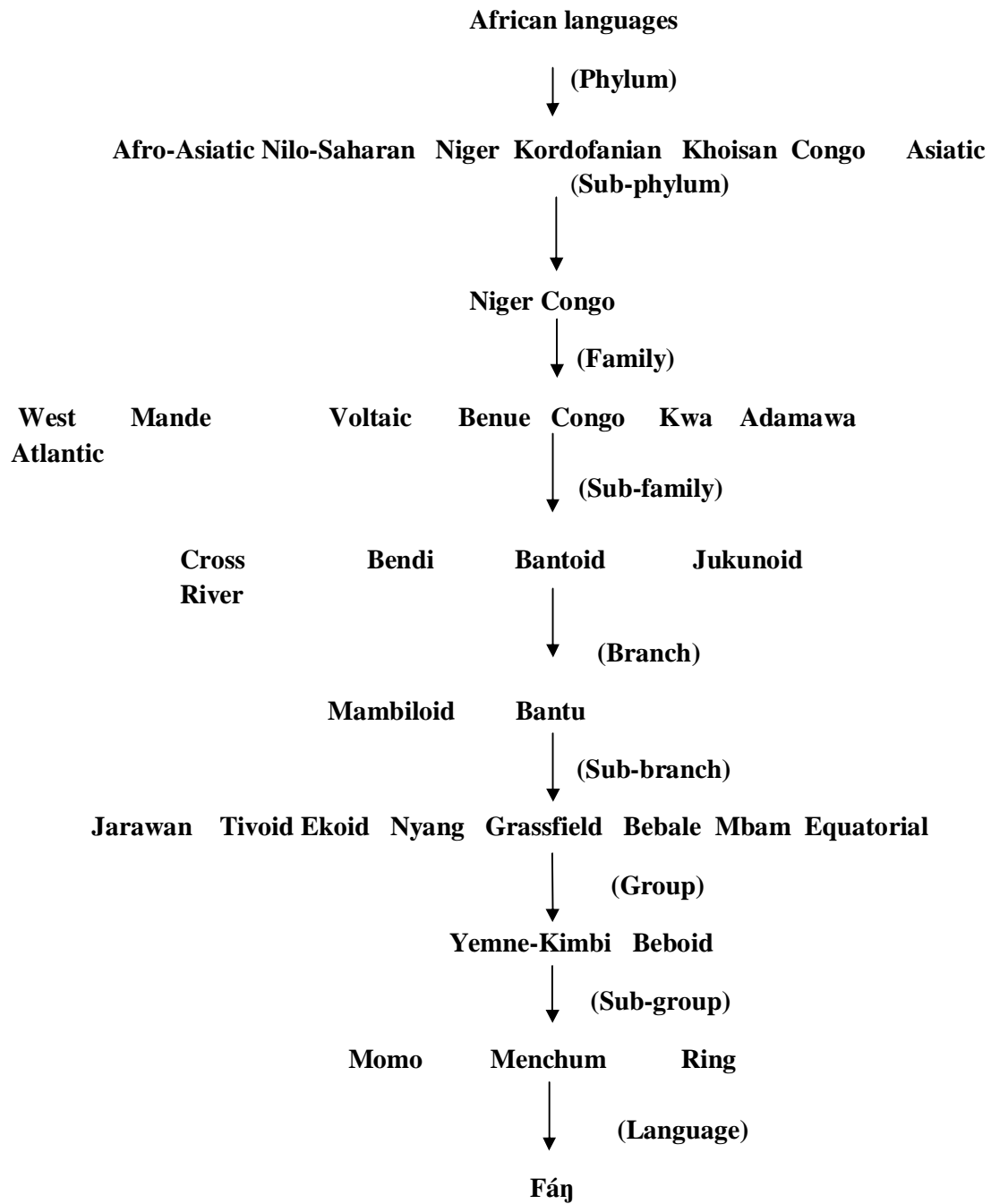
Nevertheless, Jeff Good et al. (2011: 8) propose to revise the above classifications by treating the languages of Lower Fungom as the languages of the Yemne-Kimbi group (see the maps in figures 1 and 4):

“ Despite the widespread adoption of Beboid as a classificatory label, no publication has ever presented evidence for the group in terms of shared innovations, or even

lexicostatistics. Personal communication with Jean-Marie Hombert, who proposed the group in Hombert (1980) has not revealed any further evidence for it, and he has not tried to defend the grouping. Therefore, while proposal was quite valuable as an initial hypothesis, in particular clearly delineating a group of non-Grassfield languages at the family's northern periphery, its repeated use as a referential label in recent decades is presumably better understood as the result of lack of detailed investigation into the matter rather than acceptance of the subgroup as proven. [...] the research reported here has not resulted in any substantiating evidence for either a Western Beoid subgroup or a close affinity between "Western Beoid" and "Eastern Beoid" languages. Thus, we abandon here the label Western Beoid- along with its associated genetic hypotheses- and instead propose the name Yemne-Kimbi for this group of languages which references two rivers that are found at the western and eastern borders of the Lower Fungom region between which all of the relevant languages are spoken. If this naming convention becomes more widely adopted, then Eastern Beoid could simply be termed Beoid since it would no longer be associated with a Western Beoid group, and we refer to this group as Beoid here..."

Therefore, the revised genetic classification of **Fáŋ** will look like the following one:

The genealogical classification of fáj



I-7. Corpus and informants

Our study is based on an inventory of words and expressions collected through interviews; informants articulated verbs, names of things, places, events; these words were immediately transcribed.

Many informants, all native speakers of Fáj, contributed enormously in the collection of the data. The following table provides information about the informants:

Table1: Table of informants

N°	Name	Age	Born in	Occupation	Place of residence	Languages spoken
1	BAH Jacob MUNYA	82	Fang	Former-teacher	Fang	Fáj, English and Pidgin
2	VUMBONG Elias KUUM	65	Fang	House wife	Wum	Fáj, Kom Wimbun, English and Pidgin
3	NTU Joseph MBAKIBO	64	Fang	Retired civil servant	Wum	Fáj, Kom, Aghem, English and Pidgin
4	VUMBONG Dorothy TSENE	63	Fang	House wife	Wum	Fáj, Kom, Weh and Pidgin
5	BAH Gabriel KEYACHE	52	Fang	Former-army officer	Yaounde	Fáj, English and French
6	MBAM John NTUH	51	Fang	Former-army officer	Yaounde	Fáj, English and French
7	SORH Michel	47	Fang	Notable	Fang	Fáj, Pidgin and English
8	YAMA Richard	43	Fang	Notable	Fang	Fáj, Pidgin and English
9	KOH SONKEY Lydia	42	Fang	House wife	Wum	Fáj, Pidgin and English
10	MAFOR John NTOH	40	Fang	Traditional vice chairman	Fang	Fáj, Pidgin and English

11	MBAM Gladys	40	Fang	House wife	Yaounde	Fáń, English and French
12	KIMBI Charity SHENTE	20	Fang	Student	Wum and Fang	English, Fang; also hears Kung, Kuk, Aghem, Bafmen and Koshin
13	KUMATANG Valorine SHENTE	19	Fang	Student	Wum and Fang	English, Fang; also hears Abar and Koshin

I-8. Literature review

Fáń is among the numerous Cameroonian languages that are not yet studied. We are not aware of any literature concerning this language except the sociolinguistic study and the wordlist (about the languages of Lower Fungom) found in Hamm et al. (2002: 30- 32). There is also the article written by Jeff Good et al (2011). The paper in question offers an overview, especially the grammatical overview on the languages of Lower Fungom. Here, relevant, background information on the languages of Lower Fungom is given, including some basic grammatical information on Fáń (Jeff Good et al. 2011: 132-137). Equally, in Pierpaolo (2011: 79-80) one can find some information about Fáń. This paper deals with the linguistic diversity and the historical development of Lower Fungom standing on some colonial documents (Hawkesworth 1927:5, Smith 1929: 42-43) and archaeological evidence. Therefore, since no deep research has been carried out on this language, we deemed it necessary to undertake a descriptive study on it, especially in the domain of phonology. That is why our study is entitled “*Aspects of the phonology of Fáń*”.

I-9. Theoretical framework

This work will be within three theoretical frameworks, namely, the structural phonology, the generative phonology and the autosegmental phonology. A word about each of these frameworks is in order here.

I-9-1. Structural phonology

The sound system of Fáń falls within the aim of this work. So we will analyze words in minimal pairs, sounds in contrastive distribution, complementary distribution and free variation in order to bring out pertinent sounds in this language. Pitch phonemes as well as

possible combination of sound into larger units will be taken into consideration. All these aspects are better analyzed through the structuralist theory.

The structural approach to phonological analysis has a good number of prominent ideas postulated by the fathers of modern linguistics Ferdinand de Saussure and also Troubetzkoy. Some parts of the structuralist principles we will use can be found in Martinet (1970) and others. These principles consist in working from a phonetic inventory to a phonic chart. They are also well elaborated in Essono (1998).

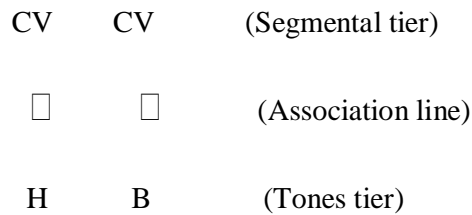
I-9-2. Generative phonology

In the 1940's and the 1950's, the emphasis on phonology was on phonemics (taxonomic or classical). This approach was not inadequate in accounting for certain aspects in languages but dealt mostly with phenomena such as minimal pairs, free variation, suspicious pairs, etc. This led to the development of generative phonology. While classical phonemics recognizes only one level of presentation i.e, what occurs on the surface, Standard Generative Phonology on its part recognizes two levels of representation, i.e; the systematic phonemic and the systematic phonetic levels. It looks at speech more or less as a horizontal stream that is segmented into a linear sequence of units. This theory accounted in a better way for some segmental processes relative to classical phonemics but failed to provide sufficient answers to questions posed by some tone phenomena. This weakness calls for a different approach to be used in handling tone in the Fáj language. The autosegmental approach comes in therefore to solve this problem.

I-9-3. Autosegmental Phonology

This is one of the most influential developments in phonology. This approach was initially motivated by the desire to explain properties of tones. The basic premise of autosegmental phonology is that tones are represented on a line (or tier) parallel to that of consonants and vowels and are synchronized with the units that bear them (such as syllable and mora) by means of association lines. This is why autosegmental phonology is also called "*Tiered phonology*" as it is shown below:

Diagram 1: Autosegmental tiers



Goldsmith consequently developed the autosegmental theory in 1976. This theory provided insight that proved efficient in handling tonal processes. It asserts that segments exist in autonomous tiers unlike the principle of Absolute Slicing Hypothesis assumed by Standard Generative Phonology. He therefore showed that it is more adequate to represent tones in term of tiers not in a linear way as the SPE (Sound Pattern of English) was doing it. According to him, the Underlying Representation (UR) is a multilinear tier from which tones are associated with respect to the Universal Association Convention (UAC).

Many researches have been done to trace principles in assigning tones on TBU: William (1971), Goldsmith (1976), Leben (1973), Clement & Ford (1979), Pulleyblank (1983), Yip (1988). In this study, we will stand on the version of Pulleyblank (1983) for our tone analysis:

Universal Association Convention (UAC)

In connection with this, Pulleyblank (1983) says:

“I propose therefore that, the universal aspect of tones mapping Rules and the Well-formedness condition are as follows:

Association Convention

Map a sequence of tones onto a sequence of tone bearing units,

- (a) From left to right*
- (b) In a one to one relation*

Well-formedness condition

Association lines do not cross.”

With regard to this, the three approaches will therefore be used in this work.

I-10. Methodology

The methodology used is the time honored classical method used by descriptive linguistics for languages with no previous linguistics description. The analysis consists of (a) informant (native speaker) assisted data elicitation, (b) data organization and classification (computer assisted), (c) data analysis, and (d) real formulation based on one or more

theoretical frameworks. In this respect, the data (word lists, phonological phrases) were collected with the aid of Fáj speakers.

Two stages of the data elicitation were done in Wum where many native speakers of Fáj are living, and another stage was done in the Fáj village not only to verify the faithfulness of the data but also to live the realities of the life of the people. We also consulted many Fang people who live in Yaoundé.

For the effective treatment of these data, the sound system is studied in order to determine the different phonemes of Fáj and its alphabet. Frames are further constituted in order to understand the behavior of segments and tones in various contexts. This involves creating particular slots through which various sets of data are parsed.

Finally it should be noted that the analysis and rule formulation are carried out by an eclectic use of the linguistic theoretical frameworks presented below as deemed necessary. This is so because each of them handles specific issues in a more insightful manner than the others, thus permitting the work to explain phenomena that would otherwise be difficult to analyze.

I-11. Overview

The segmental phonology of Fáj is presented in this dissertation in chapter 2 where various aspects of the phonology are discussed. These include the consonant and vowel systems as well as features that are used in the study. The phonological processes that these sounds undergo are presented in chapter 3.

An overview of the tonological system of this language is provided in chapter 4. The phonetic and the phonemic inventories of tones and the classification of tonemes are outlined here. A presentation of tone groups of this language is also part of this chapter.

Chapter 5 concentrates on the autosegmental phonology of Fáj. It therefore handles some tonological processes involved in the Fáj language.

A general conclusion is given in chapter 6 where findings of the whole thesis, the difficulties we faced during this work and some recommendations for further research works on this language and for the promotion of Fáj are provided.

CHAPTER II: THE SOUND PATTERN OF FÁŃ

II-0. Introduction

It is well known that tone languages consist of at least three kinds of phonological units, namely consonants, vowels, and tone. This chapter is devoted to the phonetic and the phonemic characterization of Fáj sounds. A presentation or an exhibition of consonant and vowel systems is found in this chapter. The tone system in turn will be presented in chapter four. The present chapter also presents features that are used in this work together with their defining feature matrices.

II-1. Sound and Inventory

II-1-1. Phonetic inventory

The word *Phonetics* was given a clear-cut definition by the famous linguist Ferdinand de Saussure who drew relevant distinction between what he called *langue* (language) and *parole* (speech). In his theory, Ferdinand de Saussure claims that *Phonetics* falls within the framework of speech whereas Phonology belongs to the domain of language. From this challenging innovation in linguistics, one can define Phonetics as the study of sounds of the human language. It is concerned with bringing every perceptible difference that may contrast sounds, regardless of their membership in any language (Essono, 2006). Notice that the transcription of sounds in this study assumes the symbols of the International Phonetic Alphabet (IPA). The following correspondence can be made with the Cameroonian Orthographic Symbols (COS) proposed by Tadadjeu and Sadembouo (1979) if the orthography of Fáj, which is beyond the scope of this work, is being developed.

Table 2: Table of correspondence between API sounds and COS

IPA	Cameroonian Alphabet	Examples
ʃ	sh	ʃú↔shú “untie”
tʃ	c	tʃùm↔ cùm “fish”

ɖ	j	dʒí ↔ jí "wear"
ɲ	ny	ɲú ↔ nyú "knee"
j	y	jú ↔ yú "house"

II-1-1-1. Consonants

Consonants are sounds of speech that are produced with the airstream channel being either completely blocked or narrowed. They are, in fact, sounds that are produced with some constriction in the vocal tract that impedes the free flow of air through the organs of speech. They are numerous in a human language and Fáj in no exception. In what follows, the various phonetic consonants will be presented and analysed in order to determine which of them are contrastive.

a)- Stops

According to Katamba (1989), stops are sounds during the articulation of which “*the articulators come together and completely cut off the flow of air momentarily, then they separate abruptly*”. Stops are also referred to as plosives. The stops used in Fáj include:

[p]: voiceless oral bilabial stop as in:

Word initial position: pàlùm “parlour”

Word medial position: t̀p̀al̀um “parlours”; wàspítà “hospital”

[b]: voiced oral bilabial stop as in:

Word initial position: bé “build”; búwálá “rain”

Word medial position: k̀ə̀bí̀k̀ə̀ “bad”

[t]: voiceless oral alveolar stop as in:

Word initial position: t́ín “cut”; t́íyá “horn”

Word medial position: k̀ə̀lét̄ “wide”

[d]: voiced oral alveolar stop as in:

Word initial position: dúɲ “sit”; dùwàlá “star”

Word medial position: k̀əd́íȳəɲ “tall”

[k]: voiceless oral velar stop as in:

Word initial position: kè “see”; kófá “bone”; kí “know”

Word medial position: tàkú “heads”; tókó “night”; líká “run”

[g]: voiced oral velar stop as in:

Word initial position: gí “come”; gúwòn “feather”

Word medial position: kègààsâŋ “red”

[kp]: voiceless oral labio-velar stop as in:

Word initial position: kpú “dieing”; kpè “burn”

Word medial position: mèkpréŋ “woman”

[gb]: voiced oral labio-velar stop as in:

Word initial position: gbúŋ “mountain”

Word medial position: tègbú “ash”

b) - Prenasalised stops

The production of these sounds begins with the production of a nasal which is followed by the articulation of an oral stop. As such, the velum is initially lowered and then raised so as to produce respectively the nasal and the stop.

[^mb]: voiced bilabial prenasalised stop as in:

Word initial position: ^mbī “earth”; ^mbálá “type of fish”

Word medial position: fù:^mbúwón “type of dance”

[ⁿt]: voiceless alveolar prenasalised stop as in:

Word medial position: fə:ⁿtán “seed”; tí:ⁿtān “chop”

[ⁿd]: voiced alveolar prenasalised stop as in:

Word medial position: d̥bè:ⁿdón “goat”

[^ŋk]: voiceless velar prenasalised stop as in:

Word initial position: ^ŋkùm “belly”

Word medial position: kə:^ŋkúwásè “type of dance”

[^ŋg]: voiced velar prenasalised stop as in:

Word initial position: ^ŋgíyám “water”; ^ŋgáfá “root”

Word medial position: fə:^ŋkàlè:^ŋgúwá “louse”; kə:^ŋgèŋ “type of dance”

[^ɔkp]: voiceless labio-velar prenasalised stop as in:

Word medial position: púnŭwàti:^ɔkpàlǎ "drum"

c) - Aspirated stops:

Aspirated sounds are sounds which result from the superimposition of a raised voiceless glottal fricative ([h]).

[k^h]: voiceless velar palatalised stop as in:

Word initial position: k^hē "dance"

Word medial position: bǎk^hémǎ "crabs"

[g^h]: voiced velar palatalised stop as in:

Word initial position: g^hú "fire"

d) – Nasals

According to Katamba (1989), nasals are produced with the velum lowered so as to enable the air stream to escape partly through the nasal cavity. Nasals in fá include the following:

[m]: bilabial nasal as in:

Word initial position: mú "drink"; mū "one"

Word medial position: kúmóŋ "silent"; mómśǎ "act"

Word final position: lúm "bite"; tǎm "shoot"

[ŋm]: labio-velar nasal as in:

Word initial position: ŋmǎ "person"; ŋmém "children"; ŋmú "drink"

[n]: alveolar nasal as in:

Word initial position: nê "mother"

Word medial position: nǎnǎ "go"

Word final position: tán "jump"

[ɲ]: palatal nasal as in:

Word initial position: ɲú "knee"; ɲàm "meat"

Word medial position:

[ŋ]: velar nasal as in:

Word medial position: féŋá "fang people"; fə̀nsiŋə̀ "ring"

Word final position: gùŋ "sleep"; kə̀ŋ "love"; túwə̀ŋ "ear"

e) - Fricatives

Fricatives are produced with the articulators coming together but leaving a very narrow airstream channel through which the air forces its way out. As a result of the narrowing of this air passage, a hissing noise is produced, hence the term "fricative".

[f]: voiceless oral labio-dental fricative as in:

Word initial position: fú "hair"; fə̀nə̀n "bird"

Word medial position: kə̀fə̀nə̀ "type of dance"; kófə̀ "bone"

[v]: voiced oral alveolar fricative as in:

Word initial position: víyən "tail"; vɔ́y "moon"

Word medial position: mbě̀vú "grand mother"

[s]: voiceless oral alveolar fricative as in:

Word initial position: sɪm "hear"; sí "burn"; sə̀ "sand"

Word medial position: kúwəsá "wipe"; wəsə̀ "eye"

[ʃ]: voiceless oral palato-alveolar fricative as in:

Word initial position: ʃú "untie"; ʃi "down"

Word medial position: kúlə̀ʃú "traditional family"

[ʒ]: voiced oral palato-alveolar fricative as in:

Word initial position: ʒí "eat"

Word medial position: jùfə̀ʒi "church"

f) - Prenasalised fricatives

These refer to sounds whose articulation involves the combination of a nasal and a fricative. Here are the prenasalised fricatives of Fáj:

[^mf]: voiceless labio-dental prenasalised fricative as in:

Word medial position: kə̀.^mfùŋ "hut"

g) - Affricates

Affricates involve more than one manner of articulation. They are produced with air pressure building up behind a complete closure and realised gradually giving the sounds qualities of a stop and a fricative.

[tʃ]: voiceless oral palato-alveolar affricate as in:

Word initial position: tʃùm “fish”; tʃù “sun”

[dʒ]: voiced oral palato-alveolar affricate as in:

Word initial position: dʒí “wear”; dʒíyá “mouth”

Word medial position: gîdʒúwàñ “egg (of a hen)”; bə̀dúʒwɔ̃m “goods”

[dz]: voiced oral palato-alveolar affricate as in:

Word initial position: dzì “elephant”; dzə̀ŋ “hunger”; dzɔ̃ŋ “be good”

[ts]: voiceless oral alveolar affricate as in:

Word initial position: tsé “stone”; tsí “live”

Word medial position: kə̀tsəsə̀ “yesterday”; tsə̀tsá “fifteen”

h) - Prenasalised affricates

These refer to sounds whose articulation involves the combination of a nasal and an affricate.

[ntʃ]: voiceless palato-alveolar prenasalised affricate as in:

Word medial position: kə̀:ntʃù “cloud”

[nts]: voiceless alveolar prenasalised affricate as in:

Word initial position: ntsə̀ŋ “neck”

i) - Liquids

Also known as laterals, liquids are produced with the air from the lungs being obstructed by the contact between the tongue and the alveolar ridge. The air therefore flows out through the two sides of the tongue.

[l]: alveolar lateral as in:

Word initial position: lí “enter”; lìm “tongue”

Word medial position: lálá “stand” ; kə̀lɔ̃fá “knife”

Word final position:

j) - Glides

Also known as approximants, they involve an articulation in which one articulator is close to another, but without the vocal tract being narrowed to such an extent that a turbulent airstream is produced.

[w]: voiced labiovelar approximant as in:

Word initial position: wân "leaf"; wósà "eye"

[j]: voiced palatal approximant as in:

Word initial position: jân "teeth"; jú "house" ; júwá "snake"

During our data analysis, we observed that in the Fáj language, consonants do not occur in word final position except nasal sounds. All the same, we have found that the labiodentals nasal [ɱ] and the palatal nasal [ɲ] solely occur in word initial position while the velar nasal [ŋ] does appear only in word medial and word final position.

Again, we have come to see that there is a phenomenon of consonant clusters in the Fáj language, as the following data show it:

Example 1

1-a-	mómsá	"act"
1-b-	səmná	"play"
1-c-	jáglá	"teach"
1-d-	fənsiŋə	"ring"

But, this occurs only in surface forms where it is attested that there is a deletion of an underlying mid-low central unrounded vowel ([ə]) between the two consonants which stand together. This seems to happen with some but not all kinds of consonants as it is shown in the following data:

Example 2

2-a-	téblə "table"
	ndìblə "Mundabli, a neighbouring language"
2-b-	fəkələgúá "lice"

m̀̀ǹ̀át̀̀à̀̀ "I threw"

We will come back to this phenomenon in chapter three.

The above sounds are summarized in the following phonetic chart:

Table 3: Table of phonetic consonants

	Bilabial	Labio-dental	Inter-dental	Alveolar	Palato-alveolar	Palatal	Velar	Labio-velar
Stop	p b		t d				k g	kp gb
Prenasalised stop	^m b		ⁿ t ⁿ d				^ŋ k ^ŋ g	^ŋ kp
Aspirated stop							k ^h g ^h	
Nasal	m		n			ɲ	ŋ	ɲm
Fricative		f v		s z	ʃ ʒ			
Prenasalised fricative		^m f						
Affricate			ts	dz	tʃ dʒ			
Prenasalised affricate			ⁿ ts		ⁿ tʃ ⁿ dʒ			
Liquid			l					
Glide						j		w

II-1-1-2. Vowels

Vowels are defined broadly as sounds produced with a relatively free air passage. i.e. with little or no constriction at all anywhere along the vocal tract. They are specified in terms of height of tongue, position of tongue in the mouth and shape of lips.

▪ Short vowels

[i]: high front unrounded short vowel as in:

Word medial position: t́n "cut"; k̀̀à̀̀bik̀̀ "bad"

Word final position: ḱ "knowing"; b́ḱ "bucket"

[i̠]: high front unrounded short vowel as in:

Word final position: mb̠ "earth"

[ɪ]: high central unrounded short vowel as in:

Word medial position: d̥im “dream”; “”

Word final position: f̥i “cause” ; f̥əʒ̥i “God”

[u]: high back rounded short vowel as in:

Word medial position: l̥um “bite”; g̥uŋ “sleep”

Word final position: kp̥ú “mortar, dieing” ; j̥ú “house”

[ɯ]: high back rounded short vowel as in:

Word medial position: d̥ùb̥ənd̥ɔŋ “gaot”; t̥ùwò “toilet”

Word final position: gh̥ú “fire”; ʃ̥ú “pot”

[o]: mid-high back rounded short vowel as in:

Word medial position: n̥ók̥o “for”; t̥ók̥o “night”

Word final position: b̥o “father” ;

[ɔ]: mid-low back rounded short vowel as in:

Word medial position: s̥óm “palm”

Word final position: k̥úm̥ə “ten”; mb̥ə “loud”

[e]: mid-high front unrounded short vowel as in:

Word medial position: d̥èké “stop”; féŋ̥ə “Fang people”

Word final position: fé “two, seeing”; k̥èk̥è “chair”

[ɛ]: mid-low front unrounded short vowel as in:

Word medial position: w̥êb̥o “aunt”

Word final position: b̥ē “build”

[ə] : mid-low central unrounded short vowel as in :

Word initial position: ə “to”

Word medial position: w̥ən “leaf”; f̥ən̥ən “bird”

Word final position: k̥úm̥ə “paint”; k̥óf̥ə “bone”

[a]: low central unrounded short vowel as in:

Word initial position: á “at, in”

Word medial position: f̥ənt̥áŋ “seed”; mb̥ál̥ə “soup”

Word final position: b̥àg̥à “bed”; f̥əm̥əs̥á “cat”

- **Long vowels**

[a:]low central unrounded long vowel as in:

Word medial position: kàgà:sàŋ “red”

[ə:]mid-low central unrounded long vowel as in :

Word medial position: tḗ:tḗ “six”

[i:]high front unrounded long vowel as in:

Word medial position:púnùwàti:ᵀkpàlḗ “drum”

[u:]high back rounded long vowel as in:

Word medial position:kù:tḗ “soon”

[e:]mid-high front unrounded long vowel as in:

Word medial position:tḗwé:sḗ “culverts”

[o:]mid-high back rounded long vowel as in:

Word medial position:kò:tḗ “meet”

[ɛ:]mid-low front unrounded long vowel as in:

Word medial position:mḗ:sḗ “final”

[ɔ:]mid-low back rounded long vowel as in:

Word medial position:kàwò:ᵀtḗ “book”

The above data shows that the Fáj language does not use vowels in the initial position. However, the exception can be seen with the mid-low central unrounded vowel: [ə] and the low central unrounded vowel [a]. We refer respectively to the infinitive marker (ḗ “to”) and the preposition (ḗ “at, in”).

Example 1

1-a-ḗ já “to give”

ḗ líkḗ “to run”

á nəná “to go”.

1-b- á sókàlè “in the evening”
in evening

It will be worth noticing from the above data that two short vowels occur in initial and final position (where no long vowel occurs). Also, we observed that the highest short vowels /ɪ/, /i/ and /ʊ/ do not have their equivalent or corresponding long vowels in Fáj. Moreover, there is also a phenomenon of gliding which occurs in Fáj. In fact, high and mid vowels glide in Fáj as illustrated below:

Example 2

2-a- júá → júwá “snake”
2-b- bə̀dúʒùw̄m → bə̀dúʒùw̄m “goods”
2-c- víán → víyán “tail”
2-d- ʔgíám → ʔgíyám “water”

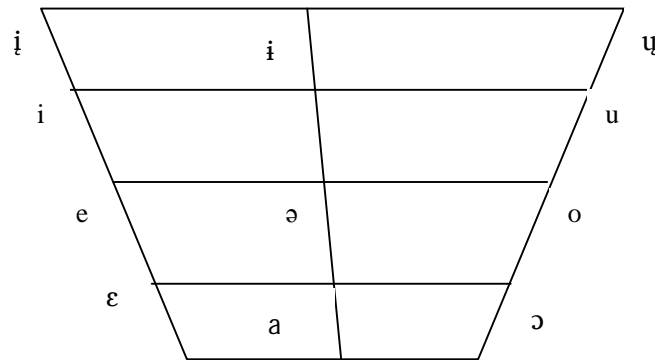
But, one should notice that the phenomenon of gliding will deeply be analysed in chapter three.

The phonetic vowel chart is therefore presented as follows:

Table 4: Table of phonetic vowels

		Front unround		Central unround		Back round	
		Short	Long	short	long	short	Long
High	Higher	ɪ		i		ʊ	
	Lower	i	i:			u	u:
Mid	Higher	e	e:	ə	ə:	o	o:
	Lower	ɛ	ɛ:			ɔ	ɔ:
Low				a	a:		

Now we deem it important to insist on the difference in terms of phonetic realisation between these vowels, especially high vowels. Let us therefore exhibit in the chart bellow, the phonetic realisation of the above vowels in relation to the IPA canonical vowel.

Table 5: Phonetic realisation of Fáj̄ vowels in relation to the IPA canonical vowel.

II-1-2. Phonemic inventory

This section is concerned with bringing out the different phonemes attested in Fáj̄. In the previous section, we made an inventory of the phones used in this language. The basic goal of this part is to come out with a systematic phonological analysis which aims at determining whether phonetically similar segments refer to the same phonological unit or not. Note that a phoneme can be viewed as a functional unit within a language that can help in bringing semantic contrast between segments (Essonno, 2006).

II -1-2-1. Consonants

In a primary analysis, let us list out suspicious pairs, that is, phonetically similar sounds, both in terms of place of articulation and manner of articulation.

Table 6: Table of suspicious pair (consonants)

	Bilabial	Labio-dental	Inter-dental	Alveolar	Palato-alveolar	Palatal	Velar	Labio-velar
Stop	P b		t d				k g	kp gb
Prenasalised stop	^m b		ⁿ t				^ŋ k ^ŋ g	^ŋ kp
Aspirated stop							k ^h g ^h	
Nasal	m		n			ɲ	ŋ	ɲm
Fricative		f v		s z	ʃ ʒ			
Prenasalised fricative		^m f						
Affricate			ts	dz	tʃ dʒ			
Prenasalised affricate			ⁿ ts		ⁿ tʃ ⁿ dʒ			
Liquid				l				
Glide						j		w

[p-b];[t-d];[k-g];[kp-gb];[^mb-ⁿt];[ⁿt]; [b-^mb] ;[^ŋk-^ŋg];[^ŋk-k];[^ŋg-g];[m-ɲm];[m-n];[n-ɲ]; [ɲ-ɲ];[m-b];[ɲm-b];[ɲ-g];[f-v];[s-z];[z-n]; [ʃ- ʒ]; [k^h-g^h];[k^h-k];[g^h-g];[z-l];[j-ɲ];[ⁿʃ-ʃ]; [ts-t];[ⁿts-ts];[tʃ-dʒ];[tʃ-ⁿtʃ];[j-w], etc.

As we can observe, from the above cited phones one can bring out an important number of suspicious pairs. As a matter of fact one can point out other phonetically similar sounds from the phones listed above. Nevertheless, we deemed it not necessary to overload our analysis with the list of all these suspicious pairs.

In this consonant phonemic inventory, the second step is that of analyzing minimal pairs in order to contrast sounds in identical environments and to come out with distinct phonemes as inspired by Essono (2006). Note that we talk of minimal pairs when two segments are similar in all respects except in one sound. Therefore, phonemes in Fánj include:

[w-j] are opposed in word initial position as in:

wêñ "leaf" and jêñ "teeth"

Conclusion: /w/ and /j/ are distinct phonemes.

[t-ts] are opposed in word initial position as in:

tùm “land” and tsùm “fish”

Conclusion: /t/ and /ts/ are distinct phonemes.

[t-d] are opposed in word initial position as in:

dálǎ “forgetful” and tǎlǎ “swim”; dǐ “cry” and tǐ “palm kernel”

Conclusion: /t/ and /d/ are distinct phonemes.

[dʒ-d] are opposed in word initial position as in:

dʒǐ “feed” and dǐ “cry”

Conclusion: /dʒ/ and /d/ are distinct phonemes.

[dʒ-dz] are opposed in word initial position as in:

dʒǐ “feed” and dzǐ “elephant”

Conclusion: /dʒ/ and /dz/ are distinct phonemes.

[dʒ-ts] are opposed in word initial position as in

dʒǐ “roads” and tsǐ “early”

Conclusion: /dʒ/ and /ts/ are distinct phonemes.

[k-gb] are opposed in word medial position as

tǎkú “heads” and tǎgbú “ashes”

Conclusion: /k/ and /gb/ are distinct phonemes.

[k-kp] are opposed in word initial position as in:

Kú “head” and kpú “dieing”

Conclusion: /kp/ and /k/ are distinct phonemes.

[s-ts] are opposed in word initial position as in:

sú “wash” and tsù “day”

Conclusion: /s/ and /ts/ are distinct phonemes.

[s-ʃ] are opposed in word initial position as in:

sú “wash”; sù “soap” and ʃú “untie”

Conclusion: /s/ and /ʃ/ are distinct phonemes.

[s-ʒ] are opposed in word initial position as in:

sǐ “spend” and ʒǐ “eat”

Conclusion: /s/ and /ʒ/ are distinct phonemes.

[n-l] are opposed in word initial and in word medial positions as in:

nə̀nə́ “go”, nánā́ “draw” and nəlā́ “hide”; tənā́ “collapse” and tálā́ “throw”

Conclusion: /n/ and /l/ are distinct phonemes.

[t-n] are opposed in word initial position as in:

təlā́ “stay” and nəlā́ “hide”

Conclusion: /t/ and /n/ are distinct phonemes.

[j-ɲ] are opposed in word initial position as in:

júá “house” and ɲúá “loose”

Conclusion: /j/ and /ɲ/ are distinct phonemes.

[ʃ-tʃ] are opposed in word initial position as in:

ʃú “untie”; ʃū “full” and tʃù “sun”

Conclusion: /ʃ/ and /tʃ/ are distinct phonemes.

[m-n] are opposed in word initial position as in:

mé “mould” and nê “mother”

Conclusion: /m/ and /n/ are distinct phonemes.

[b-m] are opposed in word initial position as in:

bé “build” and mé “mould”

Conclusion: /b/ and /m/ are distinct phonemes.

[g-k] are opposed in word initial position as in:

gí “come” and kí “know”

Conclusion: /g/ and /k/ are distinct phonemes.

[m-ɲ] are opposed in word initial position as in:

ɲú “knee” and mú “drink”

Conclusion: /m/ and /ɲ/ are distinct phonemes.

[j-ʃ] are opposed in word initial position as in:

jú “house” and ʃú “untie”

Conclusion: /j/ and /ʃ/ are distinct phonemes.

[dʒ-ts] are opposed in word initial position as in:

dʒí “wear” and tsí “live”

Conclusion: /dʒ/ and /ts/ are distinct phonemes.

[ʒ-dʒ] are opposed in word initial position as in:

ʒí “eat” and ǰí “wear”

Conclusion: /ʒ/ and /dʒ/ are distinct phonemes.

[f-s] are opposed in word medial position as in:

fáfá “fly” and fásá “remove”

Conclusion: /f/ and /s/ are distinct phonemes.

[mb-b] are opposed in word initial position as in:

mbī “earth” and bī “walk”

Conclusion: /mb/ and /b/ are distinct phonemes.

[ɲm-m] are opposed in word initial position as in:

ɲmè person and mè l

Conclusion: /ɲ/ and /m/ are distinct phonemes.

[m-ɲ] are opposed in word final position as in:

ɲkúɲ “chief” and ɲkùm “belly”

Conclusion: /m/ and /ɲ/ are distinct phonemes.

The opposition of these sounds in identical or quasi identical environments has enabled us so far to bring out several phonemes. However it should be noted that there are still some sounds that were not attested as phonemes. Our present concern is to say, in the light of relevant arguments, whether they should all be considered as phonemes or not.

- **[v] versus [w]**

During our data collection we noticed that in the set [v-w], two sounds were involved in a free variation relationship. In fact, we observed that some words were pronounced either with [v] or with [w] by the Fáj native speakers without bringing any semantic disparity between the words in question. Some of those words include:

Example 1

1-a-	víyǎn	"tail"
1-b-	wíyǎn	"tail"
1-c-	víyǎ	"moon"
1-d-	wíyǎ	"moon"
1-e-	víyǎŋkə	"thirsty"
1-f-	wíyǎŋkə	"thirsty"
1-g-	mběvú	"grand mother"
1-h-	mběwú	"grand mother"

From this set of words, it can be understood that the sound [v] can be replaced by the sound [w] both at initial and medial position without conveying any semantic difference. However, our major concern here is to determine which of the two sounds should surface on the phonemic chart. The following set of words brings a way out of the worry.

Example 2

2-a-	wósà	"eye"
2-b-	* vósà	"eye"
2-c-	wèn	"leaf"
2-d-	* vèn	"leaf"
2-e-	wé	"we"
2-f-	* vé	"we"

2-g-	wám	“shout”
2-h-	*vám	“shout”

Our main concern here is to choose one phone from each set that will stand for both sounds on the phonemic chart. It is worth mentioning that classical phonemics happens not to be efficient in solving such a problem since it fails to give any interpretation in this type of situation. Given the limit of classical phonemics in stating the standard phoneme in free variation, let us examine this issue in the light of Generative Phonology which offers a more relevant solution of the problem.

From the words listed above, one can assume that all the words originally pronounced with [w] become meaningless when they are rather articulated with a [v]. This gives the sound [v] a very limited distribution and given the fact that [w] has been opposed to [j] in identical context and attested as a phoneme, we deem it logical to maintain [w] as the standard phoneme rather than [v] which exclusively occurs in free variation with some restricted distributions.

- **Prenasalised sounds**

Let us consider the set of prenasalised consonants namely [ʰt], [ʰd], [ʰk], [ʰg], [ʰkp], [ʰkp̄], [ʰf], [ʰts], [ʰtʃ] and [ʰdʒ]. Although it had not been possible for us to oppose these sounds to others in identical or quasi identical context, we have come to notice that they all occur both in word initial and medial position as it is the case with /mb/ which has been attested a phoneme above. By analogy with [ʰb], /ʰt/, /ʰd/, /ʰk/, /ʰg/, /ʰkp/, /ʰkp̄/, /ʰf/, /ʰts/ and /ʰtʃ/ can be viewed as distinct phonemes.

Besides, while there are good reasons to believe that the above segments can be viewed as two separate sounds, we will argue that they are single units that consist of two separate segments. According to Catford (1977) too, prenasalized segments are single units. It is moreover very important to point out that in Fán̄, nasals are not syllabic, since they are not tone-bearing units (in contrast to other Grassfield languages). Again, the large majority of words with prenasalized sounds are nouns. The few verbs which seem to occur with these segments are often transparently serial verbs (verbs made up via the combination of two different verbs. The first constituent verb may have a final nasal). Let us exemplify this in the data bellow.

a-	á- fín		"to cut"
	á-tàṅá		"to see somebody off"
	á-sān		"to shift"
	á- ʃi		"to go down"
	á-jàn		"to go"
	á-tálā		"to throw"
b-	tín + tàṅá	=	á-tíntàṅá "to chop"
	sān + ʃi	=	á-sānʃi "to lower"
	jàn + tálá	=	á-jàntálá "to slice"

As said before, the examples in b- seem to exhibit the first sound of the second component verb as being prenasalized when making up a serial verb. But this is not the case here, it rather shows that the sound in question is not prenasalized. This therefore demonstrates that Fàṅ does not use prenasalized sounds in verbs.

▪ [p] vs [b]

We have come to see that the sound [p] is absent within natural words in Fàṅ. Meanwhile, it is used only in borrowing or loan words. Nevertheless, given the fact that /b/ has earlier been attested as a phoneme, we therefore choose it as the reference phoneme which will appear on the phonemic chart.

▪ [k^h] vs [k] and [g^h] vs [g]

Again, from the suspicious pairs [k^h-k] and [g^h-g], we can also trace a complementary distribution relationship that relate [k^h] to [k] on the one hand and [g^h] to [g] on the other hand. This will equally be discussed in detail in the chapter which deals with phonological rules. Nevertheless, given the fact that /k/ and /g/ have earlier been attested as phonemes, we therefore choose them as the reference phonemes which will appear on the phonemic chart.

- [s] vs [z]

From the suspicious pair [s-z], we have to mention that during our data analysis we did not come across any minimal pair that opposes [s] to [z]. Nevertheless, given the fact that /s/ has earlier been attested as a phoneme, we therefore choose it as the reference phoneme which will appear on the phonemic chart.

The above analysis leads us to the following phonemic consonant chart of fáŋ:

Table 7: Table of phonemic consonants

	bilabial	Labio-dental	Inter-dental	alveolar	Palato-alveolar	palatal	velar	Labio-velar
Stop	b		t d				k g	kp gb
Prenasalised stop	^m b		ⁿ t				^ŋ k ^ŋ g	^ŋ kp
Nasal	m		n			ɲ	ŋ	ŋm
Fricative		f		s	ʃ ʒ			
Prenasalised fricative		^m f						
Affricate			ts	dz	tʃ dʒ			
Prenasalised affricate			ⁿ ts		ⁿ tʃ ⁿ dʒ			
Liquid				l				
Glide						j		w

II -1-2-2. Vowels

As we did with the consonants, we will rely on minimal pairs in order to determine the vocalic phonemes of Fáŋ. This way of doing is sustained by Mutaka and Tamanji (2000: 37) when they state that “*An easy way to elicit the difference in quality between two vowels is the use of minimal pairs.*” Therefore, let us list out suspicious pairs.

Table 8: Table of suspicious pair (vowels)

		Front unround		Central unround		Back round	
		Short	Long	Short	Long	short	Long
High	Higher	ɨ		ɨ		ʉ	
	Lower	i	i:			u	u:
Mid	Higher	e	e:	ə	ə:	o	o:
	Lower	ɛ	ɛ:			ɔ	ɔ:
Low				a	a:		

[u-i]; [e-i]; [ə-ɔ]; [a-i]; [a-ɔ]; [ʉ-i]; [ɨ-a]; [i-ɨ]; [u-ɨ]; [i-i]; [u-ʉ]; [i-ʉ]; [ɨ-u]; [o-ɔ]; [ɛ-a]; [e-ɛ]; [e-o]; [ɛ--ɔ]; [u-o]; [o-ɔ]; [ə-a]; [e-ə]; [ə-o]; [ɛ--ɔ]; [ə-a]; [e-ɛ], etc.

▪ **Opposition in identical and quasi identical environments:**

[u-i] are opposed in word medial position as in:

lùm “bite” and lìm “tongue”

Conclusion: /u/ and /i/ are distinct phonemes.

[e-i] are opposed in word final position as in:

ké “seeing” and kí “knowing”

Conclusion: /e/ and /i/ are distinct phonemes.

[ə-ɔ] are opposed in word final position as in:

kúmà “paint” and kúmò “ten”

Conclusion: /ə/ and /ɔ/ are distinct phonemes.

[ə-a] are opposed in word medial position as in:

á “to” and á “and”; lǎŋ “welcome” and laŋ “curse”; jǎ “sounds” and jǎ “give”

Conclusion: /ǎ/ and /a/ are distinct phonemes.

[ɛ-ɔ] are opposed in word medial position as in:

jê “pains” and jɔ “querel”

Conclusion: /ɛ/ and /ɔ/ are distinct phonemes.

[i-ɛ] are opposed in word medial position as in

límā “blood” and lémā “grow”; lēm “turn fufu” and lìm “work”

Conclusion: /i/ and /ɛ/ are distinct phonemes.

[u-o] are opposed in word final position as in
 Wú "hear" and wō "up"; lú "refuse" and lō "fear"
 Conclusion: /u/ and /o/ are distinct phonemes.

From the above analysis, we have brought out a good number of phonemes through the opposition of sound in identical and quasi identical contexts. However, there are still certain sounds that were not attested as phonemes. We now have to state, with the help of relevant arguments, whether they should all be given a phonemic status or not.

- **[i] vs [ɨ] or [u] vs [ɨ]**

From the suspicious pairs [i- ɨ] and [u- ɨ], we have to mention that during our data analysis we did not come across any minimal pair that opposes [i] to [ɨ] or [u] to [ɨ]. Nevertheless, given the fact that /i/ and /u/ have earlier been attested as phonemes, we therefore choose them as the reference phonemes which will appear on the phonemic chart.

- **The phonemic status of [ɨ] and [ɥ]**

The super-high vowels [ɨ] and [ɥ] are the only sounds left and that have not yet gotten any phonemic status. Since we could not oppose these sounds to any other one in identical or quasi identical environments, that is, there is not any minimal pair which can enable us to establish [ɨ] and [ɥ] as phonemes by contrasting it with other sounds. Also, they have a very limited distribution in the sense that they solely occur in word initial position and have no complementary relationship with /i/ and /u/ respectively. Moreover, when analysing the data, we have come to see that these vowels occur generally in monosyllabic verbs and grammatical morphemes like my, your, this and so on. But they rarely appear in nouns. Thus, these vowel are considered in this work as being a result of phonetic implementation as they solely occur in monosyllabic verbs (monosyllabicity is an environment in this language which let the pronunciation of sounds be very tense). Therefore, [ɨ] and [ɥ] will not be considered as distinct phonemes in Fánj.

- **The phonemic status of long vowels**

During our analysis, we have come to realized that the existing long vowels in this language appear solely in penultimate position which is not a relevant one for these sounds to

be considered as distinctive phonemes. Thus, this seems to be a good reason to believe that long vowels are not underlying in Fáj. For Mutaka and Tamanji (2000: 38) state that, “allophonic length is sometimes manifested in penultimate position as in Swahili, Chichewa, Kinande. Length is not contrastive in this position. This penultimate length is interpreted as the manifestation of stress in such languages.” Meanwhile, there are many other words in this language which do not have a penultimate long vowel. We will therefore have to consider these long vowels as marginalized phonemes, since their occurrences are very few in Fáj. This is illustrated in the following words:

Example 1

1-a-	tāwé:sá	“culverts”
	kàgà:sàŋ	“red”
	nə:nə	“eighth”
	kù:tə	“soon”
1-b-	nəná	“go”
	nánā	“draw”
	nálā	“hide”
	tánā	“colaps”
	tálā	“throw”
	dèké	“stop”
	kúmà	“paint”
	kúmò	“ten”
1-c-	kəwə:ntə	“book”
	kə:ntfù	“cloud”
	kə:ˀkúwásə	“type of dance”

From the above data, we deem it more relevant to consider that there is a case of compensatory lengthening in Fáj, especially before the prenasalized sounds as shown in **1-c-**. This will naturally be explored in chapter three. Besides, we also have to recall that we previously observed that the highest short vowels /i/, /i/ and /u/ do not have their equivalent or corresponding long vowels in Fáj. This may be another reason why these high vowels are not treated as underlying vowels in this language.

Here is the phonemic vowel chart of Fáj:

Table 9: Table of phonemic vowels

- **Short vowels**

		Front unround	Central unround	Back round
High	higher			
	lower	i		u
Mid	higher	e	ə	o
	lower	ɛ		ɔ
Low			a	

- **Long vowels**

		Front unround	Central unround	Back round
High	higher			
	lower	i:		u:
Mid	higher	e:	ə:	o:
	lower	ɛ:		ɔ:
Low			a:	

II-2. Distinctive Features Matrices and Justification

This part is concerned with the distinctive features matrices of the various sounds that are used in Fáj. This aims at bringing out properties that the sounds used in Fáj have in common on the one hand and those which distinguish them on the other. This task is achieved following the Standard Generative Phonology framework which happens to be the more appropriate tool for it. Note that the term “distinctive feature” refers to the different sound properties that make sounds with respect to each other: Philip Carr (1993:305) speaks of them in terms of *Feature Specifications*.

II-3-1. Consonants

The consonant distinctive feature matrix used in Fáj is presented as follows:

- Sonorants :

Sonorants are [\pm cons] and [\pm syl]

Table 10: Table of sonorants

	Cons.	Syll.	Cont.	Nas	Lat	Ant.	Cor.	Back
m	+	-	-	+	-	+	-	-
ɱ	+	-	-	+	-	+	-	-
n	+	-	-	+	-	+	+	-
ɲ	+	-	-	+	-	-	-	-
ŋ	+	-	-	+	-	-	-	+
l	+	-	+	-	+	+	+	-
j	-	-	+	-	-	-	+	-
w	-	-	+	-	-	-	-	+

- Obstruents

In Fáj like in other languages, obstruents are [+ cons.], [- son] and [- syll].

Table 11: Table of obstruents

	Voice	Cont.	Ant.	Cor.	Back	Constr.	Strid
p	-	-	+	-	-	-	-
b	+	-	+	-	-	-	-
t	-	-	+	+	-	-	-
d	+	-	+	+	-	-	-
k	-	-	-	-	+	-	-
g	+	-	-	-	+	-	-
f	-	+	+	-	-	-	-
v	+	+	+	-	-	-	-
s	-	+	+	+	-	-	+
z	+	+	+	+	-	-	+

ʃ	-	+	-	+	-	-	+
ʒ	+	+	-	+	-	-	+
dʒ	+	+	-	+	-	-	+
ts	-	-	+	+	-	-	+

II-3-2. Vowels

Vowels are [+syll], [+son] and [-cons]

Here is the distinctive feature matrix of the vowels attested in fāŋ :

Table 12: Table of vowels

	High	Low	Back	Round	ATR
ɨ	+	-	-	-	+
i	+	-	-	-	-
ɨ̄	+	-	-	-	+
ɥ	+		+		+
u	+	-	+	+	-
e	-	-	-	-	+
ə	-	-	-	+	+
o	-	-	+	+	+
ɛ	-	-	-	-	-
ɔ	-	-	+	+	-
a	-	+	-	-	-
i:	+	-	-	-	+
u:	+	-	+	+	+
e:	-	-	-	-	+
ə:	-	-	-	+	+
o:	-	-	+	+	+
ɛ:	-	-	-	-	-
ɔ:	-	-	+	+	-

a :	-	+	-	-	-
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II-3-3. Justification for distinctive features

Consonantal [\pm **cons**]: this feature permits to distinguish between consonants, glides and vowels.

Syllabic [\pm **syll**]: this feature brings out the disparity between consonants and vowels.

Sonorant [\pm **son**]: this feature aids in regrouping vowels, approximants, nasals and liquids under the same label.

Continuant [\pm **cont**]: this feature permits to distinguish fricatives and other nasalised sounds and exclusively oral sounds.

Nasal [\pm **nas**]: this characteristic enables to bring out the difference between nasals or nasalised sounds and exclusively oral sounds.

Lateral [\pm **lat**]: this is used to refer to the lateral liquid [l].

Anterior [\pm **ant**]: this quality enables to range labial and alveolar sounds in a natural class.

Coronal [\pm **coronal**]: this captures alveolar, palato-alveolar and palatal sounds into the same natural class.

High [\pm **high**]: this trait is relevant in the distinction between high vowels and other vowels.

Back [\pm **back**]: this property enables to distinguish front and back vowels.

Constricted [\pm **const**]: this permits to capture implosives into a natural class.

Strident [\pm **strid**]: this helps in regrouping labio-dentals, alveolar and palato-alveolar fricatives in the same class.

Round [\pm **round**]: this feature enables to distinguish between round and unrounded vowels.

Long [\pm long]: this quality permits to bring out the difference between long and short vowels.

ATR [\pm ATR]: this feature aids in distinguishing between tense and lax vowels.

Low [\pm low]: this feature permits to differentiate low vowels from other vowels.

Voice [\pm voice]: this property enables to distinguish between voice and voiceless consonants.

Conclusion

In this chapter, our main concern was to study the sound patterns of the Fáj language. In doing so, we came out with the various phones and phonemes that are attested in Fáj. These sounds were later described in terms of distinctive features matrices. In the following chapter, we will be dealing with the syllabic structure of Fáj and the different phonological processes that this language exhibits.

CHAPTER III: THE PHONOLOGICAL PROCESSES

III-0. Introduction

The present section aims at analyzing the different phonological processes that are observed in Fáj in the light of Standard Generative Phonology. In doing so, we intend to come out with phonological rules which will be given both prose and formal statements. Other aspects such as rule ordering and sample derivation will also be discussed in this part. Nevertheless, it is worth noting that “there are phonological processes and/or constraints which take the syllable as their domain of application” (Mohan, 1995). However, there has been increasing evidence that the exclusion of the syllable is a serious omission in generative phonology and that many phonological rules only receive appropriate formulation in terms of this notion. Since this analysis of phonological processes demands relevant information about the syllabic structure of the language in study, let us explore the syllable structure of Fáj.

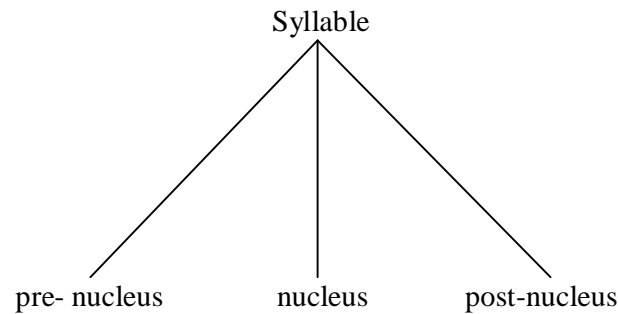
III-1. The syllable structure

The syllable is defined according to the different branches of linguistics namely, phonetics, phonology, morphology and syntax.

As far as phonology is concerned, the syllable is defined in accordance with the different elements which constitute it. Indeed, it is a linguistic unit which is larger than the sound and shorter than the word. Thus, the syllable is generally referred to as an acceptable combination of sounds in a given language. Technically, this combination bears the name of phonotactics. It is made up of three major parts:

- The pre-nucleus
- The nucleus
- The post-nucleus

This is shown in the following diagram:

Diagram 2

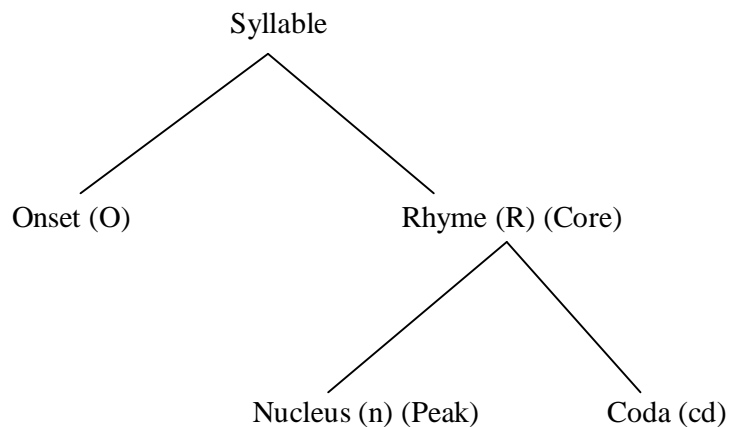
Nota bene: The syllabic nucleus can also be occupied by a semi-vowel or a syllabic consonant. Within the researches carried out on the syllable, many theories have been developed in order to define the syllable, to propose its representation and to give the structure of a syllable. Thus, many models of representation have been proposed among which there are the following:

- **The flat model**
- **The model of the rime**

Hocket (1965) proposes a representation with all the three major elements of the syllable. Here, the syllable is made up of two main parts:

- The onset (O) which is generally occupied by a consonant (C).
- The rhyme (R) which consists of a nucleus (n) and a coda (cd). The nucleus is generally occupied by a vowel whereas the coda is generally occupied by a consonant.

This can be represented in the following diagram:

Diagram 3:

In the structure of the syllable, the nucleus is the most stable element. It can even make up a whole syllable alone. Languages usually function with two types of syllables:

- The open syllable that ends in a vowel
- The close syllable that ends in a consonant.

In some languages, there are syllables which are made up of groups of vowels and groups of consonants.

Speaking about the syllable, Mohanan (1986) states that,

“syllable formation consists of the following operations: (a) determining the number of syllables in a string and assigning segments to syllables, (b) determining whether a segment is a head or a nonhead, and (c) building the syllable tree on the segments, obeying the principles that define well formed onsets and rimes.”

Now let us examine the syllabic structure of Fáj.

III-1. The syllable structure of Fáj

In Fáj like in almost all the languages, there are two types of syllables as we said above: the open syllable and the close syllable, the nucleus being of course a vowel.

In Fáj, we can have monosyllabic, dissyllabic or polysyllabic structures. Therefore, the following structures do exist in Fáj: V-, CV-, CVC-, CGV-, CGVC, the CV structure being the core syllable.

III-1-1. The syllabic structure V-

In Fáj, there are two types of V- structure: the verbal prefix **á-** and the preposition **á-**.

a) -The verbal prefix á-

Example 1

1-a-	á- lí	“to enter”
1-b-	á- bélé	“to read”
1-c-	á- tām	“to shout”
1-d-	á- tǎn	“to jump”

As the examples above the infinitive marker (to) of this language is the morpheme **á-** which always appears before the verb stem. This is of course treated as a separated syllable and not as a given phoneme.

b) - The preposition/ the conjunction **á-**

Example 2

2-a- m̀im kp̀u b̀èd̀o ǹè- nt̀él̀á á b̀éf̀àŋ

people my also Past settle in befang

“My people also settled in befang”

2-b- ẁè tá- g̀ī á ns̀ók̀èl̀è

he Future come in evening

“He will come in the evening”

2-c- bá ǹè- ǹóǹā á ẁós̀óm̀ē

We Past go to market

“We went to the market”

2-d- t̀è n- k̀è límk̀p̀è ɲ̀ỳè á t̀èk̀ò b̀àk̀àk̀á

we Pres. do work farm and harvest cocoa

“We practice agriculture and we produce cocoa”

As the examples above show, **a-** is used as a preposition in **2-a-**, **2-b-**, and **2-c-**, since it has in these utterances, the meaning of “**in**”. But the same morpheme means “**and**” in **2-d-** where it is treated as a co-ordinating conjunction.

More over, when listening to the utterances of Fáj native speakers, we realized that there is a pause after the **á-** and before the **a-** above. So **á-** and **a-** should be treated here as separated syllables. Therefore it should not be assimilated to the vocalic phonemes that we listed in chapter two.

III-1-2. The syllabic structure CV-

This structure is made up of two elements: a consonant and a vowel. This syllabic structure is quite usual in Fáj. This is illustrated in the following examples.

Example 3

3-a- fú	“hair”	3-b- á- já	“give”
3-c- mbò	“cloud”	3-d- á- bī	“walk”
3-e- dʒì	“path”	3-f- kásá	“spoon”
3-g- fə- nsìŋə	“ring”	3-h- ɲètɛ	“adult”
3-i- tsā bá tsā	“five by five”		

The data above show that from **3-a-** to **3-e-**, words are just consisted of one syllable having the CV- structure. But from **3-f-** to **3-i-**, words are made up of two or three syllables of the same kind (CV-). For example, fə- nsìŋə “ring” in **3-g-**, is made up of three syllables which are: fə-, nsì-, and -ŋə

III-1-3. The syllabic structure CVC-

The structure CVC- is made up of three elements: a consonant, a vowel, and a consonant. This is illustrated below.

Example 4

4-a- ɲàm	“meat”	4-b- ɬùm	“fish”
4-c- lìm	“tongue”	4-d- wán	“child”
4-e- á- gùŋ	“sleep”	4-f- á- tán	“jump”
4-g- á- tóm	“shoot”		

III-1-4. The syllabic structure CGV-

The structure CGV- is made up of three elements a consonant, a glide and a vowel. This is illustrated below.

Example 5

5-a- lyá	“smoke”
5-b- dwàlá	“star”
5-c- twò	“toilet”

5-d- twâtu “tomorrow”

5-e- jwá “flesh”

5-f- bə̀dʒjə̀ŋ “tall”

III-1-5. The syllabic structure CGVC-

The structure CGVC- is made up of four elements: a consonant, a glide, a vowel, and a consonant. This is illustrated below.

Example 6

fũ:m = bwón “type of dance”

bə̀d = ʒjə̀ŋ “tall”

It is important to recall here that, these two last syllabic structures (CGV- and CGVC-) are the results of the phenomenon of glide formation that we will tackle later on in this work.

III-1-6. Ambiguous sequences

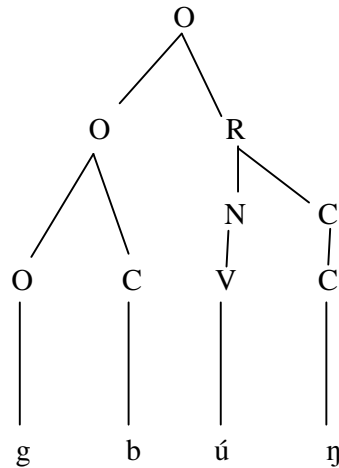
Ambiguous sequences happen to be a major source of worry in the analysis of the syllabic pattern of Fáj. They are said to be doubly articulated consonants according to Tadadjeu & Sadembouo (1979). As a matter of fact, sounds such as labio-velar stops and prenasalised turn to be puzzling sequences that require an appropriate interpretation. This interpretation is presented in the form of a series of hypotheses which will either be validated or not.

▪ Labio-velar stops

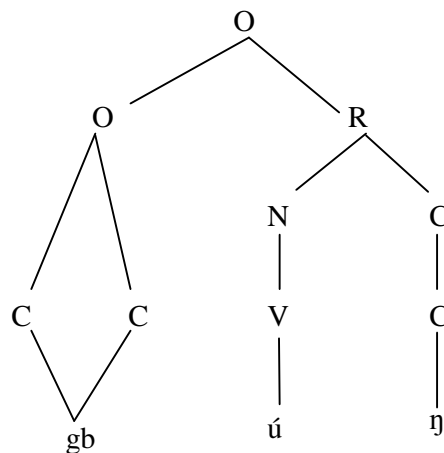
These refer to the sounds [kp] and [gb] which can be considered either as clusters of two distinct sounds or as single units.

Hypothesis :

[kp] and [gb] are clusters of two distinct sounds, that is, [k] + [p] on the one hand and [g] + [b] on the other. Consequently this means that a word like gbúŋ “mountain” has a CCVC- structure as illustrated below:

Diagram 4:

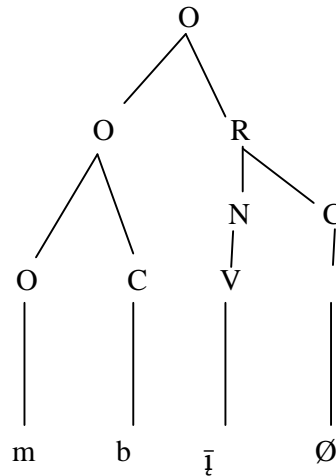
Nevertheless, we have noticed that in Fāŋ, there is no underlying unambiguous consonant clusters (such as [gr], [dl], [kr] for example) which can also account for the same syllable structure. To add, Mutaka and Tamanji (2000) state that “*these sounds are unit phonemes and not consonant clusters*”. Therefore, kp and gb cannot be considered as clusters of two distinct consonants. Here thus is the suitable syllable structure forgbúŋ “mountain”

Diagram 5:

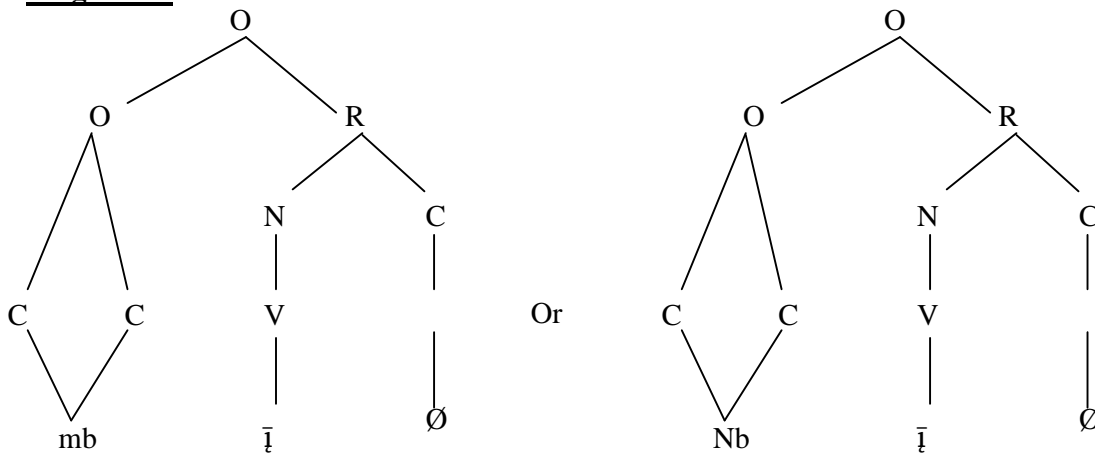
Prenasalised consonants

Hypothesis :

Prenasalised sounds such as [ᵐb], [ᵐt], [ᵐg] and [ᵐkp] are clusters of distinct sounds. As such they should be written as follows: [mb], [nt], [ŋg] and [ŋkp]. Consequently, a word like mb̄ “earth” bears a CCV-syllable structure as represented below:

Diagram 6:

However, this hypothesis cannot hold because, as it was the case with labio-velar stop, there are no underlying unambiguous consonant clusters that can account for the same syllable structure. Thus, as said in II -1-2-1, prenasalised sounds should therefore be interpreted as single units with a CV- structure which is similar to a NCV- structure. The result is the following structure for the word *mbī* "earth":

Diagram 7:

We can conclude from the above analysis that the Fán language does have both open and close syllables. Again, when we examine the structure CVC-, we come to realize that the part of the syllable known as the post-nucleus is generally occupied by a nasal sound. Indeed, it was already mentioned in chapter II that, apart from nasals, consonants do not occur in word final position in this language.

III-2. The structure of the morpheme in Fáj

According to Jensen (1990), the morpheme is the basic or the fundamental unit of the word. He describes it as follows: “*morphemes are primarily structural units and they are typically but not necessarily meaningful.*”

John Lyons (1984) defines the morpheme as a “*minimal form which can either be free (has meaning of its own) or bound (has no meaning of its own and must be linked to other parts of the words to have meaning).*”

From the above definition, we retain that there are two categories of morphemes: free morphemes and bound ones. As it is shown in the definition, free morphemes can stand as words whereas, bound morphemes are bound to free ones (they cannot solely constitute a word). Prefixes, infixes and suffixes are usually bound morphemes.

In its form, the morpheme can be similar to the syllable, for it can be made up of one sound or of a group of sounds. However, as opposed to the syllable, the morpheme can have a full lexical meaning.

Now, let us examine the different structures morphemes can have in fáj. We can therefore get the following structure:

V

C

CV

CVC

CV. CV

CV. CVC

The structure V is made up of a vowel (á- as in *á- tán* “to jump”). The structure C is constituted by a consonant (f-, m- as in *f- ànsìṅà* “ring” and *m- ànsìṅà* “rings”; n-). It is worth noticing here that **f-** and **m-** participate in the formation of the singular and the plural when **n-** indicates the present tense. The structure CV concerns prefixes which also participate in the formation of the singular and the plural in Fáj (fà-, mà-, kà-, bà- and tà-, as in *fà-ngúfà*

“umbrella”, *mà-ngúfà* “umbrellas”; *kà-lǎfǎ* “knife”, *bà-lǎfǎ* “knives”; *-kásá* “spoon”, *tà-kásá* “spoons”).

Most often, other structures like CVC, CV.CV, and CV.CVC are found in verbs and nouns roots. This is illustrated in the data below.

Example 5

5-a-	tókó	“night”
	bà-tókó	“nights”
5-b-	kà-kàṅàm	“horse”
	bè-kàṅàm	“horses”
5-c-	kréṅ	“wife”
	bà-kréṅ	“wives”
5-d-	á-tām	“shoot”
5-e-	á-dúṅ	“sit”

III-3. The structure of the word in Fáj

According to Encarta (2009), the word is a

“ unité de langue consistant en un ou plusieurs sons à laquelle est associé un sens et dont la représentation graphique est comprise entre deux blancs ”

The word can be viewed as made up of morphemes or syllables. Thus, since we have already analyzed the structure of the syllable and that of the morpheme, we think we have partly studied within this analysis, the structure of the word. Because of this reason, we will only study here tri/polysyllabic words.

III-3-1. Tri/polysyllabic words

We are dealing here with words which have more than two syllables. The following structures do exist in Fáj:

- a) - CV.CV.CV, CV.CV.CVC (three syllables)
 b) - CV.CV.CV.CV, CV.CV.CV.CVC (four syllables)
 c) - CV.CV.CV.CV.CV, CV.CV.CV.CV.CVC (five syllables) and even more.

It is worth mentioning here that a good number of tri/polysyllabic word found in Fáj are compound nouns as it can be seen below.

Example 6

6-a-	fəmásá	“cat”
6-b-	kàtsásá	“yesterday”
6-c-	kə̀kíjàŋ	“basket”
6-d-	jù-fə̀zì	“church”
6-e-	jù-bàkásá	“prison”
6-f-	tókó-fə̀ntìn	“midnight”
6-g-	ʧùnə̀-ʧùnə̀jū	“grand parent”
6-h-	kólám-ə̀-gàsáŋ	“red oil”
6-i-	təkú-tətətúmā	“head of state”

As one can observe in the data above, words with more than three syllables are generally compound words in this language. That is, simple words which we consider as basic are usually trisyllabic in Fáj (note that, components of compound words are separated here by a hyphen). Moreover, it is worth noticing verbs with more than two syllables are generally serial verbs (a serial verb being the association of two different verbs) in this language. Examples of those serial verbs are:

V1	á- wú	“to strip”
V2	á- fəsá	“to remove”
SV (V1 + V2)	á- wúfəsá	“to strip off”

V1	á- síná	“to turn”
V2	á- jã	“to give”
SV (V1 + V2)	ə- sínájã	“to give back”

V1	á- síná	“to turn”
V2	á- gèñá	“to say”
SV (V1 + V2)	á- sínágèñá	“to reply”

Now, let us provide the syllabic representations of the following trisyllabic words:
fàmésá “cat” and Kèḡkíàḡ “basket”

Diagram 8:



III-4. Phonological processes

Generally, sounds tend to be conditioned by the environments they are found in and these sounds’ behavior can be predicted by rules. This rule-governed characteristic of sounds refers to the concept of phonological process. Several segmental processes take place, so as to maintain the preferred syllable structure of the language. Like other languages, Fáj is rule-governed. An analysis of this language reveals twelve phonological processes which will be taken up in turn below.

III-4-1. Gliding

Glide formation is one of the most regular and common segmental processes found in this language. This is equally due to the refusal of this language to accept vowel clusters as is the case for vowel deletion. The difference between the two is that, while vowel deletion deals with non-high vowels, glide formation deals with high vowels. That is to say, in a V_1V_2 sequence, V_2 can only be deleted if V_1 is a non-high vowel. On the other hand, in a V_1V_2 sequence, if V_1 is high, vowel deletion (of V_2) cannot take place. Rather, V_1 devocalizes into a glide in the presence of V_2 which must be a non-high vowel. Hence, glide formation or devocalization is a process whereby a high vowel devocalizes into a semi-vowel otherwise known as a glide, when it is followed by a non-high vowel. Mutaka (200:71) states it in the following terms: “*Gliding often occurs with high vowels that leave their slot and become part of a consonant onset.*” The data below reveals some of the words in which glide formation is present.

líá	[lyá]	“smoke”
dùàlá	[dwàlá]	“star”
tùò	[twò]	“toilet”
tùètú	[twêtú]	“tomorrow”
júá	[jwá]	“flesh”
bèdʒíàŋ	[bèdʒjâŋ]	“tall”

From this data we can observe that high vowels are transformed into the corresponding glide when preceded by a vowel. That is, /i/ and /u/ glide into /y/ and /w/ respectively before a vowel. This process gives rise to the subsequent phonological rules:

Rule 1:

Prose statement:

The high front unrounded vowel /i/ becomes the palatal glide /j/ when occurring before a vowel.

Formal statement:

$$\begin{pmatrix} +high \\ -back \\ -round \end{pmatrix} \longrightarrow \begin{pmatrix} -syll \end{pmatrix} / \text{---} \begin{pmatrix} +syll \\ -cons \end{pmatrix}$$

Rule 2:**Prose statement:**

The high back rounded vowel /u/ becomes the labio-velar glide /w/ when appearing before a vowel.

Meanwhile, it is worth noticing that the above phonological process can be analyzed as a devocalization process. Indeed, when vowels change to glides, they are said to have devocalized. This phenomenon which is common in Cameroonian languages, demonstrates that the high vowels of a sequence of two vowels (usually V1 in Fájŋ), often devocalize. The back (+round) vowels usually labialize while the front (-back) vowels palatalize. Moreover, it seems that devocalization / gliding occurs in order to maintain and restore the canonical CV structure of this language that allows C(G)V(C) not C(V)V(C) as it is shown in the data analyzed above.

Formal statement:

$$\begin{pmatrix} +high \\ +back \\ +round \end{pmatrix} \longrightarrow \begin{pmatrix} -syll \end{pmatrix} / \text{---} \begin{pmatrix} +syll \\ -cons \end{pmatrix}$$

It should be noted that these two rules refer to the same phonological process. Therefore, we will be missing linguistically significant generalization if we were stating them as two separate rules. As such, we can collapse R1 and R2 into a single phonological rule that will account for both as follows.

Prose statement:

A high vowel becomes the corresponding glide when found before a vowel.

Formal statement:

$$\begin{pmatrix} +syll \\ +high \\ aback \end{pmatrix} \longrightarrow \begin{pmatrix} -syll \end{pmatrix} / \text{---} \begin{pmatrix} +syll \\ -cons \end{pmatrix}$$

Let us exemplify this process by doing the derivation of the following words: líá “smoke”, d̀uàlá “star” and t̀ùò “toilet”.

UR	/	liə	dualə	t̀uə /
		⋮	⋮	⋮
Gliding		y	w	w
PR	[	lyə	dwalə	two]

III-4-2. Elision

This can be defined as a process whereby a segment (vowel or a consonant) is deleted within a given context. This phenomenon aims at restoring the syllabic pattern of a language in case there are ill-formed syllables.

III-4-2 -1. Vowel Deletion

Vowel Elision is defined by Essono (2006) as:

« *Un processus phonologique par lequel un segment prononcé dans certains contextes, s'élide dans d'autres environnements prévisibles* ».

Let us consider the behaviour of the central round vowel /ə/ and that of the mid-low back rounded vowel /ɔ/ in the data below:

a-	/mómésá/	[mómsé]	“act”
	/səméné/	[səmné]	“play”
	/jágólá/	[jágólá]	“teach”
	/téb̀l̀è/	[téb̀l̀è]	“table”
	/ndìb̀l̀è/	[ndìb̀l̀è]	“Mundabli, a neighbouring language”
	á-gōnè		“to be sick”
	gōnt̀èl̀á		“sickness”
	dʒámā		“happy”

	dʒámɲəná		"happyness"
	/fəmágɔ̀lɔ̀/	[fəmágɔ̀lɔ̀]	"mango"
	/məmágɔ̀lɔ̀/	[məmágɔ̀lɔ̀]	"mangoes"
b-	fəkəl̀əgwá		"lice"
	mənátəl̀ə		"I threw"

From the above examples, one can observe that the central round vowel /ə/ and the mid-low back rounded vowel /ɔ/ are deleted in **a-**, but not in **b-**. The environment which triggers this phenomenon is the following: the deleted vowel should be preceded by a voiced consonant and it should be a penultimate vowel. Notice that the presence of a glide after such a vowel makes it not undergo the deletion and yet be ³transparent or immune to vowel deletion. This is why the examples in **b-** are considered as exceptions to this process. Also, as said earlier, one should know that consonant clusters are not underlying in this language. We therefore have to account for it with the following rules:

Rule 1:

Prose statement:

The central round vowel /ə/ is deleted between a voiced consonant and another consonant in the penultimate position.

Formal statement:

$$\left(\begin{array}{l} + \text{syll} \\ - \text{high} \\ - \text{front} \\ - \text{back} \\ + \text{ATR} \end{array} \right) \rightarrow \emptyset / \left(\begin{array}{l} + \text{cons} \\ + \text{voice} \end{array} \right) _ \left(\begin{array}{l} + \text{cons} \end{array} \right) \text{V}$$

Rule 2:

Prose statement:

The mid-low back rounded vowel /ɔ/ is deleted between a voiced consonant and another consonant in the penultimate position.

³ We owe the words *transparent* and *immune* to Mutaka and Tamanji (2000:57 &68).

Formal statement:

$$\left(\begin{array}{l} + \textit{syll} \\ - \textit{high} \\ + \textit{back} \\ - \textit{ATR} \end{array} \right) \longrightarrow \emptyset / \left(\begin{array}{l} + \textit{cons} \\ + \textit{voice} \end{array} \right) \text{---} \left(\begin{array}{l} + \textit{cons} \end{array} \right) \text{V}$$

Again, we should mention here that these two rules refer to the same phonological process. Therefore, we will be missing linguistically significant generalization if we were stating them as two separate rules. As such, we can collapse R1 and R2 into a single phonological rule that will account for both as follows.

Rule :**Prose statement:**

A vowel is deleted between a voiced consonant and another consonant in the penultimate position.

Formal statement:

$$\left(\begin{array}{l} + \textit{syll} \end{array} \right) \longrightarrow \emptyset / \left(\begin{array}{l} + \textit{cons} \\ + \textit{voice} \end{array} \right) \text{---} \left(\begin{array}{l} + \textit{cons} \end{array} \right) \text{V}$$

It is worth indicating here that the above phenomenon operates generally within the word, but not in word-boundary position.

Like devocalization (glide formation), the motivation for this rule is to do away with undesirable situations in relation to the internal structure of words, so as not to violate the preferred syllable structure of the language. The derivation of the following words exemplifies this process: fə̀kəlè̀gúá "lise", mənətəlè "I threw", jə̀glé "teach", fə̀máglè "mango".

UR	/ fə̀kəlè̀gúá	fə̀máglè	mənətəlè	jə̀glé /
Gliding		⋮ w		⋮
Vowel deletion	_____	⋮ ∅	_____	⋮ ∅
PR	[fə̀kəlè̀gwá	fə̀máglè	mənətəlè	jə̀glé]

III-4-2 -2. Consonant Deletion

- Nasal Deletion

In Fáj, two nasals cannot stand together, especially in word-boundary contexts.

This is illustrated in turn below:

a-	ɲàm	“meat”
	sóm	“palm”
	ndʒám	“water”
	gbúŋ	“mountain”
	mənən	“birds”
	mən	“this”
	má	“of”
	Wən	“tooth”
	Fəmásá	“cat”
	məmásá	“cats”
	kím	“monkey”
	fənən	“bird”
	wán	“child”
	ŋmén	“children”
	ŋkúŋ	“king”
b-1-	ɲàm + mənən = ɲàmənən	“birds meat”
	ndʒám + má + gbúŋ = ndʒámágbúŋ	“the water of the mountain”
	ndʒám + mən = ndʒámən	“this water”
	wán + ŋkúŋ = wánŋkúŋ	“prince”

$\eta\mu\acute{\epsilon}\nu + \eta\kappa\acute{\upsilon}\eta = \eta\mu\acute{\epsilon}\eta\kappa\acute{\upsilon}\eta$	“princes”
$w\acute{\alpha}\nu + \eta\bar{\nu} = w\acute{\alpha}\eta\bar{\nu}$	“my son”
$\eta\lambda\acute{\alpha}\mu + \eta\eta\gamma\acute{\beta}\acute{\upsilon} = \eta\lambda\acute{\alpha}\eta\eta\gamma\acute{\beta}\acute{\upsilon}$	“my meat”
$s\acute{\omicron}\mu + \eta\eta\gamma\acute{\beta}\acute{\upsilon} = s\acute{\omicron}\eta\eta\gamma\acute{\beta}\acute{\upsilon}$	“my palm”

b-2-	$W\acute{\alpha}\nu + \acute{\epsilon}\lambda\mu\acute{\alpha}\acute{\sigma}\acute{\alpha} = W\acute{\alpha}\nu\acute{\epsilon}\lambda\mu\acute{\alpha}\acute{\sigma}\acute{\alpha}$	“cat’s tooth”
	$\eta\lambda\acute{\alpha}\mu + \kappa\acute{\iota}\mu = \eta\lambda\acute{\alpha}\mu\kappa\acute{\iota}\mu$	“monkey’s meat”
	$\eta\lambda\acute{\alpha}\mu + \acute{\epsilon}\lambda\eta\acute{\alpha}\nu = \eta\lambda\acute{\alpha}\mu\acute{\epsilon}\lambda\eta\acute{\alpha}\nu$	“bird’s meat”

The set of words in **a-** is made up of word in isolation. Those in **b-1-** and **b-2-** are made up of words in collocation. As one can see in **b-1-**, the nasal of the first item is deleted when it precedes another nasal. It does not disappear in **b-2-**, for it is not followed by another nasal but by a different sound.

Like the others, the motivation of this process is that of preserving the syllable structure of the language. This rule is seen to apply only to nasals and precisely in a situation where a nasal precedes another nasal. It therefore states that a nasal is deleted when it is followed by another nasal. Precisely and according to the above, the deletion of the bilabial nasal occurs when it is preceded by another bilabial nasal. So the following phonological rule accounts for this phenomenon:

Rule :

Prose statement:

A nasal is deleted when preceding another nasal in word boundary position.

Formal statement:

$$\left(\begin{array}{c} + \text{cons} \\ + \text{nas} \end{array} \right) \longrightarrow \emptyset / _ \# \left(\begin{array}{c} + \text{cons} \\ + \text{nas} \end{array} \right)$$

The derivation of the following items shows the application of the preceding rule: $w\acute{\alpha}\nu\acute{\epsilon}\lambda\mu\acute{\alpha}\acute{\sigma}\acute{\alpha}$ “cat’s tooth”, $w\acute{\alpha}\eta\kappa\acute{\upsilon}\eta$ “prince”, $\eta\lambda\acute{\alpha}\mu\kappa\acute{\iota}\mu$ “monkey’s meat”, $\eta\lambda\acute{\alpha}\mu\acute{\epsilon}\lambda\eta\acute{\alpha}\nu$ “birds meat”.

UR	/ wân-fəmésá	wán-ŋkúŋ	ɲàm-kim	ɲàm-mènân /
		⋮		⋮
Nasal deletion	_____	∅	_____	∅
PR	[wânfəmésá	wáŋkúŋ	ɲàmkim	ɲàmènân]

- **Glide Deletion**

This phenomenon takes place at the level of the imperfective (progressive), in Fáj. This phenomenon leads in its turn to the deletion of the vowel which precedes the glide. Indeed, as said above, the deletion of the glide brings two vowels together, provoking the elision of the first one. For there are not diphthongs in Fáj (two vowels cannot stand together in this language). Let us consider the following data:

- a-** á + b̀̀náj̀̀ = /áb̀̀náj̀̀/ [áb̀̀nê] "be rolling!"
 á + d̀̀k̀̀j̀̀ = /ád̀̀k̀̀j̀̀/ [ád̀̀k̀̀] "be busting!"
 á + k̀̀l̀̀j̀̀ = /ák̀̀l̀̀j̀̀/ [ák̀̀l̀̀] " be holding!"
 á + ɲ̀̀új̀̀ = /áɲ̀̀új̀̀/ [áɲ̀̀úê] "be pushing!"
 á + j̀̀g̀̀l̀̀j̀̀ = /áj̀̀g̀̀l̀̀j̀̀/ [áj̀̀g̀̀l̀̀ê] "be learning!"
 á + d̀̀k̀̀éj̀̀ = /ád̀̀k̀̀éj̀̀/ [ád̀̀k̀̀ê] "be stopping! "
 á + t̀̀ʰáj̀̀ = /át̀̀ʰáj̀̀/ [át̀̀ʰyê] "be needing!"
- b-** áwá + náj̀̀w̄ = /áwánáj̀̀w̄/ [áwən̄] " to him"
 to + him
 ábá + náj̀̀w̄ = /ábánáj̀̀w̄/ [ábán̄] "to you"
 to + you
 ábá + sáj̀̀w̄ = /ábásáj̀̀w̄/ [ábás̄] "to us"
 to + us
 ábú + náj̀̀w̄ = /ábúnáj̀̀w̄/ [ábún̄] "to them"

to+ them

c- mǎ + n + ηmúwǎ = /mǎηmúwǎ/ [mǎηmǎ] "I am drinking"

I + P0 + drinking

mǎ + n + tàntǎwǎ = /mǎntǎntǎwǎ/ [mǎntǎntǎ] "I am jumping"

I + P0 + jumping

tǎ + n + j èmǎwǎ = /tǎnj èmǎwǎ/ [tǎnj èmǎ] "we are singing"

we + P0 + singing

tǎ + n + ζíwǎ = /tǎnζíwǎ/ [tǎnζǎ] "we are eating"

we + P0 + drinking

d- kǎ:ηkúwǎsǎ "type of dance"

kǎwǎ:ntǎ "book"

The data above exhibits the deletion of the palatal glide /j/ and that of the labio-velar glide /w/ when occurring between two vowels in the word's last syllable. Notice that the last syllables **-jǎ** and **-wǎ** stand for the progressive marker in **a-** and **c-** respectively. So, the forms in **a-** are made up of the following components: **ǎ (be) + verb + ING**. Hence the following phonological rules:

Rule 1:

Prose statement:

The palatal glide /j/ is deleted between two vowels in the word's last syllable.

Formal statement:

$$\begin{pmatrix} - \text{cons} \\ - \text{syll} \\ + \text{high} \\ - \text{back} \end{pmatrix} \longrightarrow \emptyset / \begin{pmatrix} + \text{syll} \end{pmatrix} \text{ — } \begin{pmatrix} + \text{syll} \end{pmatrix} \#$$

Rule 2:

Prose statement:

The labio-velar glide /w/ is deleted between two vowels in word final position.

Formal statement:

$$\begin{pmatrix} -cons \\ -syll \\ +high \\ +back \end{pmatrix} \longrightarrow \emptyset / \left(\begin{pmatrix} +syll \end{pmatrix} \right) _ \left(\begin{pmatrix} +syll \end{pmatrix} \right) \#$$

Once again, we should mention here that these two rules refer to the same phonological process. Therefore, we will be missing linguistically significant generalization if we were stating them as two separate rules. As such, we can collapse R1 and R2 into a single phonological rule that will account for both as follows.

Prose statement:

A glide is deleted between two vowels in word final position.

Formal statement:

$$\begin{pmatrix} -cons \\ -syll \\ +high \end{pmatrix} \longrightarrow \emptyset / \left(\begin{pmatrix} +syll \\ -cons \end{pmatrix} \right) _ \left(\begin{pmatrix} +syll \\ -cons \end{pmatrix} \right) \#$$

Notice that this rule applies only in the word's last syllable or in word final position. That is why words like **kə:ŋkúwásə** "type of dance" in **d**, will not undergo this process.

The derivation of the following words illustrates the process of glide deletion: **əwə̀nə̀** "to him", **ə́jə̀glə̀** "be learning", **mə̀ŋmə̀** "I am drinking".

UR	/	əwə̀nə̀wə̀	ə́jə̀gə̀lə̀jə̀	mə̀ŋmə̀wə̀	/
Vowel deletion		⋮	∅	⋮	
Glide deletion		∅	∅	∅	
Vowel truncation		əwə̀nə̀	ə́jə̀glə̀	mə̀ŋmə̀	
		⋮	⋮	⋮	
PR	[	əwə̀nə̀	ə́jə̀glə̀	mə̀ŋmə̀]

III-4-3. Vowel truncation

This is another kind of vowel elision in Fáj. It is a phonological phenomenon whereby a vowel deletes when followed by another vowel. In the meantime, this does not affect high vowels. This is shown in the following data:

a-	/ábə̀nájə̀/	[ábə̀nájə̀]	→	[ábə̀nə̀]	“be rolling!”
	/ádəkəkə̀jə̀/	[ádəkəkəkə̀]	→	[ádəkəkə̀]	“be bursting!”
	/ájɲūájə̀/	[ájɲūájə̀]	→	[ájɲwə̀]	“be pushing!”
	/ádékéjə̀/	[ádékékə̀]	→	[ádékə̀]	“be stopping!”
	/tʰájə̀/	[tʰájə̀]	→	[tʰyə̀]	“be needing!”
b-	/ə̀wánə̀wō/	[ə̀wánə̀wō]	→	[ə̀wənō]	“to him”
	/ə̀bánə̀wō/	[ə̀bánə̀wō]	→	[ə̀bənō]	“to you”
	/ə̀bəsə̀wō/	[ə̀bəsə̀wō]	→	[ə̀bəsō]	“to us”
	/ə̀búnúwō/	[ə̀búnúwō]	→	[ə̀búnō]	“to them”
c-	/májɲmúwə̀/	[májɲmúwə̀]	→	[májɲmə̀]	“I am drinking”
	/mántántə̀wə̀/	[mántántə̀wə̀]	→	[mántántə̀]	“I am jumping”
	/tə̀ɲ èmḗwə̀/	[tə̀ɲ èmḗwə̀]	→	[tə̀ɲ èmḗ]	“we are singing”

In fact, we discussed in **III-4-2-2.** above, a phonological process which provokes the deletion of the glide in this data. Then, glide deletion will trigger the disappearance or the truncation of the vowel that stood before the deleted glide. Besides, the merging of high vowels with other vowels leads to glide formation which we have already discussed. On the contrary, the merging of non high vowels with other vowels leads to vowel truncation. We therefore have to state the phonological rule which captures the above phenomenon.

Prose statement:

A - High vowel is deleted when preceding another vowel.

Formal statement:

$$\left(\begin{array}{l} + \textit{syll} \\ - \textit{high} \end{array} \right) \longrightarrow \emptyset \quad / \quad - \left(\begin{array}{l} + \textit{syll} \end{array} \right)$$

Once more, it is worth noticing that, like the glide formation rule, the motivation for this rule is to do away with undesirable situations in relation to the internal structure of words, so as not to violate the preferred syllable structure of the language. Indeed, vowel clusters are not accepted in this language.

Let us illustrate this phenomenon through the derivation of the following words:
 tən̩j èn̩ɔ̃ “we are singing”, ádékâ “be stopping!”, ébún̩ɔ̃ “to them”.

UR	/	tən̩j èn̩ɔ̃wɔ̃	ádékéjə	ébún̩úwɔ̃	/
Glide deletion		⋮ ∅	⋮ ∅	⋮ ∅	
Vowel truncation		tən̩j èn̩ɔ̃	ádékéə	ébún̩úɔ̃	
		⋮ ∅	⋮ ∅	⋮ ∅	
PR	[	tən̩j èn̩ɔ̃	ádékâ	ébún̩ɔ̃]

III-4-4. Vowel Insertion

This deals with the insertion of a vowel within a word. In Fáj̩ we have realized that, the central round vowel /ə/ is always inserted in word boundary position, especially between two consonants (the first word should end with a consonant and the next one should start with a consonant). Let us observe the following data:

a)-	jù	“house”
	á-kâ	“to be”
	kàmù	“one”
	fū	“full”
	tsâ	“five”

	kálā	"day"
	gáwò	"large"
	ngòtò	"cold"
b)-	kâ -n- á- kàmù	"it is one"
	kâ- n- á kúmàwò	"it is ten"
	kâ- n- á tsâwò	"it is five"
	jù jâ- n- é jū	"the house is full"
	house be Po full	
c) -	kálā kâ- n- ngòtò	"the day is cold"
	day be Po cold	
	jù jâ- n- gáwò	"the house is large"
	house be Po large	

The above data demonstrates that the central round vowel /ə/ is always inserted between two consonants, in word boundary position. Meanwhile, the examples in **c)** – do not undergo this process because the nasal **N** which precede the insertion, syllabifies with the following velar. Hence the phonological rule stated in turn below:

Prose statement:

The central round vowel /ə/ is inserted in word-boundary position between any consonant and a voiceless consonant.

Formal statement:

$$\emptyset \longrightarrow \left(\begin{array}{l} + \textit{syll} \\ - \textit{high} \\ - \textit{front} \\ - \textit{back} \\ + \textit{ATR} \end{array} \right) / \left(\begin{array}{l} + \textit{cons} \end{array} \right) \# \text{---} \left(\begin{array}{l} + \textit{cons} \\ - \textit{voice} \end{array} \right)$$

The derivation of the following utterances illustrates this phenomenon: kâ n- á- kàmù “it is one”, jù jâ- n- á- fũ “the house is full”, kâ n- á- kàmù “it is one”.

UR	/	kâ n-	- kàmù	jù jâ-	n-	-fũ	kâ n-	- kàmù	/
			⋮		⋮		⋮		
Vowel insertion			á		á		á		
PR	[	kâ n- á-	kàmù	jù jâ-	n- á	fũ	kâ n- á-	kàmù]

III-4-5. Aspiration

Aspiration is a phonological process which makes a stop be pronounced with an audible and forceful release of breath. This always causes the friction of the released breath and therefore leads to the production of an aspirated consonant.

Aspirated sounds are represented in many languages in general and in Fáj in particular as “clusters of a consonantal segment /C/ plus a segment /h/, the latter being [-consonantal, -vocalic], and not as single consonantal segments with the feature [+aspirate], which is the usual analysis”Eva I. Ejerhed (1981).

In Fáj, aspiration is caused by /i/ and /u/, the two highest vowels of the vowel chart, but not by their normal counterpart /i/ and /u/. In fact, these vowels which we consider as fricative vowels, generally affect stops and glides. Mutaka and Tamanji (2000) refer to them as “high vowels of the first degree of aperture”. Let’s observe the following data:

a-	á-kū	“to fasten a goat”
	wú	“nose”
	túm	“land”
	kú	“head”
	á-tín	“to cut”
	á-gí	“to come”
	á-gùŋ	“to sleep”
	kí	“know!”

	dúŋ	“sit!”
	jú	“houses”
	á-bí	“to walk”
	á-dí	“to cry”
	á-dú	“to poison”
	tí	“palm kernel”
	á-kpú	“to die”
b-	g ^h ú	“fire”
	mb ^h í	“earth, world”
	á-g ^h ú	“to lend”
	túmāw ^h ú	“my village”
	á-j ^h ú	“to smell”
	d ^h í	“road”
	á-t ^h ín	“to fish”
	á-t ^h íā	“to need”
	á-d ^h úā	“to hire”
	á-t ^h ū	“to beat”
	á-b ^h í	“to move”
	á-k ^h íē	“to dance”
	kp ^h ú	“death”

The above data shows us that the normal high vowels /i/ and /u/ do not cause aspiration within the words in **a-** while the high vowels with the first degree of aperture /i/ and

/ɥ/ which are considered +ATR in Fáj and which we call fricative vowels, do so in **b-**. Thus, the following two phonological rules account for the process of aspiration in Fáj:

Rule 1:

Prose statement:

A plosive is aspirated (+spread)⁴ before a high vowel with the first degree of aperture (a fricative vowel (a +ATR high vowel)).

Formal statement:

$$\begin{pmatrix} -son \\ -cont \end{pmatrix} \longrightarrow \begin{pmatrix} +spread \end{pmatrix} / \text{---} \begin{pmatrix} +syll \\ +high \\ +ATR \\ +spread \end{pmatrix}$$

Note: In Fáj, the high vowels /i/ and /ɥ/ have (+spread) as a latent feature. Naturally, this feature is not phonological, but it manifests itself on the preceding plosive and the preceding glide.

Rule 2:

Prose statement:

A glide is aspirated (+spread) before a high vowel with the first degree of aperture (a fricative vowel).

Formal statement:

$$\begin{pmatrix} -cons \\ -syll \end{pmatrix} \longrightarrow \begin{pmatrix} +spread \end{pmatrix} / \text{---} \begin{pmatrix} +syll \\ +high \\ +ATR \\ +spread \end{pmatrix}$$

The derivation of the following items shows the application of the preceding rule: $\acute{\text{a}}\text{-g}^{\text{h}}\acute{\text{u}}$ "to lend", $\acute{\text{a}}\text{-j}^{\text{h}}\acute{\text{u}}$ "to smell", $\text{mb}^{\text{h}}\bar{\text{i}}$ "earth, world" $\acute{\text{a}}\text{-k}^{\text{h}}\text{y}\acute{\text{e}}$ "to dance".

⁴[± Spread] is a feature which is relevant in the differentiation of the sound [h] from other fricatives.

UR	/	á-g ^h ĩ	á-j ^h ĩ	Nb ^h ĩ	á-k ^h ĩɛ	/
Nasal assimilation				m		
Aspiration		g ^h	j ^h	b ^h	k ^h	
Gliding					y	
PR	[	á-g ^h ĩ	á-j ^h ĩ	mb ^h ĩ	á-k ^h yɛ]

III-4-6. Vowel lengthening

This refers to a process whereby a short vowel becomes long in a given environment. In Fáj, the specific phonological process which deals with long vowels is known as compensatory lengthening. Indeed, the presence of nasal assimilation in this language seems to lead to this phenomenon (Mutaka and Tamanji, 2000). This is exemplified in the data below.

a-	k-əwò:ntə	"book"
	k-ə:ntɸù	"cloud"
	k-ə:ŋkúwásə	"type of dance"
	t-ə:ŋkɸə	"bench"
	m-ə:nsìŋə	"rings"
	Ø-ŋà:ŋgbú	"my meat"
	k-əbá:ntə	"white"
	Ø-wá:ŋkúŋ	"prince"
	m-əkɸé:ŋkəbíkē	"bad woman"
	Ø-ŋmé:ŋkúŋ	"princes"
	f-ə:ŋgó:ŋgó	"ant"
	Ø-só:ŋgbú	"my palm"
b-	K-əlwəsúŋ	"son"
	k-əkàŋàm	"horse"
	f-əsèŋə	"ring"
	f-əʒə	"god"

j-ək̀p̀ún	“tree branch”
b-ək̀ê	“chairs”
k-ək̀d̀ê	“door”

As shown in these examples, long vowels appear before nasal consonant clusters. Such long vowels are not underlying but the result of compensatory lengthening. In fact, we first of all wanted to treat this lengthening as a compensatory lengthening, but this analysis came to be unsatisfactory when we considered the data in **b-** where words do not undergo vowel lengthening as compared to those in **a-**. Note that the morphemes that appear before the hiphens in the above data are considered as noun classes' markers. It is worth noticing that in Fáj long vowels appear in open syllables. The phonological rule which captures this phenomenon can be stated as follows.

Rule :

Prose statement:

A vowel is lengthened when occurring before a prenasalized consonant.

Formal statement:

$$\left(\begin{array}{l} + \text{syll} \\ - \text{cons} \end{array} \right) \longrightarrow \left(+ \text{long} \right) / \text{---} \left(\begin{array}{l} + \text{cons} \\ + \text{nasal} \end{array} \right) \mathbf{C}$$

The derivation of the following items illustrates the phenomenon of vowel lengthening:

		t̀ək̀p̀à	s̀ó:ŋgb̀ú	m̀è:ns̀ìŋ̀è	
UR	/				/
		⋮	⋮	⋮	
Nasal assimilation		ŋ	ŋ	n	
		⋮	⋮	⋮	
Vowel lengthening		è:	ó:	è:	
		⋮	⋮	⋮	
PR	[	t̀ək̀p̀à	s̀ó:ŋgb̀ú	m̀è:ns̀ìŋ̀è]

III-4-7. Vowel shortening

This refers to a process whereby a long vowel becomes short in a given environment. In Fáj, this seems to happen when a long vowel is found in word final position or when it is followed by a nasal in wordfinal position. In fact, as said earlier, long vowels in this language appear solely in penultimate position. This is exemplified in the data bellow.

/ǎ-méē/ → [ǎ-mē]	"to build"	/ǎ-lúū/ → [ǎ-lú]	"to plait"
/ǎ-sǎán/ → [ǎ-sǎn]	"to cut open"	/ǎ-wūú/ → [ǎ-wú]	"to hear"
/ǎ-kǎám/ → [ǎ-kǎm]	"to squeeze"	/ǎ-jǎǎ/ → [ǎ-jǎ]	"to quarrel"
/ǎ-gbúú/ → [ǎ-gbú]	"to fail"		

As shown in the data above, long vowels lose their length in word final position or when followed by a nasal in word final position. This naturally leads to the process of contour tone formation which will be discussed in chapter five. Therefore, the phonological rules which capture this phenomenon can be stated as follows:

Rule 1:

Prose statement:

A long vowel is shortened when occurring in word final position.

Formal statement:

$$\left(\begin{array}{l} + \text{syll} \\ + \text{long} \end{array} \right) \longrightarrow \left(\begin{array}{l} - \text{long} \end{array} \right) \quad / \quad _ \quad \#$$

Rule 2:

Prose statement:

A long vowel is shortened when followed by a nasal in word final position.

Formal statement:

$$\left(\begin{array}{l} + \text{syll} \\ + \text{long} \end{array} \right) \longrightarrow \left(\begin{array}{l} - \text{long} \end{array} \right) \quad / \quad _ \quad \left(\begin{array}{l} + \text{cons} \\ + \text{nasal} \\ + \text{ant} \end{array} \right) \#$$

we should mention here that these two rules refer to the same phonological process. Therefore, we will be missing a linguistically significant generalization if we were stating them as two separate rules. As such, we can collapse R1 and R2 into a single phonological rule that will account for both as follows.

Rule :

Prose statement:

A long vowel is shortened when occurring in word final position or when followed by a nasal in word final position.

Formal statement:

$$\left(\begin{array}{c} + \text{syll} \\ + \text{long} \end{array} \right) \longrightarrow \left(\begin{array}{c} - \text{long} \end{array} \right) / \text{---} \left\{ \begin{array}{c} \left(\begin{array}{c} + \text{cons} \\ + \text{nasal} \end{array} \right) \# \\ \# \end{array} \right\}$$

The derivation of the following words illustrates the phenomenon of vowel shortening: á-lú "to plait", á-kám "to squeeze", á-sǎn "to cut open".

UR	/	á-lúū	á-kám	á-sǎn /
		⋮	⋮	⋮
Vowel shortening		ū	ǎ	ǎ
PR	[	á-lú	á-kám	á-sǎn]

III-4-8. Homorganic Nasal Assimilation

Assimilation is one of the processes that are very common to nasals in this language. Assimilation is a process whereby a segment or sound gets the qualities of the following or preceding sound. According to Katamba (1989), when discussing assimilation, it is important to look at it in terms of directionality. That is to say, we can tell whether a sound becomes more like either the sound that precedes it, or the sound that follows it. If a sound becomes more like the one that follows it, we talk of regressive assimilation. If on the other hand a sound becomes more like the one that it follows, we talk of progressive assimilation.

As far as words in Fáj are concerned, the type of assimilation process that exists can be referred to as regressive nasal assimilation. This is because the nasals always assimilate the qualities of the consonant that follows the nasal (the consonant they precede).

This is another rule that was seen to be present within the phonology of Fáj. The motivation for this rule like the others is to preserve the syllable structure of the language, and it helps or results in a smoother, effortless and more economical transition from one sound to another. This rule states that a nasal takes the place of articulation of the consonant it precedes. This can thus be exemplified in the data below.

tə:ŋkpə	"bench"
mə:nsìŋə	"rings"
ɲà:ŋgbú	"my meat"
kəbá:ntə	"white"
wá:ŋkúŋ	"prince"
məkpré:ŋkəbíkē	"bad woman"
ŋmé:ŋkúŋ	"princes"
fə:ŋgó:ŋgó	"ant"
só:ŋgbú	"my palm"
mbī	"earth"
mbálá	"type of fish"
fù:mbwán	"type of dance"
dùbè:ndóŋ	"goat"
kə:mfùŋ	"hut"

The above data demonstrates that nasals become homorganic with the following consonants that is nasals assimilate to the place of articulation of the consonants they precede. The following rule inspired by Sam Rosenthal (1988), captures nasal assimilation in this language.

Rule :

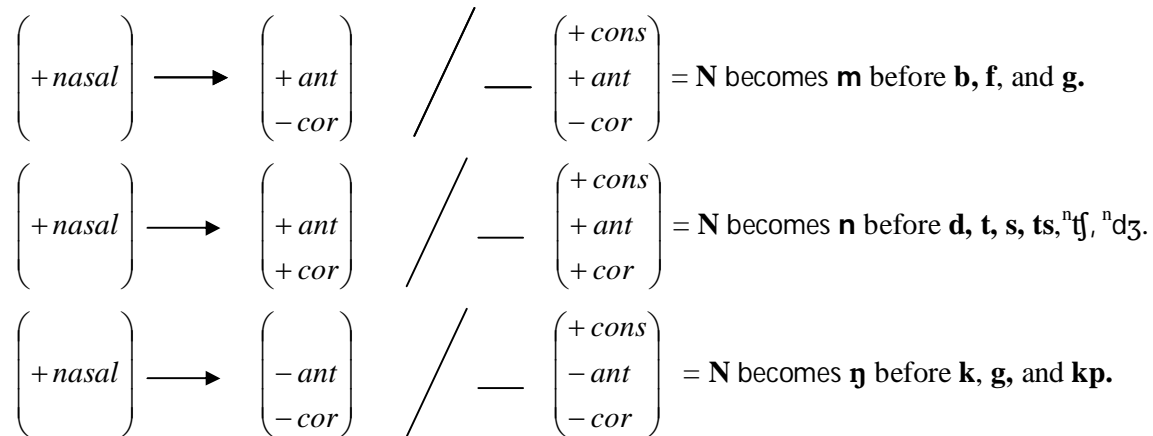
Prose statement:

A nasal assimilates the place of articulation of the following consonant.

Formal statement:

$$N \longrightarrow [\alpha\text{place}] / \text{---} [\alpha\text{place}]$$

This general formal statement covers the features that are involved in this process as presented in the following:



We therefore need to illustrate the process of nasal assimilation through the derivation of the following words: *só:ŋgbú* "my palm", *fù:mbwán* "type of dance", *kàbá:ntà* "white".

UR	/	só:ŋgbú	fù:mbwán	kàbá:ntà	/
Gliding			w		
Nasal assimilation		ŋ	m	n	
Vowel lengthening		ó:	ù:	á:	
PR	[	só:ŋgbú	fù:mbwán	kàbá:ntà]

III-4-9. Vowel Rounding

Vowel rounding is a process whereby a nonround vowel is assigned round and back values when occurring in a given environment. Most often, this usually happens in many languages where a nonround vowel is preceded by a labio-velar glide. As far as Fájŋ is concerned, this process affects the mid-high central unrounded vowel [ə]. In effect, whenever this vowel occurs after the labio-velar glide [w], it becomes the mid-high back rounded vowel [o].

However, roundedness is the vocalic equivalent of consonantal labialization. As such, rounded vowels and labialized sounds affect each other through phonetic assimilation: Rounded vowels labialize consonants and labialized consonants round vowels. In many languages such effects are minor phonetic detail, but in some cases they become significant. This is the case of the mid-high central unrounded vowel [ə] and the labio-velar glide [w] in the present language.

The process that gives rise to this situation is a type of vowel harmony (vowel-to-vowel feature transfer, or agreement). In this particular case, the harmonizing features are [back] and LAB (Labial place features). So, as seen in the data below, the mid-high central unrounded vowel [ə] is assigned a value for [back] and LAB (if present) through assimilation to the preceding labio-velar glide [w].

a-	kántəŋ	"small"
	kənîn	"big"
	bənîn	"fat"
b-	kwáj w-òntəŋ	"small pan"
	kwáj w-ònîn	"big pan"
c-	kásé k-əntəŋ	"small spoon"
	kásé k-ənîn	"big chair"

from the above data, one can clearly see that the forms in **b-** undergo the process of vowel rounding because of the presence and the position of the labio-velar glide [w] when those in **c-** do not. We can therefore state the following rule to account for this phenomenon:

Rule :

Prose statement:

The mid-high central unrounded vowel [ə] becomes the mid-high back rounded vowel [o] when preceded by the labio-velar glide [w].

Formal statement:

$$\begin{pmatrix} + \textit{syll} \\ - \textit{round} \\ - \textit{high} \\ - \textit{low} \end{pmatrix} \longrightarrow \begin{pmatrix} + \textit{round} \\ + \textit{back} \end{pmatrix} \quad / \quad - \begin{pmatrix} - \textit{cons} \\ + \textit{son} \\ - \textit{syll} \\ + \textit{cont} \end{pmatrix}$$

The derivation of the following phrases illustrates the process of vowel rounding: kwáj w-òntəŋ "small pan", kwáj w-ònîn, "big pan", kásé k-əntəŋ "small spoon".

UR	/	kúáj	w-əNtâŋ	kúáj	w-ənîn	kásá	k-əNtâŋ	/
Gliding		w		w				
Nasal assimilation			n			n		
Vowel rounding			o	o				
PR	[	kwáj	w-əntâŋ	kwáj	w-ənîn	kásá	k-əntâŋ]

III-4-10. Reduplication

Reduplicated words are set of derived words that lead to segmental changes in this language. Reduplication is a phonological process in which a whole word or parts of a word (stem root, syllable(s) etc) is repeated (reduplicated) in order to form a new word. This therefore implies that there are two types of reduplication, namely, complete reduplication (whole word) and partial reduplication (part of the word) (Mutaka and Tamanji, 2000, 63-66). As far as reduplication is concerned in Fáj, this language makes use of partial reduplication, more precisely, stem or root reduplication. Note that there is no distinction between the stem and the root. Fáj has a regular verbal reduplication. Moreover, when the process of verbal reduplication occurs in Fáj, there is the intervention of a discontinuous morpheme with a CV...CV structure [kà...mē] within the reduplicated form. The data below illustrates instances of reduplication in this language.

- Basic forms

a-1-	á-tésáná	"to repeat"
	á-nánā	"to go"
	á-kíān	"to look"
	á-tòmá	"to send"
	á-kíā	"to laugh"
	á-nō	"to fight"
	á-ʒí	"to eat"
	á-sámná	"to play"

- **Reduplicated forms**

a-2-	acute-kíān-kàkíā-mē	"to look repeatedly"
	acute-nān-ā-kān-ān-ā-mē	"to go repeatedly"
	acute-tòm-á-kà-tòm-á-mē	"to send repeatedly"
	acute-kí-ā-kà-kí-ā-mē	"to laugh repeatedly"
	acute-nō-kān-ō-mē	"to fight repeatedly"
	acute-ẏí-ká-ẏí-mē	"to eat repeatedly"
	acute-sám-ná-kásám-ná-mē	"to play repeatedly"

The above data lead us to some observations as follows.

- The alveolar nasal [n] deletes in the verb acute-kíān "to look" when reduplicated and especially when preceding the bilabial nasal [m] in word boundary position as shown in acute-kíān-kàkíā-mē "to look repeatedly". The following phonological rule captures this process.

$$\begin{pmatrix} + \text{cons} \\ + \text{nas} \\ + \text{ant} \\ + \text{cor} \end{pmatrix} \longrightarrow \emptyset \text{ / } _ \# \begin{pmatrix} + \text{cons} \\ + \text{nas} \\ + \text{ant} \\ - \text{cor} \end{pmatrix}$$

This falls under a rule we stated earlier in **III-4-3 -2.**, especially when dealing with nasal deletion. This rule was formulated as follows.

$$\begin{pmatrix} + \text{cons} \\ + \text{nas} \end{pmatrix} \longrightarrow \emptyset \text{ / } _ \# \begin{pmatrix} + \text{cons} \\ + \text{nas} \end{pmatrix}$$

- Some verbs roots like -sám-ná "play" and -ẏí "eat", consist of only syllables with high tones. Others like -tòm-á "send" and -nān-ā "go", exhibit the intervention of a mid or a low tone. We therefore observe that there is a process of high tone substitution from the verb root where the high tone appears exclusively, to the first vowel of the morpheme [kà...mē]. but

where a mid or a low tone is present in the verb root, this process does not occur. Here the high tone substitutes for the low tone. Note that we will recall this tonal phenomenon in the analysis of chapter five.

III-5. Rule ordering and sample derivation

III-5-1. Rule ordering

It is worth noting that in Fáj like in many other languages, some rules have applicational precedence over others. Such rules permit to get a feeding order (a situation where a rule creates an environment in which the following rule should apply). In other words, some rules must be given priority during their application so as to avoid having a bleeding order (an order where the prior application of one rule takes away the environment in which the other rule(s) should apply) and consequently to avoid achieving ill-formed derivation in the language. As a matter of fact, a rule such as gliding for example must have applicational precedence over vowel deletion so as to achieve the appropriate derivation. Moreover, gliding should apply after the aspiration rule whereas assimilation is applied before vowel lengthening. Glide deletion also has applicational precedence over vowel truncation. As far as other rules are concerned, we have come to notice that their application does not follow a specific order, since they do not have any effect on each other.

Conclusion

We have just seen a good number of segmental processes attested within the words (nouns and verbs) of this language. The analysis of these processes reveals some segmental rules which the language uses to resolve some of the problems that the language has, as concerns the internal structure of words.

In this chapter, a number of segmental processes in Fáj word formation have been examined. It has been argued that to better examine the segmental processes present at the phonology of this language, there is need to look at the nature of the structure of the syllable, since segmental phonological rules are frequently sensitive to syllable structure. The analysis of the syllable structure revealed that the core syllable in Fáj is the CV syllable type.

Looking at the segmental processes in this language, it has been shown that these processes revealed a number of rules whose motivation was argued to be structure preservation. Our data therefore permitted us to account for phonological processes such as gliding, segments deletion, segments insertion, aspiration, vowel lengthening, nasal assimilation, vowel rounding, and vowel raising. The rules and processes seen in this chapter

will help to better explain certain phenomena (especially tonal processes) that will be dealt with in the subsequent chapters.

CHAPTER IV: THE TONOLOGICAL SYSTEM OF FÁŋ

IV-0. Introduction

Fáŋ happens to be a tone language like most African languages. The tone is a prosodic unit which has the same value as the phonemic consonants and vowels. Welmers (1973:90) defines it as a pitch phoneme. In other words, the tone is a feature that can be used in bringing semantic contrast between two words that sound alike. Moreover, unlike the stress, the tone is carried by a tone bearing unit (TBU), which can be any segment that can function as the peak of the syllable. Now, one should notice that only vowels are tone bearing units in Fáŋ for there is no syllabic nasals or syllabic laterals in the language in hand. According to Pulleyblank (1986), Halle and Vergnaud (1982), languages differ as to the number of tones that can link to a single tone bearing unit. The treatment of tone in Fáŋ will therefore need a special attention.

Consequently, an overview of the tonological system of this language is provided in this chapter. The phonetic and the phonemic inventories of tones and the classification of tonemes are outlined here. The present chapter will equally be dedicated to the treatment of the various tonal patterns found in both nouns and verbs of this language.

Some tonal variations can be accounted for by the interaction of some phonological processes as well as by some tonal processes. Moreover, the presence of tonal variations in this language reveals interesting tonal phenomena that we will explore in the subsequent chapter.

IV-1. Tone inventory

In the Fáŋ language there are four attested level tones, namely: the low tone (L), the mid tone (M), the high tone (H) and the super-high tone (S). These are the only underlying tones attested in this language. Moreover, we have come across four contour tones, namely the rising tone (LH), the falling tone (HL), the mid-high tone (MH) and the high-mid tone (HM). But the latter should be treated as sequences of two different level tones, thus they just occur in surface forms. Now let us give more details about that matter in handling types and functions of tones in the Fáŋ language.

IV-1-1. Typology and function of tones

This section provides first of all a presentation of phonetic and phonemic tones than one can find in this language. It also presents the different functions that tonal units can have in Fáj. Finally, it exhibits the various tonal patterns existing within Fáj nouns and verbs.

IV-1-1-1. Types of tones

IV-1-1-1-1. Level tones

Tones are most often distinguished by their shape (contour) and pitch range (or register). Level tones are therefore tones which are obtained or marked when the pitch of the voice does not change during the production of a syllable. That is the pitch of the voice remains at the same level during the pronunciation of the syllable.

In Fáj, as said earlier, we have come across four types of level tones: the low tone (L), the mid tone (M), the high tone (H) and the super-high tone (S).

- **The Low tone (L):**

This is a register tone which transmits a low pitch to the TBU. It is represented by the symbol [`] on a given TBU. Here are some illustrations:

Example 1

1-a-	lìm	“tongue”	1-b-	tàn	“jump”
1-c-	kàkàràṅ	“horse”	1-d-	fànsiṅḁ	“ring”
1-e-	kà ⁿ fù	“cloud”	1-f-	lùm	“bite”

- **The Mid tone (M) :**

This is a tone which has a mid-level pitch, that is a tone that is higher than the low tone and lower than the high tone. It is indicated by the symbol [¯]. The data below provide some examples.

Example 2

2-a-	nōkō	“for”	2-b-	nḟū	“full”
2-c-	gī	“come”	2-d-	kā	“every”
2-e-	^m bī	“earth”	2-f-	k ^h īē	“dance”

2-g- á-témkēj “to surround” **2-h-** bíkē “bad”

2-i- wásē “eye”

▪ **The High tone (H):**

This is a register tone which gives its tone bearing unit a high pitch. It is indicated by the symbol [´] on the tone bearing unit. Here are some examples:

Example 3

3-a- ʰgíyám “water”

3-b- gbúŋ “mountain”

3-c- fáʰtáj “seed”

3-d- kófá “bone”

3-e- kú “head”

3-f- sóm “palm”

▪ **The Super-high tone (S):**

This is a register tone which gives its TBU an extra-high pitch. This tone is higher than the high tone. It is indicated by the symbol [ˀ]. Here are some examples:

Example 4

4-a- sí “burn”

4-b- gí “come”

4-c- bǎ “building”

4-d- tí m “woodash”

4-e- wǎm “dry”

4-f- mbǎ-wân “this hearth”

4-g- tǎgbú-tân “this ash”

4-h- sé-yân “this sand”

As it can be observed at the above data, the super-high tone occurs only in monosyllabic words or in words (stems) boundaries in the situation of collocation, which is not the case of the rest of level tones. As this is an environment (monosyllabicity) where sounds are generally produced with a very high pitch, we should consider the super high tone as being just a kind of phonetic implementation. Therefore, it will not be treated as an underlying tone in this work.

As for the mid tone, it generally appears at word final position except when a disyllabic word like **nōkō “for”**, is only consisted of mid tone. It can thus be concluded that the mid tone is predicted by rules. Unlike the super-high tone, the other level tones are used by Fáj in all kind of words.

Apart from these four reference tones, as said above, we came across other types of tones that are referred to as contour tones.

IV-1-1-1-2. Contour tones

Contour tones are tones which are obtained when the pitch of the voice changes during the production of a syllable. That is the pitch of the voice moves from one level to another level during the pronunciation of the syllable.

Fáj makes use of four contour tones as mentioned earlier: the rising tone (LH), the falling tone (HL), the mid-high tone (MH) and the high-mid tone (HM).

- **The high-low tone (HL):**

The high-low tone results from the combination of a high tone and a low tone. It is also referred to as “falling tone” by many linguists. It is represented by the symbol [˥]. Words with high-low tone include the following:

Example 5

5a-	wû	“nose”	5-b-	wêbô	“aunt”
5-c-	wônîn	“big”	5-d-	ᵐgôn	“plantain”
5-e-	tûm	“land”	5-f-	fânân	“bird”

- **The low-high tone (LH):**

Unlike the high-low tone, the low-high tone also called “rising tone” rather begins with a low tone and ends with a high one. Its symbol is [˩]. This is illustrated in the following examples:

Example 6

6-a-	gĩ	“egg”	6-b-	lũm	“bite”
6-c-	màkprékàbíkā	“bad wife”	6-d-	kě	“see”
6-e-	lĩ	“enter”	6-f-	kũ	“tie”

- **The mid-high tone (MH):**

The mid-high tone results from the combination of a mid tone and a high tone. It is represented by the symbol [˨̩]. Words with mid-high tone include the following:

Example 7

7-a-	á-tũŋ	“to crow”	7-b-	á-kálá	“to fold”
7-c-	á-ŋmúg ^h ũ	“to smoke”	7-d-	á-wú	“to hear”
7-e-	á-témkāŋ	“to surround”	7-f-	á-fām	“to suffer”

- **The high-mid tone (HM):**

Unlike the mid-high tone, the high-mid tone rather begins with a high tone and ends with a mid tone. Its symbol is $\overset{\sim}{\square}$. This is illustrated in the following examples:

Example 8

8-a-	á-jāg ^h ŭ	“to lend”	8-b-	á-jábōnā	“to bless”
8-c-	á-dŭ	“to poison”	8-d-	á-lāŋ	“to curse”
8-e-	tŭ	“to peck”	8-f-	á-tē	“to sting”

As we can observe from the above data, the mid-high and the high-mid tones are most often used by verbs in Fáj. Indeed, we rarely came across these tones in the nominal context. Moreover, it is worth noting once again that in this study the high-low, the low-high, the mid-high and the high-mid tones are considered as sequences of two different tonological units and not as single ones.

IV-1-1-1.1. Phonetic tone chart in fáj

As shown earlier, there are other tones that are attested at the phonetic level of words (and phrases) in this language though there are only four underlying tones. Generally speaking, there are eight phonetic tones in the phonology of Fáj. These tones include the lexical low (L), the mid (M), high (H) and super-high tone (SH) and four contour tones, namely, the rising (LH), the falling (HL), the mid-high (MH), and the high-mid (HM).

Since we have already seen words in which these level and contour tones are present, we will proceed by providing the phonetic tone chart before presenting some minimal pairs in relation to the four underlying tones.

Table 13: Table of phonetic tones

Level tones				Contour tones			
L	M	H	SH	HL	LH	MH	HM
ˋ	ˊ	ˆ	˚	ˆ	ˋ	ˊ	ˊ

The following minimal pairs lead us to the phonemic tone chart:

Example 9

9-a-	ká	“hands”	and	kā	“every”
-------------	----	---------	-----	----	---------

9-b- l̩m “tongue” and l̩m “work”

9-c- kàlɔ́fə “knife” and kálɔ̀fə “slice”

9-d- lá “collect” and là “intestine”

IV-1-1-1-2. Phonemic tone chart in Fáj

As mentioned earlier and from the above data, Fáj has three tones that are present in the underlying representation of its words (and phrases), which are referred to as phonemic tones or better still as tonemes. However, this does not sound surprising, for the four-tone system (at the surface level) is a significant characteristic of many languages of Lower Fungom like Mungbam, Mundabli, and Naki (Jeff Good et al., 2011: 48). Having provided some examples of nouns and verbs bearing these four tones in the data above and distinguished the super high tone from the other level tones which are underlying; we can now set the phonemic tone chart as follows.

Table 14: Table of phonemic tones

Low tone	Mid tone	High tone
ˊ	ˋ	ˈ

As we said above, the contour tone is treated as sequences of two different level tones: we therefore have the rising tone (LH), the falling tone (HL), the mid-high tone (MH), and the high-mid tone (HM). However, due to tonological processes, these contour tones happen to be in complementary distribution with some level tones. This will be demonstrated in chapter four where we will examine the tonological rules through a large set of data.

II-2-1-2. Functions of tones

Generally, in the Bantu languages, tones have two functions: the lexical function and the grammatical function. We therefore have lexical tones and grammatical ones.

II-2-1-2-1. Lexical tones

Tones are said to have a lexical function when they are able to bring a semantic contrast between two words that look alike at the segmental level but which are distinct at the supra-segmental level. Such tones can also be called semantic tones. Here are some examples:

Example 10

10-a-	fǐ	“untie”
	fū	“full”
10-b-	sǐ	“soap”
	sū	“bath”
10-c-	sóŋ	“kind of dance”
	sòŋ	“he goat”
10-d-	wásá	“market”
	wásā	“eye”
10-e-	kólá	“strangers”
	kólà	“rat”

From the above examples, we can establish that within a minimal pair, only the difference of tone leads to the semantic difference, for each minimal pair is made up of the same segmental units.

IV-1-1-2-2. Grammatical tones

We have just talked about the lexical tone where we provided examples of words in isolation. But when expressing one’s self, one takes these words from the lexical context and combines them with others. This new context will then be called a grammatical context, for words that have been taken from their lexical isolation can influence each other and consequently lead to change of tones. These new tones that exhibit many realities like tenses, mood or other grammatical units, are called grammatical tones (Ngueffo and Sadembouo, 2010).

Tones that have a grammatical function do not necessarily lead to the semantic change of the word nor do they lead to the change of its grammatical category. The grammatical tones can be floating ones. They thus affect lexical tones or they have an impact on them in specific contexts. This surely brings out a tonological process (Mfonyan, 1982). Floating tones are underlying tones which are not associated to any syllable. They generally come from deleted

segments or deleted syllables. As a matter of fact, the behavior of the high tone in some verbs permits us to distinguish between the indicative and the imperative moods as illustrated in the examples below:

Example 11

Indicative mood		Imperative mood (2pl)	
11-a-	nə-n-yə̀glá	“you are teaching”	11-b- yáglá “teach!”
11-c-	nə-n-nánā	“you are leaving”	11-d- nəná “leave!”
11-e-	nə-n-mě	“you are moulding”	11-f- mé “mould!”

From the above data, we observe that the imperative mood is exhibited via a high tone which is therefore known as a grammatical tone.

The grammatical tone can also be exemplified as follows.

Example 12

12-a-	mjá ná-jə̀glá	“I have (just) learnt”.
	tà ná-fām	“we have (just) suffered”.
12-b-	mjá nə-jə̀glá	“I learnt (yesterday, some days before, a long time ago)”
	tə nə-fām	“we suffered (yesterday, some days before, a long time ago)”.

These examples show that the past tense marker in this language is the morpheme nə-. Therefore, the variation of tones on this morpheme demonstrates that the low and the high tones represent the close past and the remote past respectively. Thus, these tones are said to be grammatical tones in this context.

Moreover, this language exhibits grammatical tones which function as associative markers (AM) within associative constructions⁵. Let us consider the function of the H tone on the second noun in the following data:

(a)	Límā	ká	kìm	→	[límā ká kìm]
	blood	AM	monkey		monkey’s blood

⁵We take this expression from Awambeng, E. (1991) who thinks that the association construction, also called genitive construction, occurs when a noun is modified by another noun in order to express possession.

(b)	tàtíló	tá	màkpréŋ	→	[tətílé tá məkpréŋ]
	mats	AM	woman		woman's mats
(c)	fètájŋ	fá	ŋgòn	→	[Fètájŋ fá ŋgòn]
	seed	AM	plantain		plantain's seed
(d)	ɲàm	´(HT)	kím		ɲàm kím
	meat	AM	monkey		monkey's meat
(e)	jù	´(HT)	kəfi		jù kəfi
	house	AM	pig		pig's house

From the preceding data, it is noticeable that the associative marker, which has the grammatical meaning of genitivity in Fáj, is a segmentless tone. Indeed, the morphemes kə, tə, and fə, represent class 7, class 13, and class 19 respectively (Jeff Good et al., 2011: 56). These noun classes generally occur with a low tone. But in the data above, they appear with a high tone. This is considered here as a result of tone docking and tone simplification. That is, we propose a rightward docking of the AM, then a tone simplification in order to account for the surface high tone. However, tonal changes on the second noun (N2) in the Fáj associative construction provide evidence for the postulation of floating tone associative markers.

From the above analysis, we can retain that tones are of major importance in the Fáj language. Now, it is worth noting that we give just a presentation of tones in this part of the work. We will analyse them in depth in the tonological processes, especially in chapter five. Now, before dealing with the tonological processes that intervene in Fáj, let us examine in the following lines, the tonal patterns of this language. This will help us to better tackle this question of tonological phenomena.

IV-1-2. Tone group

Fáj has various tone groups, and these tone groups vary from one noun root to another, as well as from one verb root to another. We will therefore examine the tonal patterns of this language in relation to the internal structure of nouns and that of verbs.

IV-1-2-1. Tone group within Nouns

Nouns in Fáj can surface with many different tonal patterns which fall into different tone groups. However, the tone groups in Fáj nouns just consist of a variety of tone sequences as seen in many Bantu languages (Mutaka and Tamanji, 2000, 85). We will take into consideration the internal structure of nouns in Fáj in order to better analyze their tonal patterns. Note that Fáj basic words are said to be monosyllabic, disyllabic, and trisyllabic as shown in chapter three (we will not deal with compound words here as they seem to be subject of tonal change, since some are even in reduplicated form).

IV-1-2-1-1. Monosyllabic Nouns

In Fáj, monosyllabic nouns exhibit several tonal patterns as the data below reveal.

(a)	ɲm̀ə	“person”
	ɲàm	“meat”
	ts̀ù	“sun”
	kp̀è	“burn”
	s̀ìm	“heart”
(b)	wán	“child”
	búŋ	“mountain”
	tsé	“stone”
	kú	“head”
	fú	“hair”
(c)	mbʰĩ	“earth, world”
	dʒē	“lion”
	tsǎŋ	“neck”

	kā	“every”
	fū	“full”
(d)	tí m	“woodash”
	tí	“palm kernel”
	jǔ	“houses”
	dʒǐ	“roads”
(e)	tūm	“land”
	jân	“teeth”
(f)	gǐ	“egg”
	sě	“sand”

Looking at the data above, monosyllabic nouns in Fáj exhibit the following tonal patterns.

1) Low (ò)

As already mentioned, the low tone is one of the four tones that are present in the underlying representation of words in this language. This tonal pattern is justified using the data above, especially in **a-**. The low tone in these nouns can be accounted for by simply positing a low in the underlying representation of these words, and then associating the high to the single tone bearing units above, following the association convention principle. The data above present the low tone as being very present in the underlying representation of words in this language.

2) High (ó)

This tonal pattern is shown in the examples in **(b)**. Like in **(a)**, the high tone in the above data is accounted for by simply positing a high in the underlying representation of these nouns, and then associating them to their tone bearing units.

3) Mid (\bar{o})

This tonal pattern is present in **c-**. It is worth noticing that this tone is not as present as the low and high tones are in Fáj nouns. Like in **(a)** and **(b)**, the mid tone in the above data is accounted for by simply positing a mid in the underlying representation of these nouns, and then associating them to their tone bearing units.

4) Super high (\acute{o})

This tonal pattern is present in **(d)**. Again, it is worth noticing that like the mid tone, this tone is not as present as the low and high tones are in Fáj nouns. Like in **(a)**, **(b)**, and **(c)**, the super high tone in the above data is accounted for by simply positing a super high in the underlying representation of these nouns, and then associating them to their tone bearing units.

5) High Low (\hat{o})

The above tonal pattern is one of the tonal patterns in Fáj that is not found underlyingly, but which surfaces at the phonetic level of words in this language. This tonal pattern can be justified as existing in this language, when one takes into consideration the above data in **(e)**. As mentioned above, this tonal pattern does not associate to a single tone bearing unit in the underlying representation of words in Fáj. As such, it can only be accounted for by arguing that some phonological processes like gliding or vowel deletion have taken place within these nouns, which have led to their being realized as above. In fact, looking at these words, it is evident that the tone bearing units above feature with two tones. Since only one tone can be associated to a tone bearing unit at the underlying representation of words following the association convention principle, it implies that one of the tones is as a result of one or more phonological processes. A detailed analysis of how the above pattern is derived will be provided when we will be looking at the process of contour tone formation in chapter four.

6) Low high (\check{o})

Like the High Low tonal pattern, this tonal pattern is one of the tonal patterns that need to be accounted for in this language. The existence of this tonal pattern in Fáj can be justified by using the data above, in particular in **(f)**.

The examples in **(f)** reveal another set of nouns in which a single tone bearing unit bears two tones, the **(e)** examples constituting the first set of nouns of this nature. Thus, the situation in **(f)** is similar to that in **(e)** in that, both cases originally had two tone bearing units each associated with one of the two tones. As already said, the process of devocalization

(glide formation or gliding) caused one of the tones to lose its tone bearing unit. This tone therefore had to look for another tone bearing unit which, in this case, already had a tone. Hence, the occurrence of two tones on a single tone bearing unit.

So far, we have been looking at tonal patterns within monosyllabic nouns. The data provided in this section reveal that the high, the low, the mid and the super high tones are abundantly present within monosyllabic nouns, especially, the high tone, the low tone and the mid tone. This can be justified by the fact that these are the three tones present in the underlying representation of words in this language. However, it has also been shown that in spite of this fact, monosyllabic nouns equally surface with contour tones (falling and rising tones), though their occurrence is triggered by phonological processes. The devocalization process which gives rise to the tonal patterns in (e) and (f) is a very important process in Fáj, since it is a process that affects the tonal system of this language in that, it enables tone bearing units to surface with more than one tone. In other words, it enables a tone bearing unit to surface with a tone to which it was not originally associated or linked to. Now, let us deal with nouns with more than one syllable.

IV-1-2-1-2 Disyllabic Nouns

Several disyllabic nouns are present in the phonology of this language, and they exhibit different tonal patterns. This can be illustrated using the following data.

a-	kófá	“bone”
	bíná	“breast”
	tókó	“night”
b-	fàzè	“god”
	kàntsù	“belly”
	jèṅmè	“word of man”
c-	mbālā	“soup”
	gālā	“foot”

d-	dwàlǎ	“star”
	ɲgǎkpá	“root”
	jǎkpún	“tree branch”
e-	kálà	“day”
	kósòŋ	“question”
	kwálà	“rat”
f-	límā	“blood”
	túmā	“village”
g-	fànân	“bird”
	bàkê	“chairs”
	kədâ	“door”

The sample of disyllabic nouns above reveals the following tonal patterns.

1) High-High (ó ó)

The High –High tonal pattern can be seen surfacing on disyllabic nouns of the above data, in (a).

The tonal pattern seen in these disyllabic nouns can be accounted for by positing a high tone in the underlying representation of these words, which then associates to the first tone bearing unit following the association convention principle. This tone later spreads to the next tone bearing unit, thereby creating a high-high sequence. Details about the spreading rule will be discussed in the subsequent section.

2) Low – Low (ò ò)

This tonal pattern can be justified in this language when one considers the disyllabic nouns in (b) of the data above.

The low-low tonal pattern seen above can be accounted for by positing a single low tone in the underlying representation of these forms, which associates onto the first tone bearing unit. Therefore, this underlying low tone will spread to the other tone bearing gets its low tone after the application of the low spreading rule. More about the low tone spreading will be treated in chapter five.

3) Mid – Mid ($\bar{o} \bar{o}$)

This tonal pattern can be justified in this language when one considers the disyllabic nouns in (c) of the data above.

The mid-mid tonal pattern seen above can be accounted for by positing a single mid tone in the underlying representation of these forms, which associates onto the first tone bearing unit. Therefore, the other tone bearing is assigned a default mid after the application of the default mid rule. More about the default mid will be treated in chapter five.

3) Low–High ($\bar{o} \acute{o}$), High-Low ($\acute{o} \bar{o}$) and High-mid ($\acute{o} \bar{o}$)

The above tonal patterns are evident in this language, when one looks respectively at disyllabic nouns like the ones in (d), (e) and (f).

The tonal patterns seen to be present in these nouns can be analyzed as follows. First, each of the nouns above is made up of a prefix and a stem or root. Secondly, the low tone appears as the first tone on the first tone bearing unit of the nouns in (d) while the high tone is the first tone on the first tone bearing unit of the nouns in (e) and (f). The low tone and the high tone in the above roots are therefore the tones which are present in the underlying representation of these nouns in (d), (e) and (f) respectively, and so associate to the first tone bearing unit of the nouns' roots following the association convention principle. Thus, the TBU of the second position (the second tone bearing unit of the roots) get their tone through the default mid rule in (f). But, we treat the high tone in (d) and the low tone in (e) as pre-linked tones.

So far, this section has been looking at the various tonal patterns attested within disyllabic nouns in Fáj. Looking at the different data provided, we can once more say that the low tone, the high tone, and the mid tone are abundantly present in this language. Again, this justifies the fact that these three tones are the tones that are present in the underlying representation of words in this language. The data seen in this section equally reveals that in addition to the lexical low, high and mid tones present in the underlying representation of words in Fáj, there is another mid tone known as a default tone whereas some low and high

tones are treated as pre-linked tones in the second TBU of the concerned words. These default tones will be tackled once more in the following sections.

IV-1-2-1-3 Nouns with more than two syllables

Trisyllabic nouns unlike those with four syllables are abundantly present in Fáj, and they exhibit several tonal patterns. This can be illustrated using the data below. Note that some of the tonal patterns on these nouns are the result of tonal processes which have taken place within the nouns concerned as we will see in the following chapter.

(a)	késátá	"darkness"
	Wánkákpréŋ	"girl"
	Kálwósúŋ	"son"
(b)	kəkàŋàm	"horse"
	fəsèŋə	"ring"
	kəwò:ntə	"book"
(c)	kəfálá	"cap"
	kəlátá	"calabash"
	kətʃóná	"groundnut"
	gùŋsóná	"end"
	fəmósá	"cat"
	fəŋgóngóŋ	"ant"
	kəlífá	"knife"
(d)	dúbə̀ndóŋ	"goat"
	bəlèŋgí	"blanket"

(e)	mələ́sùŋ	“man”
	tə̀párùm	“parlour”
(f)	bət̀wáfə̀	“wisdom”
	fə̀ŋgúfə̀	“umbrella”
	fwòmtú̀mè	“president”
(g)	fə̀ŋkələ̀ŋgwá	“louse”

1) High-High-High (ó ó ó)

This tonal pattern can be justified as being present in this language, when one looks at trisyllabic nouns like those in (a) in the data above:

késátá	“darkness”
Wánkákpréŋ	“girl”

These nouns surface with a sequence of three high tones. This can be explained by the fact that there is one high tone in the underlying representation of these nouns, which links or associates to the first tone bearing unit of the root of these nouns. The other tone bearing units get their high tone through the high tone spreading rule which we will discuss in the subsequent chapter.

2) Low – Low – Low (ò ò ò)

This tonal pattern can be said to be present in Fáy, when one looks at trisyllabic nouns like those in (b) in the data above:

kəkà̀pà̀m	“horse”
fəsè̀ŋə̀	“ring”

These nouns surface with a sequence of three low tones. This can be explained by the fact that there is one low tone in the underlying representation of these nouns, which links or associates to the first tone bearing unit of the root of these nouns. The other tone bearing units

get their low tone through the low tone spreading rule which we will take care of in the following chapter.

3) **Low-High-High (ò ó ó)**

This is a tonal pattern that can be justified as being present in this language, when one looks at trisyllabic nouns like those (c), in the data above:

gùṅsónó “end”

fṁmésá “cat”

The tonal pattern in these nouns can be accounted for as follows. These nouns have two underlying tones, the low and the high tones. Therefore, the first tone bearing unit has an underlying low tone while the second has an underlying high tone. This high tone then spreads onto the next tone bearing unit of the stem, following the application of the high tone spreading rule.

4) **Low – Low –High (ò ò ó)**

The Low Low- High tonal pattern can be justified as being part of the tonal patterns within the nouns of this language if we take into account the trisyllabic nouns in the data in (d):

dùbèndón “goat”

bèlèṅgí “blanket”

The tonal pattern in these nouns can be accounted for as follows. These nouns have two underlying tones, the low and the high tones. Therefore, the first tone bearing unit has an underlying low tone. The second tone bearing units get their low tone through the process of low tone spreading. The third tone bearing unit in its turn, is assigned an underlying high tone.

5) **Low-High– Low (ò ó ò)**

The Low-high-low tonal pattern can be said to be present in the nouns of this language, when we take into consideration the data in (e):

mèlásùṅ “man”

tèpárùm “parlour”

The tonal pattern in these nouns can be accounted for as follows. These nouns have two underlying tones, the low and the high tones. Therefore, the first tone bearing unit has an underlying low tone while the second is assigned an underlying high tone. The third tone bearing unit has a pre-linked low tone.

6) Low – Low – Low –High (ò ò ò ó)

Here, we are dealing with a noun of four syllables. This tonal pattern is evident in this language, when one takes into account the data in (g):

fəŋkələŋgwá “louse”

The tonal pattern in this noun can be accounted for as follows. This kind of nouns has two underlying tones, the low and the high tones. Thus, the first tone bearing unit has an underlying low tone. This low tone then spreads onto the next two tone bearing units, following the application of the low tone spreading rule. The fourth tone bearing unit is assigned an underlying high tone.

So far, this section has been looking at the various tonal patterns attested within nouns with more than two syllables in Fáj. Looking at the different data provided, we can once more say that the low and the high tone are abundantly present in this language. Again, this justifies the fact that these tones are said to be among the tones found at the underlying representation of words in this language. Moreover, the data analysed in this section show that in Fáj nouns with four syllables are not as abundant as trisyllabic nouns.

IV-1-2-2. Tone group within Verbs

During our data elicitation on this language, we have come to realize that, except serial verbs (verbs made up of two different verbs), Fáj verbs are either monosyllabic or dissyllabic. Moreover, only monosyllabic verbs cope with the extra-high tone and contour tones in this language. Dissyllabic ones exhibit only three of the four level tones attested in this language: the high, the mid and the low tones.

IV-1-2-2-1. Monosyllabic Verbs

In Fáj, monosyllabic verbs can be divided into four groups as far as their underlying tone is concerned. Therefore, we have verbs with an underlying high, those with an underlying low, those with an underlying mid and those with an underlying extra-high. This is illustrated in the data below.

(a)-	á-dʒí	"to feed"	á-jó	"to go up"
	á-lí	"to enter"	á-tám	"to shoot"
(b)-	á-lùm	"to bite"	á-dì	"to cry"
	á-fà	"to shave"	á-kòŋ	"to love"
(c)-	á-kū	"to fasten"	á-bā	"to load"
	á-gōm	"to pay"	á-bāŋ	"to cover"
(d)-	á-tǎn	"to jump"	á-ʒí	"to eat"
	á-dúŋ	"to sit"	á-ké	"to see"

As said earlier, these data show that the Fáj monosyllabic verbs consist of four groups: the H tone verb in (a), the L tone verb in (b), the M tone verb in (c) and the SH tone verb in (d). In the (a) forms, the H tone is considered as being a default tone. That is, the H tone verb stem in this language are analysed as being toneless underlyingly and that they get their H tone by default. As for the L, the M and the SH tones, they can be analysed as being floating tones and link to the first root vowel, following the association conventions (Pulleyblank 1985, Goldsmith 1976) that we mentioned in chapter one when dealing with the theoretical framework. Indeed, we have come to realize that in the infinitive, these three tonal pattern (L, M and SH tones) are never found on a vowel other than the root vowel.

Nevertheless, we have observed that some monosyllabic verbs occur with contour tones in this language. But these contour tones are not considered as being part of the underlying tonal pattern in Fáj because, as mentioned previously, contour tones are formed in this language under the influence of some phonological processes like gliding, vowel deletion, vowel truncation and vowel shortening. This is exemplified by the following data:

/á-méɛ/ → á-mɛ	"to build"	/á-lúū/ → á-lú	"to plait"
/á-səán/ → á-sən	"to cut open"	/á-wūú/ → á-wú	"to hear"
/á-káám/ → á-kǎm	"to squeeze"	/á-jóò/ → á-jô	"to quarrel"
/máŋmúwò/	[máŋmúò] → [máŋmwò]		"I am drinking"
/mántàntəwò/	[mántàntəò] → [mántàntò]		"I am jumping"

/tən] èmṵwḏ/ [tən] èmṵḏ] → [tən] èmṵ] “we are singing”

/tənʒíwḏ/ [tənʒíḏ] → [tənʒyḏ] “we are eating”

As the data above shows the different contour tones that we have here are a result of the phonological processes we have already mentioned.

IV-1-2-2-2. Disyllabic Verb

As far as disyllabic verbs are concerned, Fáj verbal system shows a simple underlying contrast between stems with H, stems with L and stems with M tone. Disyllabic H-stems occur with H on both syllables, while disyllabic L-stems occur with a LH tonal pattern. On their part, disyllabic M-stems occur with HM tonal pattern. This is illustrated in the data below:

(a)-	á-gúmá	“to bury”	á-sámná	“to marry”		
	á-kálá	“to fold”	á-déké	“to stop”	á-fífá	“to fly”
(b)-	á-jèlá	“to kill”	á-kùmá	“to paint”	á-sèlá	“to boil”
	á-jèglá	“to teach”	á-liká	“to run”	á-kòlá	“to come back”
(c)-	á-dékē	“to allow”		á-dákē	“to burst”	
	á-fífā	“to seize”		á-gáwō	“to shear”	

More generally, while disyllabic nouns may carry L and M tones throughout as shown in IV-1-2-1-2 above, verbs can neither have all-L nor all-M surface realizations.

We analyze the stem final H in the L-tone class in (b) and the stem initial H in the M-class in (c) as a tone that is inserted so as to meet a demand on the presence of at least one H tone in disyllabic verbs (Alexander Iwara et al., 1997:3). So this inserted H is illustrated in the example below.

Example:

a)- Disyllabic verbs have at least one H tone in isolation⁶.

b)- ə-kumə	→	ə-kumə
□ □		□ □ □
H L		H L H
c)- ə-fifə	→	ə-fifə
□ □		□ □ □
H M		H H M

It is worth noticing here that the Fáj infinitive marker ə- always carries a H tone. We will come back on this tonal process in the subsequent chapter.

In this section, we deemed it not important to deal with trisyllabic verbs, for as mentioned earlier, verbs with more than two syllables are considered as serial verbs. That's they are made up of two different verbs.

Conclusion

To sum up, this chapter has taken up the analysis of the tonal system of Fáj. So we can retain that, in the Fáj language there are three attested level tones namely: the low tone (L), the mid tone (M), and the high tone. These are the only underlying tones attested in this language. Moreover, we have come across four contour tones, namely the rising tone (LH), the falling tone (HL), the mid-high tone (MH) and the high-mid tone (HM). But the latter should be treated as sequences of two different level tones, thus they just occur in surface forms. Moreover, we have seen in this language that tones have two functions: the lexical function and the grammatical function. We therefore have lexical tones and grammatical ones. Besides, this chapter has studied the different tonal patterns within nouns and verbs of this language. This helped us to notice that the high tone and the low tone are the most abundant tones in the tone system of Fáj as compared to the mid tone and the super high tone. Further, this part equally revealed that in addition to the lexical low, high and mid tones present in the underlying representation of words in Fáj, there is another mid tone known as the default tones. There are also another low tone and another high tone known as pre-linked tones. In addition, this chapter has shown that Fáj nouns typically have a variety of tone sequences

⁶ We owe this idea which is supported by the Fáj data, to Alexander Iwara et al. (1997:3).

whereas verbs have a restricted number of underlying tones. In the following chapter, we will deal with the tonological processes that words undergo in this language.

CHAPTER V: THE TONOLOGICAL PROCESSES

V-0. Introduction

In this section, we will look at the different tonal processes and rules that exist within the nouns and verbs of Fáj. More precisely, we will be looking at high tone insertion, tone assimilation high tone and low tone spreading, tone docking, contour tone formation as seen in nouns and verbs, tone Simplification, the stray erasure principle, the process of default mid and finally the process of delinking. Tonal processes will be tackled here using the autosegmental model as mentioned in chapter one.

V-1. Tonal Processes

After having analyzed, in chapter three, the tonal patterns that exist within nouns and verbs in Fáj, we will now take a look at the tonal processes and rules that apply to these words in this language. Though some these processes and rules were evoked in the analysis given for the different tonal patterns, it is necessary to discuss each of them in detail. Most often there are two kind of tone-related rules: universal rules and languages' specific rules. These two types of tonal rules are taken up in turn below.

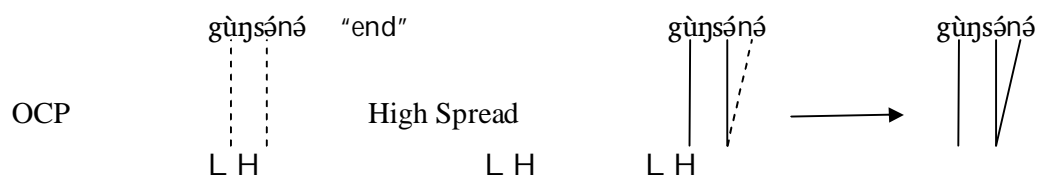
V-1-1. Universal tonological rules

- **Universal Association Convention (UAC)**

This refers to a rule stated in Pulleyblank (1986). It stipulates that tones should be associated to tone-bearing units (TBU) in a one-to-one relationship, from left to right.

- **Obligatory Contour Principle (OCP)**

This is a universal condition that prohibits two identical contiguous tones within the same morphological unit at the systematic phonemic level or Underlying Representation. In case an item has two contiguous tones of the same nature, the rule rather recommends to merge these tones into a branching tone as the illustration below shows.



V-1-2. Language specific tonological rules

It is important to note that the tone rules in this language take place from one syllable to the immediately following syllable as is the case for Kikuyu (Clements 1984), and Chaga (McHugh 1987). The tonal rules seen to apply within words in this language include the following.

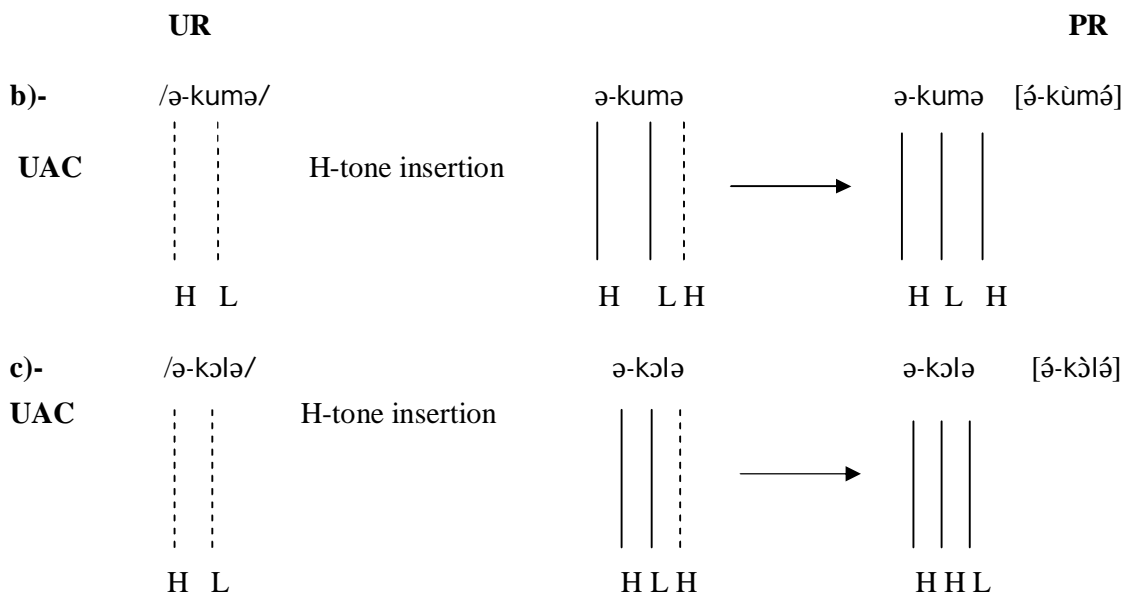
V-1-2-1. High tone insertion

The High tone insertion process generally occurs in verbs, especially in verbs belonging to the L-tone and the M-tone classes. It is therefore a tonological process whereby a H tone is inserted within a L-tone class or a M-tone class. Let us consider the data below.

- (a)- é-kùmá "to paint" é-sàlá "to boil"
 é-lìká "to run" é-kòlá "to come back"

We analyze the stem final H in the L-tone class in (a) and the stem initial H in the M-class in (b) as a tone that is inserted so as to meet a demand on the presence of at least one H tone in disyllabic verbs. So this inserted H is considered as a default tone (see the derivation below) :

- a)- Disyllabic verbs have at least one H tone in isolation.



It is worth noticing here as said before, that the Fáj infinitive marker ə- always carry a H tone. We will come back on this tonal process in the subsequent chapter.

V-1-2-2. Tone Assimilation / High Tone substitution

Lebikaza (1999) uses the term Dissimilation to mean that one tone becomes unlike its neighbour after the application of a tonal process. But we have come to see that Fáj tones function differently. That is, we rather face in this language, a situation where a given tone assimilates the nature of its neighbour. Most often, this concerns the High Tone which influences the others, especially the Low Tone in Fáj. Moreover, this tonological process deals systematically with monosyllabic nouns and high tone verbs. Dissimilation applies from right to left within nouns phrases whereas it is applied from left to right within verb phrases in this language. Moreover, this process has a cross-boundary application in Fáj. This is shown in the following data.

V-1-2-2.1. Nouns

As mentioned above, dissimilation applies systematically on monosyllabic nouns. So, the items in a)- do not constitute a fertile domain for the application of this process (there is not any trigger of dissimilation within these phrases). Meanwhile, within the items in b)-, monosyllabicity is what triggers this phonological event (tone substitution).

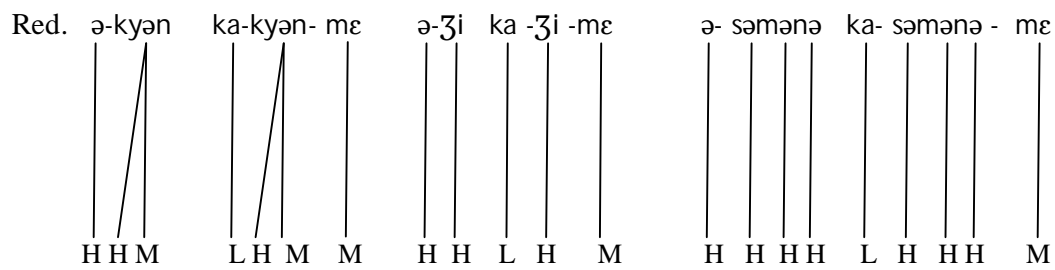
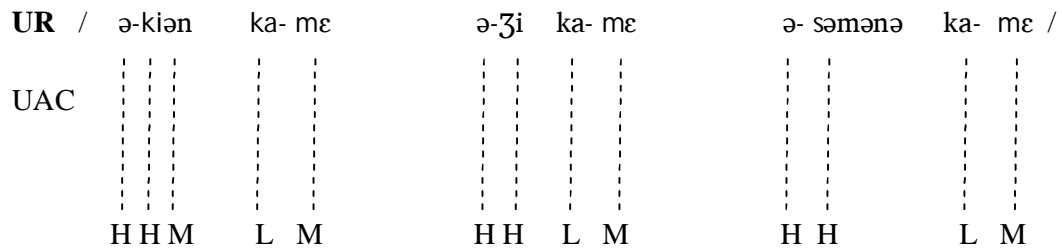
a)-	fəmásá fəmù	"one cat"	məmásá mǎfé	"two cats"
	fənân fəmù	"one bird"	mənân mǎfé	"two birds"
	kǎfí kǎmù	"one pig"	bǎfí bǎfé	"two pigs"
	kǎsê kǎmù	"one dress"	bǎsê bǎfé	"two dresses"
b)-	ɲàm jǎmù	"one meat"	ɲám jǎfé	"two meat"
	kím jǎmù	"one monkey"	kím jǎfé	"two monkeys"
	jù jǎmù	"one house"	jù jǎfé	"two houses"

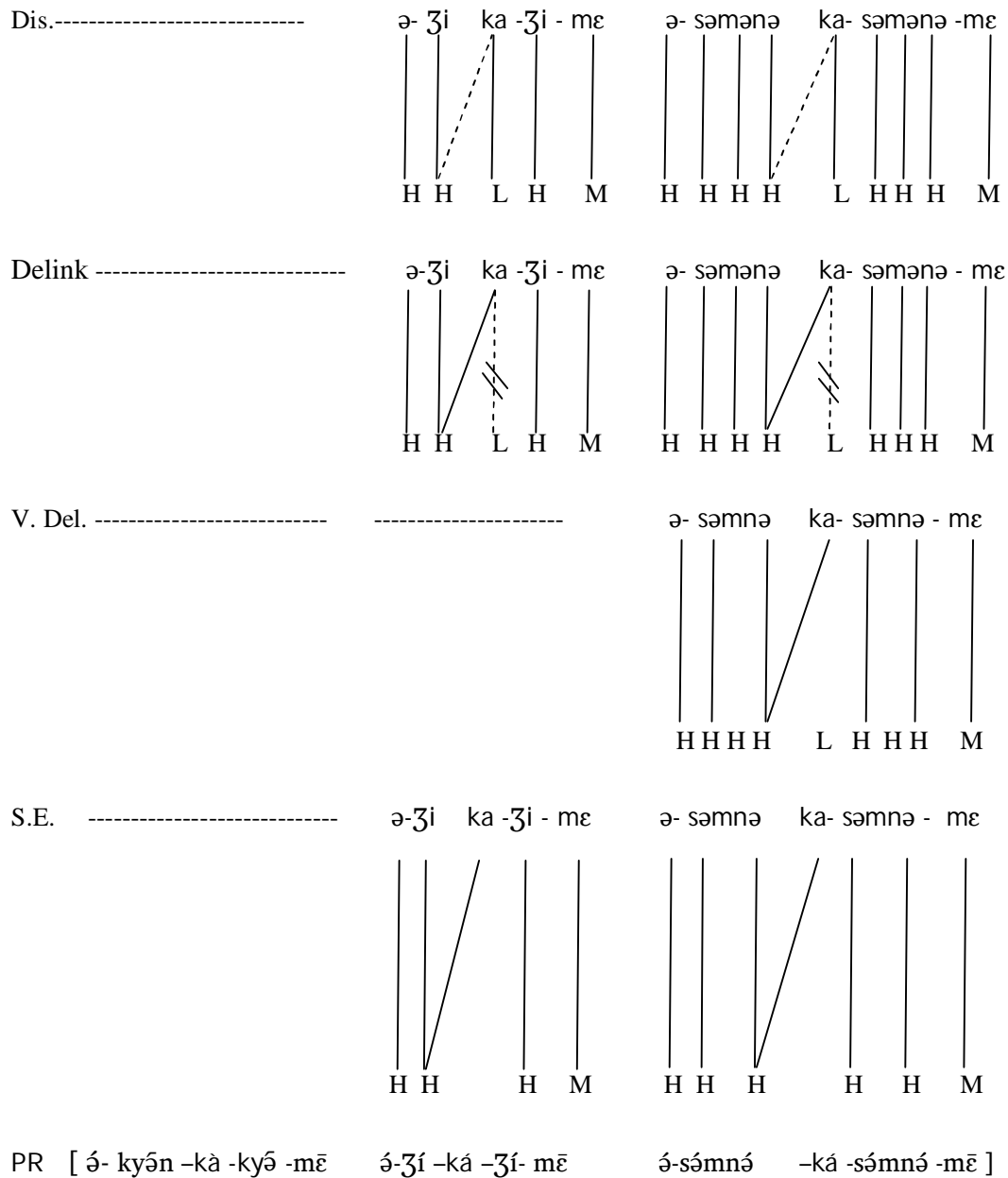
jù jǎmù jù jǎfé ɲám jǎfé bǎfí bǎfé məmásá mǎfé bǎsê bǎfé

	á-ʒíkáʒímē	"to eat repeatedly"		
	á-sómnákáśómnáṁē	"to play repeatedly"		
b)-	á-kíān	"to look"	á-nánā	"to go"
	á-tòmá	"to send"	á-kíā	"to laugh"
	á-nō	"to fight"		
	á-kyānkàkyāṁē	"to look repeatedly"		
	á-nánākánánāṁē	"to go repeatedly"		
	á-tòmákàtòmáṁē	"to send repeatedly"		
	á-kwākàkíāṁē	"to laugh repeatedly"		
	á-nōkànōṁē	"to fight repeatedly"		

Some verbs roots like -sómná "play" and -ʒí "eat", are consisted of only syllables with high tones. Others like -tòmá "send" and -nánā "go", exhibit the intervention of a mid or a low tone. We therefore observe that there is a process of high tone substitution from the verbs root where the high tone appears exclusively, to the first vowel of the morpheme [kà...ṁē]. but where a mid or a low tone is present in verbs root, this process does not occur. Here the high tone substitute for the low tone. Therefore, let's provide a derivation for the following items:

á-kyānkàkyāṁē, á-ʒíkáʒímē and á-sómnákáśómnáṁē.





V-1-2-3. Tone Spreading

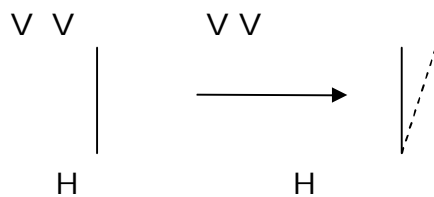
Generally, it has been argued that the multiple linking of tones to a single tone bearing unit is as a result of rule application rather than by association convention as originally stated by Goldsmith's well- formedness conditions. Similarly, the linking of a single tone to more than one tone bearing unit can only occur as the result of a particular rule in a language. This is actually the case in Fáj where we deal with two kinds of tone spreading: high tone spreading and low tone spreading.

V-1-2-3-1. High Tone Spreading

Broadly speaking, high tone spreading is a tonal process whereby a tone bearing unit gets the high features of the high tone it precedes or follows. This implies that high tone spreading can take place from left to right, as well as from right to left. This is however not the case in this language. In Fáj, spreading is only left to right, and it takes place only from one syllable to the immediately following syllable. Consider the following data.

bíná	"breast"
tókó	"night"
késátá	"darkness"
gùṅsáná	"end"
fəmásá	"cat"
á-gúmá	"to bury"
á-sámná	"to marry"
á-kálá	"to fold"

Looking at these words, we can say that high tone spreading has taken place from one syllable to the immediately following syllable given the fact that only one high tone can be posited in the underlying representation of these forms. The high tone spreading rule can thus be stated as follows:



The spreading rule reveals that a high tone can spread onto a following toneless bearing unit, that is, a tone bearing unit that had no tone underlying.

As concerns the words in above, the high spreading rule above is seen to apply to them as illustrated in the following derivation.

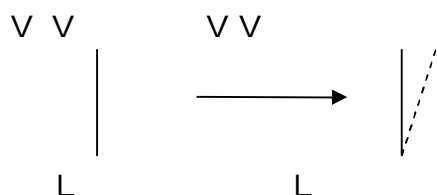
U.R.	/	toko	kesə̀tə	gumə	kalə /
A.C.					
		H	H	H	H
H.T.S.		toko	kesə̀tə	gumə	kalə
		H	H	H	H
P. R.	[	tókó	késáté	gúmé	káló]

V-1-2-3-2. Low Tone Spreading

Like the process of high tone spreading, low tone spreading is a tonal process whereby a tone bearing unit gets the low features of the low tone it precedes or follows. As said earlier, in Fáj, spreading is only left to right, and it takes place only from one syllable to the immediately following syllable. Consider the following data.

fə̀zə̀	"god"
kə̀ntsù	"belly"
jə̀ŋmə̀	"word of man"
kəkə̀nəm	"horse"
fəsə̀ŋə̀	"ring"
kə̀wò:ntə̀	"book"

From the above data, we can say that low tone spreading, like high tone spreading, takes place from one syllable to the immediately following syllable given the fact that only one low tone can be posited in the underlying representation of these forms. The low tone spreading rule can thus be stated as follows:



As concerns the above items, the low spreading rule above is seen to apply to them as illustrated in the following derivation.

U.R.	/	fəzə		kəkajam		fəsɛŋə /
A.C.						
		H		H		H
L.T.S.		fəzə		kəkajam		fəsɛŋə
		H		H		H
P. R.	[	fəzə		kəkajam		fəsɛŋə]

The analysis in this section has revealed how the high tone spreading and the low tone spreading rules operate in Fáj. One claim about any type of tone spreading rule in this language is that it takes place only from one syllable to the immediately following syllable. Tone spreading in Fáj, is therefore left to right and not vice versa.

V-1-2-4. Contour Tone Formation

As already seen, Fáj has four phonemic tones: the high, the low, the mid and the superhigh tones. All other tones attested in this language are therefore accounted for through rules that apply within its phonology. This is the case for the contour tones that are attested in this language, which are four in number: the rising tone (ˇ), the falling tone (ˆ) the mid-high tone(˘) and the high-mid tone(˘).

Broadly saying, contour tones are tones that are realized as a result of some segmental processes such as glide formation, vowel deletion and vowel coalescence, as well as some tonal processes such as high tone spreading and tone docking. When these processes take place (tonal and segmental), a tone bearing unit which was originally associated or linked to a single tone now surfaces with two different or heterogeneous tones. Depending on the type of

tone that docks onto an already linked tone, and considering the direction from which the tones come, a rising, a falling, a mid-high or a high-mid tone is created.

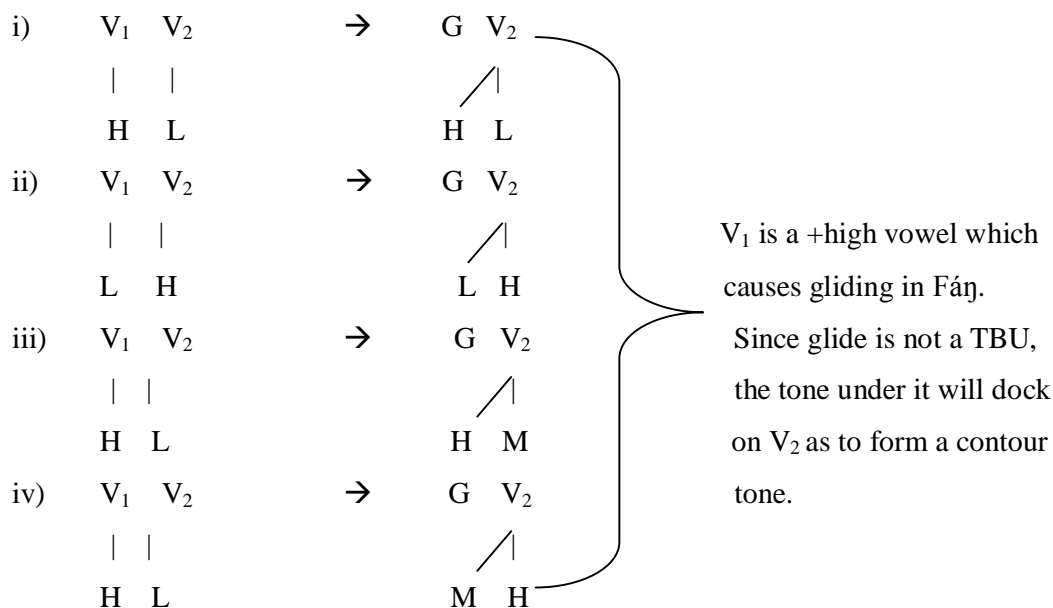
One basic claim in this work is that, in Fáj, a tone bearing unit does not link to more than one lexical tone. Like Kinande (Mutaka 1990), the result of this is that a rising and falling tone that consists of a low and high, and a high and low respectively, as well as the mid-high tone and the high-mid tone that consists of a mid and high and a high and mid respectively, cannot be found at the underlying representation of such words in which they occur.

As previously seen, words in Fáj exhibit different tonal behaviours at the surface form. Fáj being a four tone language, one expects to find words surfacing with just those four tones (high, low, mid and super high tones). This is however not the case, as it is common to find words in this language surfacing with more than one tone on a single tone bearing unit. Let us consider the following data.

túàtú [twấtú]			“tomorrow”		
bèdʒíàŋ [bèdʒjâŋ]			“tall”		
/á-mé̃/ → á-mē		“to build”	/á-lúū/ → á-lú		“to plait”
/á-sā́n/ → á-sǎn		“to cut open”	/á-wū́/ → á-wú		“to hear”
/ábà́nájə̀/	[ábà́nǎ̀] →	[ábà́nâ]			“be rolling!”
/ádà́kà̀jə̀/	[ádà́kǎ̀] →	[ádà́kâ]			“be busting!”
/áɲū́ájə̀/	[áɲū́ǎ̀] →	[áɲū́â]			“be pushing!”
/ábá́nǎwṑ/	[ábá́nǎ̀] →	[ábá́nô]			“to you”
/ábásá́wṑ/	[ábásá̀] →	[ábásô]			“to us”
/ábú́núwṑ/	[ábú́nú̀] →	[ábú́nô]			“to them”

The data above reveals words which surface with contour tone. The claim from the examples above is that these contour tones are as a result of segmental processes such as glide formation, glide deletion, and vowel truncation. As previously mentioned, two heterosyllabic segments do not occur adjacently to each other in this language. In a situation where such instances occur, due to the concatenation of two or more morphemes, one of the vowel either deletes, or undergoes devocalization. As concerns the above words, they have undergone the

process of devocalization (glide formation) glide deletion and vowel truncation. As a result, the tone of the tone bearing unit that has been affected by these processes, becomes stranded or floating. This stranded or floating tone is then forced to dock onto the adjacent tone bearing unit which, in the above cases, is already linked to a high, a low or a mid tone, thereby creating a contour tone. The tone rule for contour tone formation on words in Fáj̃ can be stated as follows.



Note that details about the devocalization rule have been provided in chapter three.

The above rules reveal that after devocalization, the high and low tones in (i), (ii) and (iii) dock onto the following tone bearing units creating a contour tone. This is also the case of glide deletion and vowel truncation. Besides, we do not treat the contour tone formation as a separately autosegmental rule. Instead, we closely link it to the process of tone docking. This can be demonstrated in the subsequent section (tone docking). Indeed, tone docking leads to contour tone formation: we get a contour tone after tone docking.

V-1-2-5. Tone Docking

Tone docking is a tonal process that is very common in Fáj̃. So far, the analysis of contour tone formation has revealed that tone docking is present in all the forms seen. This is so because once a tone loses its tone bearing unit (as is the case with glide formation), such a tone has to associate to a tone bearing unit. This can be seen in the following data:

/ǎ-méǎ/ → ǎ-mé "to build" /ǎ-lúū/ → ǎ-lú "to plait"

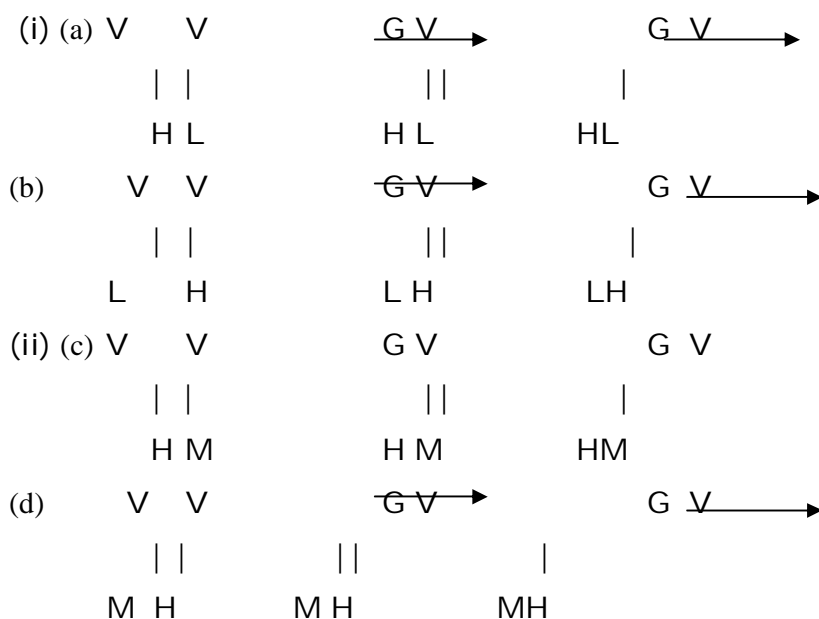
/ǎ-sǎǎn/ → ǎ-sǎn "to cut open" /ǎ-wūú/ → ǎ-wú "to hear"

/ǎbǎnǎjǎ/ [ǎbǎnǎǎ] → [ǎbǎnǎ] "be rolling!"

/ǎbǎsǎwǎ/ [ǎbǎsǎǎ] → [ǎbǎsǎ] "to us"

/ǎbǎnúúwǎ/ [ǎbǎnúúǎ] → [ǎbǎnúwǎ] "to them"

Broadly speaking, tone docking is a phonological (tonal) process in which a floating tone docks onto an adjacent tone bearing unit. The rule for tone docking in Fáj can be stated as follows.



As said before, the rules in above apply to forms that have lost a tone bearing unit through the processes of devocalization or gliding and vowel truncation. The rule in (a) has to do with a high tone that loses its tone bearing unit, while in (b) it is a low tone that loses its tone bearing unit. The two cases ((a) and (b)) give rise to a falling and rising tone respectively. Moreover, the rule in (c) has to do with a high tone that loses its tone bearing unit, while in (d) it is a mid tone that loses its tone bearing unit. The two cases ((c) and (d)) give rise to a high-mid and mid-high tone respectively.

It is important to note that tone docking is a very vital process in Fáj, as it enables tones which originally had no tone bearing unit as well as those which lost their tone bearing

unit, to be associated to tone bearing units. This can be exemplified using the following derivation.

U.R.	/ a- bənəjə	ə- bəsəwə	ə-wuu/
A.C.			
HTS	-----	ə-bəsəwə 	-----
D.M.T.	-----	ə- bəsəwə 	-----
G-DEL	a- bənəjə 	ə- bəsəwə 	-----
V-TRUNC	a- bənə 	ə- bəsəwə 	ə-wu
T.DOC.	a- bənə 	ə- bəsəwə 	ə-wu
P. R. [	á- bènê	á- básô	á-wú]

As this derivation shows, tone docking is a process which merely applies in this language after the application of glide formation and vowel truncation.

V-1-2-6. Tone Simplification

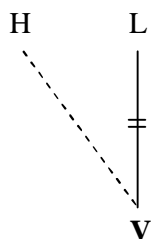
Tone Simplification is a tonological process whereby a contour tone loses one of its branches to become a level tone. Lets consider the following data.

(a)	Límā	ká	kím	→	límā	ká	kím
	blood	AM	monkey				"monkey's blood"

- (b) tətílé t́ m̀àkɛ́ɛɲ → tətílé t́ m̀àkɛ́ɛɲ
 mats AM woman “woman’s mats”
- (c) f̀ət́áɲ f́ ɲg̀òɲ → F̀ət́áɲ f́ ɲg̀òɲ
 seed AM plantain “plantain’s seed”
- (d) ɲàm ́(HT) kím → ɲàm kím → ɲàm kím
 meat AM monkey “monkey’s meat”
- (e) j̀ù ́(HT) k̀əfí → j̀ù k̀əfí → j̀ù k̀əfí
 house AM pig “pig’s house”

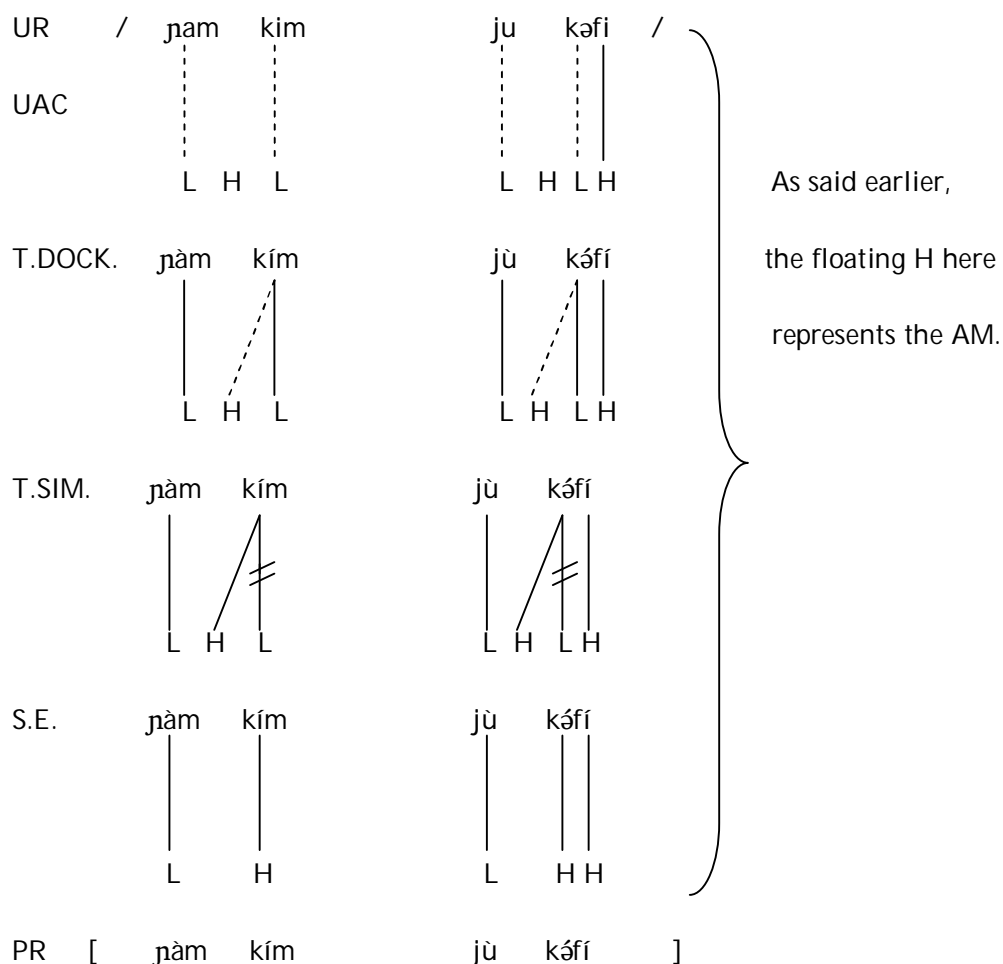
Several changes are observed on the items in the surface strings in the above data where we are dealing with the associative constructions in Fájɲ. There is the appearance of a high tone on the segmental AM in (a) to (c), which should surface with a low tone. There is also the appearance of a high tone on the first syllable of the N2 nouns in (d) and (e).

To account for the appearance of the appearance of a high tone on the segmental AM and on the first syllable of the N2 nouns and the disappearance of the underlying original low of the same syllable, we propose a rightward docking of the AM, then a tone simplification in order to account for the surface high tone. This claim states that a high low contour will simplify to a high:



We have observed that the tone simplification accommodates itself to Chumbow’s (1982) proposal. This proposal is a universal tone simplification rule which states that a HL or LH contour will always simplify to a high. This process is illustrated in the following derivation:

ɲàm kím “monkey’s meat” j̀ù k̀əfí “pig’s house”



V-1-2-7. Stray Erasure

We have realized in this work that when a tone is left unlinked after all the possible processes have applied, that tone is deleted through the stray erasure principle. Therefore, the stray erasure principle as seen operating in this language is simply a situation whereby a tone that fails to link to a tone bearing unit is deleted. This can be illustrated using the following data.

/ádàkàjə/ [ádàkàèè] → [ádàkà] “be busting!”

/mántàntəwə/ [mántàntèè] → [mántàntè] “I am jumping”

/twə/ [tùè] “toilet”

/jwá/ [júá] “flesh”

/lyá/ [líá] “smoke”

The above data exhibit how low tone items in a)- and high tone items in b)- do not dock, after the application of glide formation and vowel truncation. These low and high tones are therefore done away with, through the stray erasure principle as the derivation below demonstrates.

U.R.	/	a-dəkəjə	tɔ	juə	liə	/
A.C.		|||		|||	|||	|||
		H L	L	H	H	
TSP		a-dəkəjə	tɔ	juə	liə	
		H L	L	H	H	
GLID FOR		-----	two	jwə	lyə	
G-DEL		a-dəkə	-----	-----	-----	
		HL				
V-TRUNC		a-dək ə	-----	-----		
		H L				
S.E.		a-dəkə	two	jwə	lyə	
		HL	L	H	H	
P. R.	[	á-dəkə	twò	jwá	lyá]

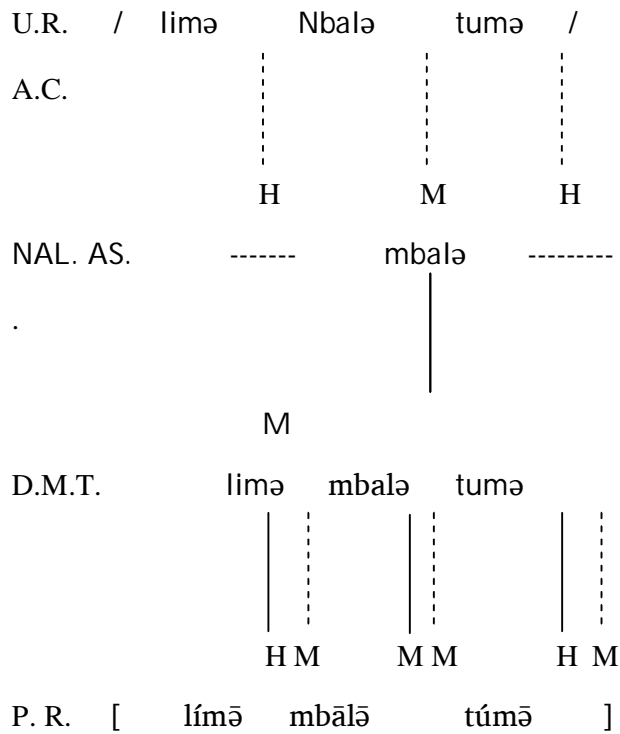
The stray erasure principle is however a process that is not very frequent in this language. It actually applies only when all the other processes (rules) have applied, and there is no other option for the left over tone(s).

V-1-2-8. Default Mid or Mid Tone Assignment

Our claim in this study like Pulleyblank (1986) is that tone bearing units which are not assigned tones by the phonological rules seen so far, get their tones by a default tone rule. The idea that certain tonal specifications should be filled in by default tone rule is not a new idea in itself. In addition, it has been recognized by almost all linguists working on tones that certain syllables or morphemes have no inherent tone of their own, and so acquire tone as a function of the tonal properties of adjacent syllables or morphemes (as seen in the analysis of the previous sections in this study). In a situation where this fails to happen, that is, where a morpheme or syllable fails to acquire a tone from an adjacent morpheme or syllable, that morpheme or syllable is assigned a default tone. In Fáj, we deal with the default Mid. This process functions like the default low in other languages. The rule and the data below permit us to exemplify this process.

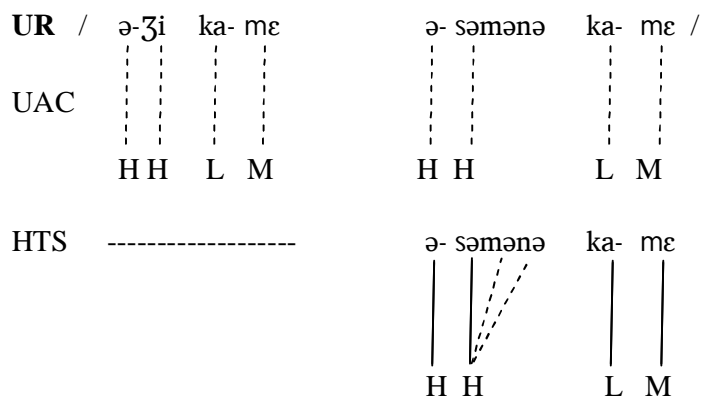
	V	->	V	
			M	
(a)	mbālā			“soup”
	límā			“blood”
	túmā			“village”
(b)-	á-dékē	“to allow”	á-dákā	“to burst”
	á-fífā	“to seize”	á-gāwā	“to shear”

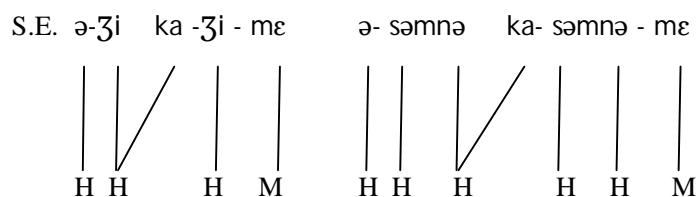
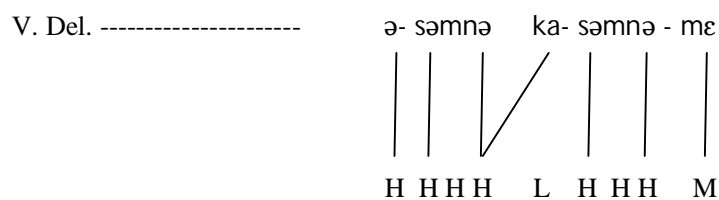
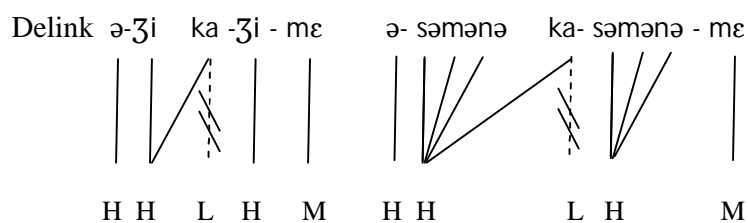
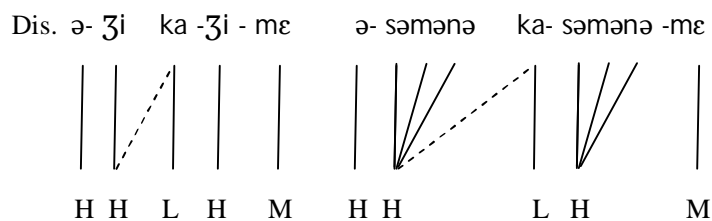
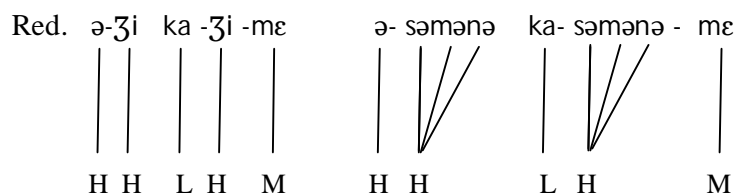
As concerns the words above, the default mid rule is seen to apply to them as illustrated in the following derivation.



V-1-2-9. Delinking

It is commonly held that phonological processes are nothing but linking and delinking operations. In autosegmental term, all phonological events imply the linking or delinking of melody (tone) to/from a skeletal slot or a syllabic constituent. In this section, we deal with the process of delinking. This is a process which is caused in this language by the operation of tone assimilation or dissimilation. Let us exemplify this by the following derivation (see section V-2-2-2.2.).





PR [ə- ʒi -ká -ʒi- mɛ ə- sɛmnə ká -sɛmnə -mɛ]

Conclusion

In this chapter, a number of tonal phenomena that occur within the phonology of Fáj have been discussed. It has been shown that tone is contrastive in this language, as the same word can have different meanings when it features with two different tones. It has equally been shown that though words in Fáj have the tendency of surfacing with more than one tone on a single tone bearing unit, only one tone can be associated to a given tone bearing unit at the underlying representation. Precisely speaking, only the high tone, low tone, and mid tone were seen to be present in the underlying representation of words. The contour tones were

accounted for through some phonological processes whereas the super high tone was considered as a result of phonetical implementations.

Note that some processes such as glide formation (devocalization) and tone spreading rules are very important in this language, as they enable tone bearing units to surface with tones other than those to which they were originally associated, or to which they were not previously linked. Similarly, the tone docking rule is also very vital in Fáj, as it enables tones which originally had no tone bearing unit, or who have lost their tone bearing unit, to be linked to tone bearing units.

All in all, this chapter has revealed remarkable tonal phenomena, and has given a better insight into the tonal situation of the phonology of Fáj. Finally, the analysis in this chapter has confirmed the first assumption which is that Fáj is underlyingly a three tone language, namely, the high, low, and the mid tone.

CHAPTER VI: GENERAL CONCLUSION

VI-0. Introduction

This chapter intends to provide the reader with a summary of the whole thesis and its findings. Another purpose of this chapter is to indicate the difficulties we faced during this work and to make some recommendations for further research works on this language.

VI-1. Summary and findings

The topic of this work is: Aspects of the phonology of Fáj. A language spoken in the North-West Region, especially in a village called Fang. This village is situated in Wum subdivision, in an area known as Lower Fungom. As stated in the introductory chapter, the aim of this work was to provide an analysis of some aspects of the *phonology of Fáj*. We therefore discussed the sound and tone systems of this language as well as the segmental and tonological phenomena that exist in the phonology of this language. In order to achieve this goal, we organized our work in six chapters: chapter 1: general introduction, chapter 2: the sound pattern of Fáj, chapter 3: the phonological processes of Fáj, chapter 4: the tonological system of Fáj, chapter 5: the tonological processes, chapter 6: general conclusion.

The introductory chapter begins by a presentation of the objectives and motivation of this study. In this chapter, we also provided the geographical, socio-cultural situations and the historical background of the language as well as the linguistic situation so as to enable the reader to locate the language and its speakers. Attention was paid to works that have so far been carried out in this language by both linguists and non-linguists. The theoretical framework used in the analysis of this work was equally described in this chapter. The data collection procedures, treatment and interpretation were further subject of discussion in this introductory chapter. Finally, the manner in which the dissertation is organized was given, as well as the scope it covers.

In chapter two we presented the sound system of Fáj. In this chapter, we provided the phonemic inventory of consonants and vowels. We therefore had to analyze minimal pairs in relation with the different phonetic sounds, in order to contrast them in identical and quasi-identical environments so as to come out with distinct phonemes as inspired by Essono (2006) and Mutaka and Tamanji (2000). Thus, from this study, we retain that Fáj has a phonic system that exhibit thirty-eight (38) consonants among which there are thirty-two (32)

phonemes on the one hand, and, on the other hand, eleven (11) vowels among which there are eight (08) phonemes with their corresponding eight (08) long vowels. We ended up in this chapter by providing the distinctive feature matrix of the consonants and vowels attested in Fáj.

As far as chapter three is concerned, we were interested in the segmental processes that take place within the phonology of this language. It was argued in this chapter that in order to better understand the segmental processes of this language, it is necessary to analyze its syllable structure since words are composed of syllables. The syllable structure processes on the other hand were considered to be better identified by examining the different syllable types. The analysis of the syllable structure of nouns and verbs in this language revealed relevant information about the nature of words in the language. The following syllable types were found to be present within words in this language: V, CV, CVC, CGV and CGVC. The CV was considered as the core syllable and this was important in the interpretation of segmental processes. Those segmental processes present within the phonology of this language were argued for as a means of preserving the syllable structure of this language. It is worth noticing that this chapter also presented the morpheme and the word structure in Fáj. It was therefore mentioned that, in this language, words are generally monosyllabic and disyllabic. So, a good number of tri/polysyllabic words found in Fáj are either compound nouns or serial verbs.

Some segmental processes and rules identified in this chapter were very vital for the analysis of the tonal processes in the following chapter. A number of segmental processes were seen to be present in the phonology of Fáj. These processes revealed a number of rules whose motivation was argued to be structure preservation. More precisely, twelve segmental rules were seen to be present within the phonology of this language. These include: glides formation, vocalic elision, glide deletion, nasal deletion, vocalic insertion, nasal assimilation, vowel lengthening, vowel shortening, vowel rounding, vowel truncation, vowel raising and aspiration.

Chapter four, entitled the tonological system of Fáj, exhibits an overview of the tonological system of this language. The phonetic and the phonemic inventories of tones and the classification of tonemes are outlined in this chapter. We noticed that in Fáj language, there are three attested level tones namely: the low tone (L), the mid tone (M), and the high tone (H). These are the only underlying tones attested in this language. The phonetic super-high tone (S) was considered as a result of phonetic implementations. Moreover, we have come across four contour tones, namely the rising tone (LH), the falling tone (HL), the mid-

high tone (MH) and the high-mid tone (HM). But the latter should be treated as sequences of two different level tones, thus they just occur in surface forms. We also analyzed minimal pairs in relation with the different phonetic tones, in order to contrast them in identical environments so as to come out with distinct tonemes as inspired by Essono (2006). This chapter also shows that tones have two functions in this language: the lexical function and the grammatical function. We therefore got lexical tones and grammatical tones.

The present chapter is equally dedicated to the treatment of the various tonal patterns found in both nouns and verbs of this language. So, nouns and verbs in Fáj can surface with many different tonal patterns which fall into different tone groups. However, it has been said that the tone groups in Fáj words just consisted of a variety of tone sequence as seen in many Bantu languages (Mutaka and Tamanji, 2000, 85). We took into consideration the internal structure of words in Fáj in order to better analyze their tonal patterns. In doing so, we paid attention on the fact that Fáj basic words are generally said to be monosyllabic, disyllabic, and sometimes tri/polysyllabic as shown in chapter three. For each syllable structure, examples were provided, revealing all the possible tonal patterns present within a given category. The occurrence of each tonal melody was analyzed and accounted for. Thus, we came out with a good number of tone classes within nouns and verbs. Thus, Fáj nouns present Low, High, Mid, Super high, High-Low, Low-High, and High-Mid classes, while Fáj verbs exhibit Low, High, Mid, and Super high patterns.

In conclusion, some tonal variations can be accounted for by the interaction of some phonological processes as well as by some tonal processes. Moreover, the presence of tonal variations in this language reveals interesting tonal phenomena that were explored in chapter five.

Chapter five focused on the tonal phenomena within the phonology of this language. In fact, in the course of accounting for the tonal patterns revealed from the data, several tonological processes and rules were obtained. These tonological processes were analyzed using the autosegmental theory. It was important to note that the tone rules in this language take place from one syllable to the immediately following syllable as is the case for Kikuyu (Clements 1984), and Chaga (McHugh 1987). This chapter mentioned that there are two kind, of tone-related rules: universal rules and language specific rules. Within the universal tonological rules, we dealt with the Universal Association Convention (UAC) and the Obligatory Contour Principle (OCP). As far as language specific tonological rules are concerned, we analyzed a good number of tonal processes and rules that exist within the nouns and verbs of Fáj. Therefore, the tonal processes and rules seen to apply within words in

this language include the following: high tone insertion, high tone substitution, tone spreading, contour tone formation, tone docking, tone simplification, the stray erasure principle, the delinking, and finally default mid.

In sum, a number of findings were obtained during the analysis of the phonology of Fáj. Therefore, the following are the salient findings of this research.

First, it has been pointed out that Fáj is a language of thirty-two consonants and ten vowels among which there are eight long vowels. Again, the analysis revealed twelve segmental rules, amongst which some led to tonal variations. These rules were: glide formation (devocalization), vowel deletion, nasal deletion, glide deletion, vowel truncation, vowel insertion, Aspiration, vowel shortening, homorganic nasal assimilation, and vowel rounding. It was pointed out that the motivation for these rules was to meet up with the structure that is accepted within the phonology of the language, thereby preserving and respecting the preferred syllable structure of the language.

Next, the analysis brought out the fact that Fáj is actually a three tone language, namely, the high tone, low tone, and the mid tone. This was actually important as it clarified the first assumption that guided this work: Fáj has three underlying tones: the high tone, the low tone, and the mid tone. All other tones were accounted for by positing some tonal rules. Moreover, this research exhibits seven tone pattern, at the level of nouns (the Low, High, Mid, Super high, High-Low, Low-High, and High-Mid classes) and four at the level of verbs (the Low, High, Mid, and Super high patterns).

Finally, it has been revealed in this thesis that ten tonal rules were seen to be present within the phonology of this language: high tone insertion, high tone substitution, high tone spreading, tone docking, contour tone formation, the stray erasure principle, the delinking, the default low, default high and finally the process of default mid..

The findings in this work have revealed the nature of the phonology of Fáj. Most importantly, the behaviour of tones in different contexts was analyzed in great details. This work will thus be of great use to tone designers who are interested in designing the tone orthography of Fáj. To better represent tone in orthography, Chumbow (2001) affirms that the best system of tonal representation in any orthography is one that is derived from an insightful study of the entire phonological system of the particular language with a special focus on its tonology or tonal system. This is actually what this dissertation was all about. The work brought out the function of tones in this language, the number of level tones that the language

has the tonal changes that these level (lexical) tones undergo during phonological processes and grammatical constructions, why they undergo these changes, and so on.

Tone is not easy to deal with. Many linguists working on tones have supported this view by saying that even those with training who can distinguish systematically between one tone and another are still worried about writing it. Many users cannot easily be taught to read tone correctly, not to mention writing it. It is thus in this respect that we consider this work as one which is not complete in itself, but which stands as a basis for further research on the nature and behaviour of tones in Fáj. Our hope is that this work has contributed a great deal to a better and insightful understanding of the tonal phenomena that exist in this language, and also to the literature on phonology, especially with respect to tone.

VI-2. Difficulties

The major difficulty we faced during this work is that Fáj village is not an accessible place. That is one cannot easily reach there, for the road that leads to this village stops on its way, especially at Yemge, a small center which is very far away from Fáj. So given the fact that even motorbike, cannot reach there, we had to trekk (to go on foot) in order to reach Fáj and to meet consultants. Sometimes, after walking many kilometers without reaching Fáj, we had to spend the night in a small village so as to walk towards Fáj the following day.

Moreover, as soon as we started doing this work, we were admitted to the higher teacher's training college of Yaounde, in the Department of Cameroonian Languages and Cultures. We must confess that this training was so uphill that it was very difficult progress normally with this research at the same time as we acted as guinea pigs for the experimentation of programs of this very new Department. That is why this work took us too much time. Our lack of normal progress in this work was also due to a lot of health problems that we faced during this research. This became very serious when the problem of sinusitis and eyes problem intervened: we were then sometimes unable to work with the computer for a considerable period of time.

VI-3. Recommendations

To end the foregoing discussions, we have deemed it opportune to give some recommendations. In this section we are therefore proposing some orientations for further research on the one hand and some orientations for the promotion of Fáj language on the other.

VI-3-1. Recommendations for further research

The phonological analysis of a given language happens to be the starting point of any descriptive study of that language. It is generally understood that, in studying a language, linguists find evidence to show that there are patterns to study, then figure out what the nature of the patterns are, and finally, determine a formal characterization of the patterns. In each of these efforts, linguists maintain a fairly broad approach. When finding a pattern, the concern is not simply ‘does this pattern exist?’ but also, ‘how does this pattern interact with other patterns in the language?’ and how does this pattern compare to similar patterns in other languages?’ The analysis in this thesis has succeeded in dealing with many patterns that exist in Fáj, and how they interact with each other. However, we must admit that the present research work is not sufficient to account for the functioning of the entire language. In this perspective, we encourage other researchers who like us wish to bring their contribution in the process of standardization of this language to carry out other descriptive studies on Fáj which will better shed light on various aspects of this language. These researchers may study other levels of analysis of the phonology of this language like lexical phonology, phrasal phonology, prosodic phonology and metrical phonology.

We also recommend other researchers to explore other language domains such as morphology, semantics, syntax, lexicology and terminology. In doing so, Fáj will no doubt escape from the phenomenon of language death which happens to be a constant formidable threat to indigenous languages. Moreover, through such works, Fáj will get an important documentation which will permit it to be easily taught in schools as local languages are already taught in school officially.

VI-3-2. Recommendations for the promotion of Fáj

The effective introduction of Cameroonian languages and cultures is materialized through the appointment of regional inspectors of CLC (Cameroonian Languages and Cultures) in 2007 and the opening of the Department of CLC of the Higher Teacher Training School of Yaounde in 2008. But there is still a need to see Cameroonians practicing their Mother Tongues (MT) in day to day conversations. That is why we think that the action of introducing national languages and cultures in schools programs is great but not sufficient. The practice in question must start in households and need a help from the main actors in such a process, namely, parents, scholars, the government and even NGOs (Non-Governmental Organizations) and foreign universities. We therefore address our recommendations to these actors in turn below.

First of all, parents constitute the first target for our recommendations. Since households are considered the first places of socialization, parents should speak the MT to their children from the childhood. That is they ought to speak as much as possible at least one national language like Fánj which must in fact constitute the main means of communication at home. Notice that the MT here refers to any local language that a Cameroonian as a native speaker can have. Therefore, if Fánj parents, for instance, endeavour to always converse with their children in Fánj, the latter will behave as Fánj native speakers, which is indispensable for the promotion of this language.

Again, we consider scholars as the second target of our recommendations. Scholars refer here to any teacher and students concerned by the teaching of national languages and cultures. This also refers to national and international researchers interested in the domain of linguistics and culture. We therefore suggest that, in class situations, students should be given tasks on their various ethnic cultures, on their MT, that is the language of their ethnic group so that young Cameroonians in general and young Féñǎ in particular could keep in touch with their culture and their MT even when they have not been using it since their childhood. Teachers of all level of education should equally sensitize both parents and students on the importance that lies in the promotion of local languages and cultures. Indeed, Cameroonian cultures constitute the living soul of this nation and Cameroonian languages are the means par excellence to express and to transmit these cultures.

Researchers in their turn are encouraged to continue carrying out studies on CLC in order to multiply good fruits or results in the tasks of documenting local languages and cultures. They should therefore multiply publications of works on CLC. Meanwhile, it is worth noticing here that these published works must be largely written in Cameroonian languages in general and in Fánj in particular, since a good number of works done so far on CLC have merely been published in official languages: English and French.

Further, our recommendations are also addressed to the government. The government has made good efforts by introducing CLC in school curricula which is interesting but not sufficient. The government should open more departments of CLC in all the regions. This will help to train more teachers of CLC. Thus, before long, a good number of CLC may be taught in schools. The government should also decide to implement a compulsory course of CLC like the course of bilingual training for all the series in all the universities and all the vocational school. Therefore while promoting by this way CLC, this will for instance help Cameroonians to know and to be accustomed to their own environment. The government

should equally develop strategies to introduce CLC in private educational institutions, for this action should concern all the Cameroonians. This will surely lead to the promotion and the development of all the CLC which is important for the emergence of our country since any national emergence largely lies in the Cultural Revolution.

Finally, we have to address our recommendations to national and international NGOs as well as foreign universities. We encourage NGOs and foreign universities to continue providing human and financial resources for the development of local languages in general and Fáj in particular. Indeed, giving an aid for the development and the promotion of our local languages, which are sometimes endangered, is to participate in the battle of conservation of the worldwide cultural patrimony. In effect, every language constitutes a means of expression of the cultural patrimony of its people. So, when a language is not promoted and dies or disappears, it is an irreplaceable section of our knowledge and our understanding of the world which is for ever lost.

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APPENDICES

APPENDIX A: LIST OF WORDS

1- Nouns

kófá	"bone"
bíná	"breast"
tókó	"night"
fə̀zə̀	"god"
kə̀:ntsù	"belly"
jə̀:ɲmə̀	"word of man"
mbālā	"soup"
gəlá	"foot"
dwàlá	"star"
ɲgək̀pá	"root"
jək̀pún	"tree branch"
kálə̀	"day"
kósòɲ	"question"
kwálə̀	"rat"

límā	“blood”
túmā	“village”
fə:nə̃n	“bird”
bəkē	“chairs”
kədā	“door”
ŋmə̃	“person”
ɲàm	“meat”
tsù	“sun”
kpè	“burn”
sím	“heart”
wán	“child”
búŋ	“mountain”
tsé	“stone”
kú	“head”
fú	“hair”
mb ^h ĩ	“earth, world”
dʒē	“lion”
tsə̃ŋ	“neck”
kā	“every”

jū	“full”
tí m	“woodash”
tí	“palm kernel”
jú	“houses”
dʒí	“roads”
túm	“land”
jêñ	“teeth”
gǐ	“egg”
sě	“sand”
késátá	“darkness”
Wánkákpréŋ	“girl”
Kálwásúŋ	“son”
kàkàṅàm	“horse”
fàsèŋhè	“ring”
kèwò:ntà	“book”
kàfálá	“cap”
kəlátá	“calabash”
kètʃóŋnó	“groundnut”
gùŋsónó	“end”

fàmásá	"cat"
fə̀ṅgóṅgón	"ant"
kàlǎfá	"knife"
dúbə̀ndón	"goat"
bələ̀ṅgí	"blanket"
mələ̀sùn	"man"
tə̀párùm	"palour"
bətǎwáfə̀	"wisdom"
fə̀ṅgúfə̀	"umbrella"
fwòmtúmə̀	"president"
fə̀ṅkələ̀ṅgwá	"louse"

2- Verbs

a- Simple verbs

ə̀-tún	"to crow"
ə̀-ṅmǎg ^h ū	"to smoke"
ə̀-témkə̀ṅ	"to surround"
ə̀-wú	"to hear"
ə̀-fǎm	"to suffer"
ə̀-dǎí	"to feed"
ə̀-jó	"to go up"
ə̀-lí	"to enter"

á-tám	"to shoot"
á-lùm	"to bite"
á-fà	"to shave"
á-kòṅ	"to love"
á-dì	"to cry"
á-kū	"to fasten"
á-bā	"to load"
á-gōm	"to pay"
á-bāṅ	"to cover"
á-tán	"to jump"
á-ṣí	"to eat"
á-dúṅ	"to sit"
á-ké	"to see"
á-mē	"to build"
á-lú	"to plait"
á-sǎn	"to cut open"
á-wú	"to hear"
á-kǎm	"to squeeze"
á-jô	"to quarrel"
á-gúmá	"to bury"
á-sámná	"to marry"
á-kálá	"to fold"
á-déké	"to stop"

á-fǎfá	"to fly"
á-jǎlǎ	"to kill"
á-kǔmǎ	"to paint"
á-sǎlǎ	"to boil"
á-jǎglǎ	"to teach"
á-líkǎ	"to run"
á-kǎlǎ	"to come back"
á-dékē	"to allow"
á-dákā	"to burst"
á-fífā	"to seize"
á-gáwō	"to shear"
á- wú	"to strip"
á- fǎsǎ	"to remove"
á- sínǎ	"to turn"
á- jǎ	"to give"
á-bǎŋ	"to close"
á-fēm	"to lock"
á- gènǎ	"to say"
á-fīn	"to cut (with a knife)"
á-tǎnǎ	"to see off"
á-ŋyě	"to write"

á-g ^h ú	"to leave"
á-dé	"to put"
á-ǰí	"to bring down"
á-jó	"to climb"
á-jèn	"to go"
á-tām	"to shoot"
á-sān	"to shift"
b- Serial verbs	
á- sínáǰèná	"to reply"
á- wúfàsá	"to strip off"
á- sínájā	"to give back"
á-jójān	"to climb up"
á- sínájān	"to trake back"
á-déǰí	"to unload"
á- sínágyê	"to return"
á-sānǰí	"to lower"
á-ɲyàtáná	"to pintch"
á-jāg ^h ú	"to lend"
á- tāmśíná	"to go round"
á-tíntāná	"to chop"
á-báǰfēm	"to lock (seriously)"

Appendix B: Some words in collocation

Límā ká ŋkúŋ	"chief's blood"
Wân fāmásá	"cat's tooth"
Wân màmásá	"cats' tooth"
ɲàm kìm	"monkey's meat"
ɲàm fànân	"bird's meat"
ndʒām mā gbúŋ	"mountain's water"
ndʒām mā t̀əgbúŋ	"mountains' water"
límā mā wú	"nose' blood"
jú k̀əfí	"pig's house"
wân puín	"tree's leaf"
kásá wā jō	"house's spoon"
t̀əkásá wā jō	"house's spoons"
mb̀ə̀nə̀ wā jō	"house's salt"
ndʒām mā mb̀ə̀	"rainbow's water"
k̀əsé ká ŋkúŋ	"chief's dress"
tílá k̀péŋ	"wife's mat"
tílá t́ə ŋm̀ək̀péŋ	"wife's mats"
b̀ə̀dʒélə̀ b́á gbúŋ	"mountain's bridge"
f̀ə̀táŋ f̀ə̀ gôn	"plantain's seed"
ɲàm kólə̀	"rat's meat"
ɲàm j̀əm̀ù	"one meat"
k̀im j̀əm̀ù	"one monkey"
j̀ù j̀əm̀ù	"one house"
k̀əfí k̀əm̀ù	"one pig"
ntsə̀ŋ j̀əm̀ù	"one neck"
wú ẁəm̀ù	"one nose"
b̀ə̀dʒélə̀ b̀əm̀ù	"one bridge"
f̀əm̀ásá f̀əm̀ù	"one cat"
f̀ənân f̀əm̀ù	"one bird"

ɲám jǎfé	“two meats”
kím jǎfé	“two monkeys”
jú jǎfé	“two houses”
bǎfí bǎfé	“two pigs”
ntsàŋ jǎfé	“two necks”
wú wǎfé	“two noses”
bàdʒélà bǎfé	“two bridges”
màmásá mǎfé	“two cats”
mànân mǎfé	“two birds”

ɲám jǎtsá	“five meats”
kím jǎtsá	“five monkeys”
jú jǎtsá	“five houses”
bǎfí bǎtsá	“five pigs”
ntsàŋ jǎtsá	“five necks”
wú wǎtsá	“five noses”
bàdʒélà bǎtsá	“five bridges”
màmásá mǎtsá	“five cats”
mànân mǎtsá	“five birds”

Appendix C: Sample derivation

In order to better understand the notion of rule ordering in Fáj, we deemed it interesting to illustrate it through sample derivations. Note that a sample derivation is a practical exercise through which examples of segments are analysed in the light of the different phonological rules attested in the language. This aims at showing the validity of different phonological rules that we postulated in chapter three.

Therefore, let us derive the following items.

lí	“smoke”
dùlál	“star”
tùò	“toilet”

bèdʒíàṅ	"tall"
mómásá	"act"
fàmágòlò	"mango"
wánNkúṅ	"prince"
ṅàmNgbú	"my meat"
kprú	"death"
tḡā	"need"
ádékéjè	"be stoping"
óbósáwō	"to us"
kàwòNtè	"book"
kíáṅ wèṅín	"big pan"
ṅmàmèbàtèè	"adults"
ábèṅájè	"be rolling"
ájèḡáíájè	"be learning"
óbónáwō	"to you"
máṅmúwò	"I am drinking"
kânkàmù	"it is one"
kântsáwò	"it is five"

UR	/	líá	dùàlá	mómásá	fə̀máglò	ɲàmNgbú	kpú	tíā	ádekéjə̀	ə̀básə̀wō	kə̀wòNtə̀	kúáŋ	wə̀nín	ŋmèmbàtèè /	
Asp.	---	---	-----	-----	-----	-----	kp ^h ú	t ^h íā	-----	-----	-----	-----	-----	-----	
Glid.	lyé	dwàlá	-----	-----	-----	-----	-----	t ^h yā	-----	-----	-----	kwáŋ	wə̀nín	-----	
V. Del.	---	-----	mómásá	fə̀máglò	-----	-----	-----	-----	-----	-----	-----	-----	-----	ŋmèmbàtèè	
N. Del.	---	-----	-----	-----	-----	ɲàNgbú	-----	-----	-----	-----	-----	-----	-----	-----	
G. Del.	---	-----	-----	-----	-----	-----	-----	---	ádeké	ə̀	ə̀básə̀	-----	-----	-----	
V. Trunc.	---	-----	-----	-----	-----	-----	-----	---	ádekə̀	ə̀	ə̀bəs̄	-----	-----	-----	
V. Inser.	---	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	
N. Assim.	---	-----	-----	-----	-----	ɲàŋgbú	-----	-----	-----	-----	-----	kə̀wòntə̀	-----	-----	
V. Leng.	---	-----	-----	-----	-----	ɲà:ŋgbú	-----	-----	-----	-----	-----	kə̀wò:ntə̀	-----	-----	
V. Round.	---	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	kwáŋ	wə̀nín	-----	
V. Short.	---	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	ŋmìmbàtè	
PR	[lyé	dwàlá	mómásá	fə̀máglò	ɲà:ŋgbú	kp ^h ú	t ^h ya	ádekə̀	ə̀	ə̀bəs̄	kə̀wò:ntə̀	kwáŋ	wə̀nín	ŋmìmbàtè]

UR /	ábènéjè	tùò	ájègólájè	bèdʒíèŋ	wánNkúŋ	óbónówō	móŋmúwò	kánkàmù	kántsáwò /	
Asp.	-----	t ^h ùò	-----	-----	-----	-----	-----	-----	-----	
Glid.	-----	t ^h wò	-----	bèdʒyêŋ	-----	-----	-----	-----	-----	
V. Del.	-----	-----	ájègólájè	-----	-----	-----	-----	-----	-----	
N. Del.	-----	-----	-----	-----	wáNkúŋ	-----	-----	-----	-----	
G. Del.	ábènéè	----	ájègláè	-----	-----	óbónóō	móŋmúò	-----	kántsáò	
V. Trunc.	ábèné	----	ájèglá	-----	-----	óbónó	móŋmó	-----	kántsá	
V. Inser.	-----	-----	-----	-----	-----	-----	-----	kánákàmù	kánátsá	
N. Assim.	-----	-----	-----	-----	wáŋkúŋ	-----	-----	-----	-----	
V. Leng.	-----	-----	-----	-----	wá:ŋkúŋ	-----	-----	-----	-----	
PR	[ábèné	t ^h wò	ájèglá	bèdʒyêŋ	wá:ŋkúŋ	óbónó	móŋmó	kánákàmù	kánátsá]

Appendix D: Text (tale)**Text :**

À nè ndù bátókó bədù

Wán wèdzú wólá ví ná Mbàṅkèbóṅ wè nè gē ná wōṅè ntùā tsákè ṅkúṅ

ṅkúṅ á bóṅā wān ā tō kìmē wè ā gē nā gí ṅmù kú vī

Wè á já wān bā kálè

Kálè ké á gí, Mbàṅkèbóṅ á ṅúā bək̀pàn á dé ā bē mé

Ká à dúṅ á tó

Wè jè é ṅmù kú ṅkúṅ, tá ké má à sé, wè jè é ʒí kək̀pàn kè ṅúā ná kíè

ṅkúṅ á bí nà á ʒí ṅìà

Wè ā síná gē ná kək̀pàn ṅkúṅ á gé nā já mī bá kədú

Mbàṅkèbóṅ á fésá kək̀pàn á já ṅkúṅ wō, wǎ jí

Ká wè ṅmù fóló wǎ gé á dzóṅ wé ṅū kó túā fē

Ἰκύν ἅ βῖ ἅ Μβἄγκἄβόνῃ wó, ἅ γέ ná jō ἡῶ ntùῶ tsáké ἡκύν

King SM ask to Mbankebong that you say that you be wise than king

“The king asked Mbankebong you said you were wiser than the king”

Σίνᾱ δὲ fú kʰύ “moon”

Turn back hair my

“Put back my hair”

Μβἄγκἄβόνῃ ἅ σῖσῶ γέ ná, ἔ ἡκύν, μέ kī ná ἅ tēm mí

Mbankebong SM turn say that yes king I know that you catch me

“Mbankebong replied, “yes you have traped me””

Wé wánῶ ἅ σίνᾱ dé kḗkpàn kʰύ kíῶ

You also SM turn back corn my that

“You too should put back my corn”

Ἰκύν ἅ γέ ná ἅ τᾱ kῶ

King SM say that it be impossible

“The king said that it was impossible”

Wḗ ἅ jḗlῶ Μβἄγκἄβόνῃ

He SM kill Mbankebong

“And then, he killed Mbankebong” “moon”

