UNIVERSITY OF GHANA

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ASPECTS OF JOGO PHONOLOGY

By

Elias WILLIAMS

(10207994)

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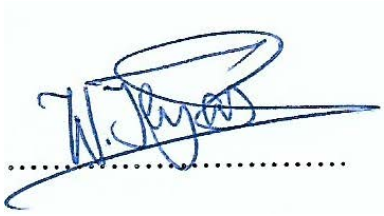
DECLARATION

I, Elias Williams, declare that except for the references to works that have been duly cited, this thesis is the result of my original research carried out at the Department of Linguistics, under the close supervision and direction of Dr. George Akanlig-Pare and Dr. Fusheini A. Hudu, and that it has neither in whole or in part been presented for another degree elsewhere.



20/07/2018

Elias Williams Date

(CANDIDATE)

20/07/2018

Dr. George Akanlig-Pare Date

(SUPERVISOR)

20/07/2018

Dr. Fusheini A. Hudu Date

(SUPERVISOR)

DEDICATION

To my family, who I have abandoned to pursue this M. Phil programme,

To my late parents:

Hamidu Williams & Nasata Banda,

And

To Dr. Aboudou-Karimou ANDELE of UNICEF, for supporting me and funding greater part of my education.

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Saah (affectionately called ‘my uncle’), for his support; Prof. K. Agyekum, for the kindness and urging us to write on our native languages; Dr. Y. Agbetsoamedo, for the books lent and donated; Dr. S. Ofori, Dr. E. Amuzu, and Dr. R. Duah for their encouragements.

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supports, including the surgery. I am very much grateful. May Allah bless you abundantly. You are indeed a blessing to the family. We thank God for your life.

ABSTRACT

Jogo, which is one of the three Mande languages (Bisa and Wangara/Dyula) spoken in Ghana, is a dialect of the language commonly known as Ligbi, spoken in Banda, in the Banda District.

The other dialects of Ligbi are Wela, of Namasa; Ntoleh of Kwametenten and Ntogoleh (Numu) of Brohani, all of the Tain District of the Brong Ahafo Region of Ghana.

Till date, little or no research has been conducted on the phonological aspect of Jogo. This thesis is qualitative and descriptive in nature, which seeks to investigate the sound system, the syllable type and structure, and some phonological processes in Jogo.

Data is mainly from primary sources. The Summer Institute of Linguistics Comparative African WordList (SIL CAWL 2) comprised of 1700 words was used to elicit the data. Recorded conversations on FM programs were obtained, folk tales, proverbs and riddles were recorded with a handheld digital recorder.

A 200-item Swadesh word list was also employed to collect data and compare the dialect continuum of the three (3) main dialects of Ligbi.

The thesis is divided into five main chapters. The first chapter is the introduction, which gives a sociolinguistic information about the people and language, the objective and methodology. Chapter two looks at the literature review and the theoretical framework employed to analyze the data.

Chapter three takes a look at the sounds of Jogo. The study employ the linear phonology approach to look at the phonemic inventory of Jogo. Dakubu (1988:161) argues that Jogo has seven (7) vowel system, but it was observed that there are nine (9) oral vowels, and seven (7) nasal counterparts, and finally twenty-seven (27) consonants, including labiovelars.

Chapter four takes a look at some phonological processes such as syllable structure processes which include elision, epenthesis. Another observation made indicates that the syllable types are V, CCV, CV, CV:, CrV, CVC, and CVN. The study indicates that phonological processes such as nasalization, labialization, palatalization, and Homorganic Nasal Assimilation occur in Jogo.

Chapter five, which is the final part of the thesis concludes with a summary and recommendation of the study.

LIST OF ABBREVIATIONS

1 SG	1st Person Singular
+ATR	Advanced Tongue Root
-ATR	Unadvanced Tongue Root
C	Consonant, Coda
CCV	Consonant Consonant Vowel
Cf.	Compare
Cons	Consonantal
Cont	Continuant
CV	Consonant Vowel
CVC	Consonant Vowel Consonant
CVN	Consonant Vowel Nasal
DEF	Definite
Del Rel	Delayed Release
e.g.	For example
etc…	Et cetera, and so on
Fig.	Figure
FM	Frequency Modulation
GILLBT	Ghana Institute of Linguistics, Literacy and Bible Translation
Ibid	Ibidem
i.e.	That is, in other words
IMP	Imperative
M.A.	Manner of Articulation
N	Nucleus

O	Onset
P.A.	Place of Articulation
POSS	Possessive
PROG	Progressive
PST	Past
SILCAWL2	Summer Institute of Linguistics Comparative African Word List
Son	Sonorant
SOV	Subject Object Verb
SPE	Sound Pattern of English
Syll	Syllabic
TAM	Tense, Aspect, and Mode
V	Vowel
V:	Long Vowel

SYMBOLS

.	Syllable break
σ	Syllable Symbol
`	Low Tone
´	High Tone
ˇ	Rising Tone (Hacek)
/ /	Phoneme, Phonological Bracket
[ ]	Phonetic pronunciation, Segment bracket
< >	Orthographic Bracket
( )	Round Bracket – optional
{ }	Curly Bracket – alternative

→	is realized as, becomes
/	in the environment of
#	Word Boundary
Ø	Zero, deleted segment

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CHAPTER ONE

GENERAL INTRODUCTION AND METHODOLOGY

1.1 INTRODUCTION

The thesis provides an analysis and description of some phonological aspects of Jogo within the framework of generative phonology developed by Chomsky and Halle (1968), and as described in Kenstowicz (1994).

The purpose of this present chapter is to give a brief description of the socio-linguistic background of the speech community of Jogo, which is a dialect of what is generally referred to as Ligbi.

The chapter begins with background of the study in section 1.2. Then in section 1.2.1, the description of Manding languages was done. In section 1.2.2, Ligbi people were described. In 1.2.2.1, light was shed on the origins of Jogo people. Section 1.2.2.2 described Ligbi dialects. Section 1.3 discusses the geographical location of the Ligbi people. The chapter also takes a look at the problem the study seeks to address, the relevance and objectives of the study, and the methodology that is employed in carrying it out, and lastly, the chapter concludes with an overview of this chapter.

1.2. BACKGROUND

Many languages in the world continue to be documented through research by native and non-native speakers, to maintain or revive those languages that are lesser known or endangered.

It is in this vein that, in his introductory remarks, Janse (2003) stated that the importance of the study and description of '*undocumented*' languages cannot be overemphasized, as 'it may enable the descendants of the speakers of the language in question to acquaint themselves with, even relearn their ancestral language' (word and emphasis mine). The remark was related to Robins' (1991) work.

In relation to Robins (1991), it was a motivational factor for a speech delivered by the president of the International Committee of Linguists. The 'Comité Permanent International de Linguistes' (CIPL) held the 15th International Congress of Linguists, in Laval University, Quebec, with the approval of the following resolution, which appeared on the cover of the proceedings of the congress, in reference to Crochetière et al (1993):

> 'As the disappearance of any-one language constitutes an irretrievable loss to mankind, it is for UNESCO a task of great urgency to respond to this situation by promoting and, if possible, sponsoring programs of linguistics organizations for the description- in the form of grammar, dictionaries, and texts including the recording of the oral literatures- of hitherto unstudied or inadequately documented endangered and dying languages.'

The speech above has had a positive impact on the disposition of the world towards languages that are undocumented or have received little attention, in order to avoid their 'demise'.

1.2.1 Manding (or Mandé) Languages

According to Vydrin (2017),

> Manding is a large language/dialect continuum in Western Sub Saharan Africa (see Fig. 1). The entire Manding speaking population is close to forty million, placing it among the most important languages of Africa. Manding (in some publications, also stylized as Mandingo) is a generic name for a great number of language varieties, among which the biggest ones are Bamana/Bamanakan (also Bambara) in Mali, Maninka (also Malinké) in Guinea, Mali, Senegal, and Sierra Leone, Mandinka in Gambia, Senegal and Guinea-Bissau, and Jula in Côte d'Ivoire and Burkina Faso. These varieties are usually regarded as individual languages, and separate written norms are emerging in spite of certain harmonization efforts by linguists

The map below (Fig.1) illustrates the varieties of Manding languages, with the light hatching that covers the areas where Manding varieties are used as *lingua franca.*

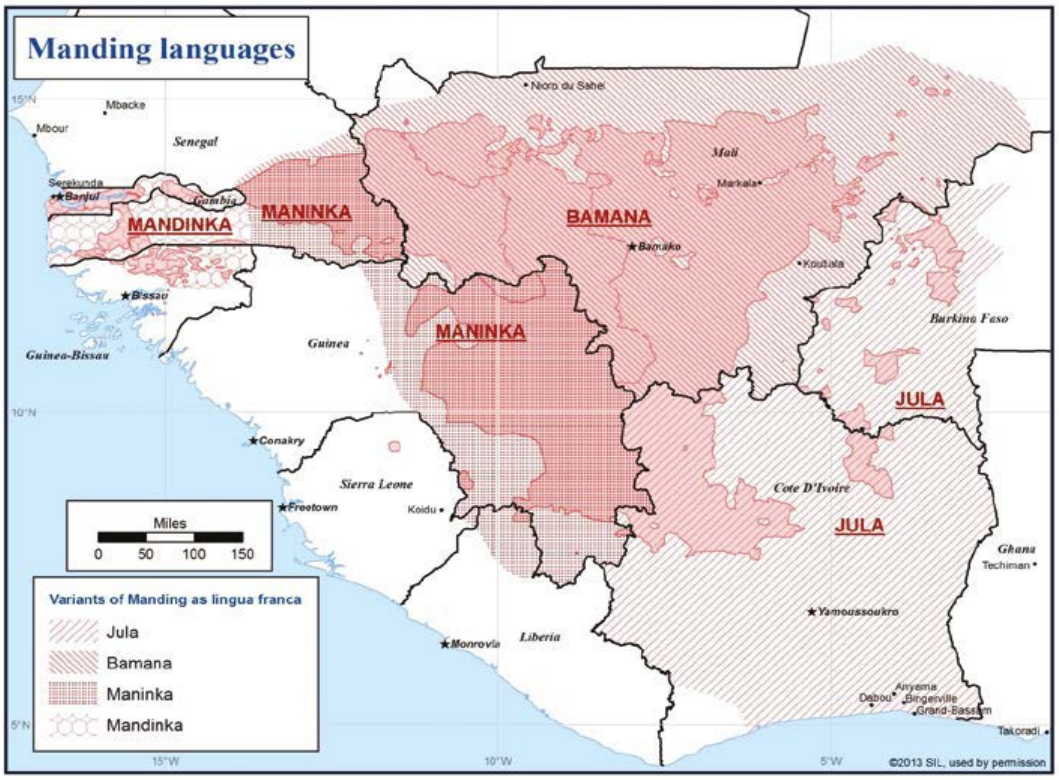


Fig. 1: Map of Major Manding varieties. Source: Vydrin 2017

Table: 1 Major Manding varieties

Local Name	**Etymology**	**French Name**	**English**	**Alternative Spellings**
Màndinkakán	Language of the people of Manden	Manding, Malinké	Mandinka, Mandingo	
Màninkakán	Language of the people of Manden	Malinké	Maninka	
Bàmanankán	Language of that refuse Islam	Bambara	Bamanan	Bamana
Jùlakán	Trader's language	Dioula	Jula	Dyula, Dyoula, Diula, Dwera, Wangara

1.2.2 *The Ligbi Language and its people*

Ligbi is one of the three Manding languages spoken in Ghana, namely Wangara (Dyula) and Bisa. Bissa, an eastern Manding language, also known as Busanga, has four (4) dialects, which are Lebbri, Lerrɛ, Barikka, and Sandugu (Gariba

2017:27). According to Gariba (2017:11), sociologist and anthropologist will refer to the given name ‘Busanga’ as an EXONYM or XENONYM, as it is a name used in the language of other people to refer to them, per their place of origin. So the name is external to them. The same may apply to Bambara (French source), and probably Ligbi. Ligbi belongs to the Niger-Congo macrofamily and the Mande family, with specific genetic relation as Western Central/South Western Central, as propounded by Kastenholz (1997) see figure 2.

Fig. 2: Classification of Jogo in Manding Languages

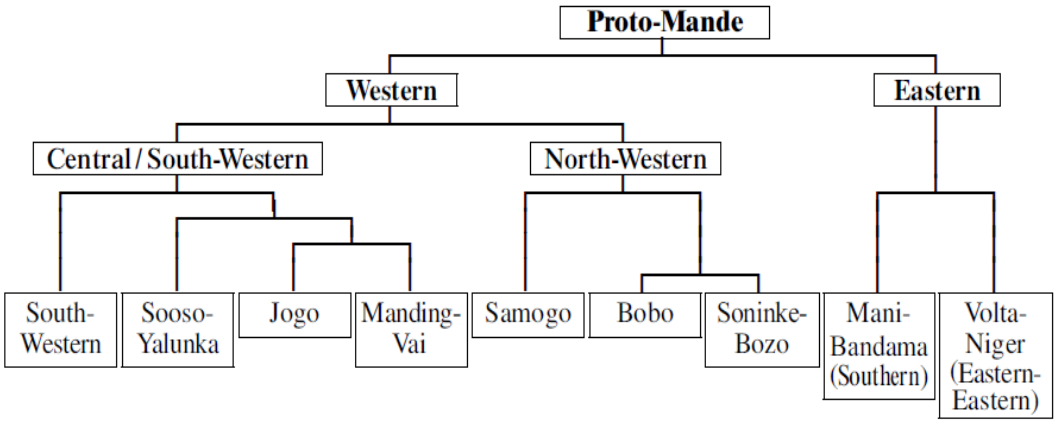


Figure 2. Western Central Southwestern, Central, Manding-Jogo. Source: Vydrin (2009b).

According to Delafosse (1904), Tauxier (1921:382), Goody (1964:195), all indicate that Ligbi (i.e Jogo, Wela and Numu) is proto-Dyula.

Ligbi is spoken mainly in towns or villages such as Banda, Bofie, of the Banda District; Menji, Namasa (Demisa), Kwametenten, Brawhani now Brohani (or Wulokinan), of the Tain District; and Wenchi, of the Wenchi Municipality, all in the Brong-Ahafo Region of Ghana.

1.2.2.1 The origins of the Ligbis[1]

The origin of the Ligbis has not been clear for many people. Getting evidence for such an historical issue should not be based only on one factor (Posnanski 2010). The evidence could be based not only on account of oral history, which could be distorted, but on archaeological, linguistic (lexicostatictics), as well as evidence from the Tarikhs.

On the one hand, oral history has it that the Ligbi ancestors migrated from the Middle East, through Egypt, Sudan, Timbuktu, Jenné, Sikaso, Kong, Bouna, Begho and Banda. The map of the trade routes to the Volta Bassin suggested by Levtzion (1968:14) is complex[2], as from Jenne, it either passes through Bobo Dioulasso, Bouna, Bondoukou, Kintampo; Bouna, Bole, Buipe, or Jenne, Walembele, Wa, Bole and so on. Due to the Gold and kola trade (among others), the Islamization and the coming of Samori in the Bouna/ Boudoukou area, there has been lots of borrowing from the Dyula language. Goody (1964:211) places the migration of the Ligbi and Numu to Banda around 1450, and mentions the order of arrival of the various other ethnic groups in Bondoukou (and in the neighboring area of Banda) (Goody 1964:204-205).

I have observed that Waali (Abdul-Aziz 2015), and Nafaaran, among other languages have loanwords from Dyula. Goody (1964:197) observed that Gonja,

[1]PC: This aspect of my work was of great interest to Prof Dakuku, as in her office, after I returned from one of my field trips, she expressed the wish to know 'the entrance' of Ligbi into Ghana.

[2] See Appendix A

however, no longer speak Mande. I have observed that Jogo has about 23 cognates with Waali, 32 with Nafaaran, one from Dagara and many words from Arabic, and from Dakubu (2012), I observed five borrowed/ loanwords from Portuguese. The case of Gonja and Waali could be as a result of the invasion of Samori of that part of the Gold Coast, as narrated by Stahl (2001:97). She states that as Samori was under growing pressure from the French, he shifted his base of operation to Bondoukou, in the early 1890's. Then from his new base, Samori dispatched his Sofa troops further east, under the command of his son, Sarankye-More, to lay claim of the Western Volta Basin (Wa & Gonjaland). Stahl (ibid) further states that by the end of 1896, Samori and his Sofa troops controlled a chain of posts across the Asante hinterland, including Banda, Bole, Buipe, Boniape, and Debre. Stahl (2001:156-157) indicates that Banda was involved in about twelve (12) conflicts, with the Ashantis in 1733 and 1773/74, Gonjas 1802, and Nkoranza 1892-93, among others. According to Goody (1964:204), the Gonja area was the meeting ground for Mande traders from the north-west and Hausa from north-east, with the Mande establishing themselves up the Hausa road to Sansanne Mango, Salaga and beyond. The Kola and gold trade was first controlled by the Dagomba then the Gonja. The narratives indicate the influence the Mande language has had on other languages linguistically.

Letvtzion (1968:6) indicates there are also traces of Wangara muslims in Dagomba, recorded in the early nineteenth century (19th C). For instance, the greetings at noon and in the evening in Ligbi, Dagbani, Waali, are said the same as in Dyula/Wangara, i.e 'anteray'/, 'antelay' and 'anugula'/ 'anula'.

My consultant[3] narrated that in course of the journey, as they were being pursued by enemies, they came across a river on their way in the evening. They saw something floating on the river, with which they crossed it. They later realized it was a crocodile. Hence, they took the name Bamba (crocodile in Dyula) as their patronym and totem. A similar story was narrated in Tauxier (1942:53-55), along the Baoule river. Tauxier (ibid) states that those people rather bear the patronym Kulubali (Kulu 'canoe', bali 'without'), as they were able to cross the river, one after the other, on the back of a big fish. Other patronyms, according to Delafosse (1904:170) are the Kari-dyula, Kurubari, among the Ligbi and Nafana of Fughulan (or Banda)[4].

Other patronyms[5] include the Touré and Kari-dyula of Bole, the Sissé and Touré of Wa, the Ouattara, Kari-dyula and Sissé of Djebugu. Delafosse (ibid) states that the Dafina refers to the Dyulas. There are other patronyms as Kumala (Nafana), Djabaté, Kuyaté, Timité, Kamagaté, Gbané, Diomandé (Massing 2000:296). Nowadays, few people use those patronyms, as they rather prefer using their fathers' names, which is part of Islamic practice.

With reference to Bodomo et al (2009) cited in Yankson (2018:13), the view that the status of Mande languages in Ghana is debatable, since the only indigenous languages of Ghana are the Gur and Kwa languages, is really debatable. Tauxier

[3] Alhaji Abu 'Soldier' is one of my consultants, who is a Second World War (WWII) veteran, still alive as at May 2018. He was born around 1914, according to the calculation of his mate, Alhaji Adam Usman 'Abban', who told me he was born in 1917, that Alhaji Abu might be older than him for about 3 years or so.

[4] *Fughulan* means 'land of snakes' in Nafana, and *Banda* means 'oak tree/baobab' in Dyula (Tauxier 1921)

[5] See Appendix B

(1921:443) enquired from the great Imam (Almamy) of Bondoukou about the origin of the Ligbi and Dyula living in Bondoukou.

The response for Tauxier (ibid) indicated that they came from Begho. The Almamy conceded that they moved from Mande (Mali Empire) to Kong, where a civil war broke with the autochthones.

After the destruction of Begho, people dispersed in various direction, some moved to Bondoukou and to other towns (Tauxier 1921: 212) cited in Goody (1964:196).

The Ligbis and Nafaanras were living together before the arrival of the Dyulas, and Ligbis are originally from Begho (Delafosse 1904:167-168). Even though Goody (1964:196) expressed reservations on the oral history that Welas emerged from a hole, at Nsesrekeseso (Posnanski 1982:260), the oral history was confirmed to Tauxier (1921) by the Almamy of Bondoukou, and Massing (2000:295) referred to the oral history.

On the other hand, Posnansky (2010), reflecting on the excavations made in 1970, 1971, 1972 and 1979, at the old site of Begho, a test was conducted on a tobacco pipe, dated by radiocarbon, dating to between the 15th to 17th Centuries, as the probable existence of the old trade centre of Begho. The Gur language, which is claimed to be an indigenous languages of Ghana (Bodomo 2009), is rather from Upper Volta (Burkina Faso). Tauxier (1921) states that Gur was preferred, in lieu of ‘voltaic’ since the ‘voltaic’ reference sounded political.

And a Kwa language such as Bono or Brong, according to Meyerowitz (1952:322) came from the eastern ‘border’, and the Bono Kingdom was founded in the 14th

Century. It is worth noting here, that before the partitioning of Africa at the Berlin Conference (1884-1885), people were not restricted in their movement by any border, for that matter, some ethnic groups or languages were scattered within West Africa, and perhaps beyond.

In a comparative analysis of languages spoken within the Banda area, Painter (1966:2) gives us an idea about the various languages spoken in Banda as follows:

Table 2: Languages spoken within the Banda area

	Larger Unit	**Single Unit**	**Language**	**People**
1	Gur	Senufo	Pántə́ra	Náfánà
2	Gur	Senufo	Fántərà	ʤámã̀[6] /Jimini
3	Gur	Grusi	dég	Jánélà/ Mó
4	Gur	Kulango	ŋkùræ̃ɛ̃	Kùláŋgɛ̀[7]
5	Mande	Bambara	Ligbi	ʤɔ̀gɔ̀
6	Kwa	Akan (Guang)	Dúmpó	Dúmpó
7	Kwa	Akan (Twi)	Brő	Brőfùɔ̀

[6] This language is not the same as the Bono-Manso (Kingdom) Gyaman
[7] Also known as Kpagallah, or Kpakhalla in the Bondoukou area (Tauxier 1921:455).

Apart from the people stated in table 2, the Ewe, with the Mo communities live in small villages on Banda's northern borders, and Mo villages (Jamma and Bondakile) are located north of the Black Volta; 'Bui is the only Mo village in Banda chieftancy …'; the Ewe people, who migrated there around 1930's, are concentrated in fishing villages along the Black Volta (Stahl 2001:59-60).

The standardization of the Bambara or Manding languages has gone through lots of modifications.

Subsequent to the UNESCO 1966 conference in Bamako, Balaghien (1987) states that another meeting was held in the Malian capital in May 1967, to promulgate the alphabets of four local Mandé languages, namely Manding, Fulfulde (Fula), Tamasheq and Songhay. It was agreed at the said meeting to change and maintain the following alphabets:

- Vowels

The vowels <é> and <ó'> were changed to <è> and <ö>, probably to avoid the confusion the earlier diacritics (acute accent on the vowels) may cause when it comes to High Level tone marking.

The vowel <è> was also changed to <ɛ> in subsequent conferences[3].

-Consonants

The consonants <dy>, <ty>, and <nw> were replaced with <j>, <c> and <ŋ> respectively.

1.2.2.2 *Dialects of Ligbi*

A dialect, from the perspective of Crystal (2008:142), is a subdivision of a language, and it is 'a regionally or socially distinctive variety of language, identified by a particular set of words and grammatical structures'.
Crystal (ibid) explains further that the spoken dialects are usually also associated with a distinctive pronunciation, or accent. I have observed that the accent and some lexical items of Wela and Ntɔlɛh are dissimilar to the Jogo I speak.

According to Bloomfield (1933:321), 'local dialects preserved one or another ancient feature which no longer existed in the standard language'. He concluded that 'the standard language was by no means the oldest type, but had arisen, under particular historical conditions, from local dialects'. My preliminary interaction with my consultant pointed to the fact that there are three main dialects of Ligbi in Ghana, which are the Tõŋ/ Numu (Ntɔgɔlɛh) and Ntɔlɛh, Wéla and Jogo.

The dialects and their localities are described as follows:

(1) a. Ton/ Tonjon/ Ntɔgɔlɛ: spoken by the Numu in Brawhani (now Brohani),

b. Ntɔlɛh: spoken in Kwametenten, and Soko. Contrary to what I was told in Namasa, Delafosse (1904) states that it is rather Wéla that is spoken in Soko. The information I received from my informant rather seems to be right.

(2) Wéla[8]: spoken at Namasa (known as Demissa by locals), Jerni (near Sampa), and Sorobango (north of Bondoukou, in la Côte d' Ivoire). Tauxier (1921) aslo mentions Jinjini, in the Brong Ahafo Region.

[8] (Cf. table 3, on the dialects comparative wordlist). Wela has *gwáa* 'tree', whilst in Jogo, it is *gbáa*

(3) a. Jogo of Menji. The one spoken in Menji is influenced by Akan, lexically

b. Jogo of Banda, widely spoken in Banda, and Wenchi (Ghana). It is also spoken in Gbondo and Tchinta in the District of Bondoukou, and Bouna, as stated by Tauxier (1921). My consultant, Sallah Abdallah, indicates that there is a large Jogo speech community in Tambi (Côte d'Ivoire), as reported by Tauxier (1921:427-434).

(4) Jeri kuo: a dialect mixed with Sénoufo (Nafaanra) words, is spoken by the Jeris, at and around Korhogo, North of Côte d' Ivoire, (in 17 villages, including Katala[9]), as stated in Kastenholz (2001). A dialect such as Jéli, according to Kastenholz (1997:70), cited in Tröbs (2013), belongs to the 'Manding-Jɔgɔ' branch within the Central Mandé languages.

Another language known as Vai, which according to Welmers (1971), cited in Tröbs (2014), is a Central Mande language spoken along the northwestern coast of Liberia, but also extending into Sierra Leone. The Vai language also belongs to the 'Manding-Jɔgɔ' (Kastenholz 1997).

As stated by Levtzion (1968: 8), Vai and Kono are kindred groups of Ligbi.

(5) Yalkuna[10]: spoken by the Blé, at Bélédougou, South-West of Burkina Faso.

In most cases, tribes have meaning for their names. Some do refer to what they do. For instance the Jeri or Jeli, which is kindred to Jogo, means leather workers. Numu, in Dyula means blacksmith. Then the Dyula, according to Tauxier (1921:208), means language of traders, as stated in table 1.

[9] It seems Katala is what is being referred to as 'Kakala (in contemporary Côte d' Ivoire)', in Ameyaw (1965:2-3), cited in Stahl (2001:54, 153), as being where the Nafanas said they migrated from.

[10] See Kastenholz (2001:52 & 54)

In the table 3 below, some selected lexical items are shown for dialectal comparisons.

Table 3. Dialectal Variation in Vocabulary of Ligbi

	Jogo Banda	**JogoMenji**	**Wela**	**Ntoleh**	**Ntogoleh/ Numu**	**Gloss**
a.	gbùõ/gbõŋ	gbùõ	gbwõ	gbɔ̀ɔ	gbɔ̀ɔ	'big'
b.	wùlú	wùlú	dásúmã	dɔ̀siã	dɔ̀siã	'dog'
c.	gbáa	gbá	gwá	gwá	gwá	'tree'
d.	yélí	yélí	yélí	légé	lígé	'bone'
e.	nìndì	nɛ̃̌dì	lélé	nĩ̀dì	nìndì	'tongue'
f.	kyìé	kyìé	ké	kãkãsiŋ	kãkãsiŋ	'moon'
g.	lóŋlóŋdì	lólóŋ	lóló	tétéŋkúlá	tétéŋkúlá	'star'
h.	nì	dí	nì	nnì	kɛ/ nì	'if'
i.	yɛrífúgú	yɛrífúgú	sɛ̀í	yírɛfúgú	yírɛfúgú	'yellow'
j.	gbógó	gbógó	gbó	gbú	gbú	'black'

The table 3 above show lexical entries that indicate the dialectal comparison of the Ligbi language .

In Dyula, the verb 'to trade' is said *diago kè* or *dyago kè.* In another account of this fact, Person (1968:108) states that the middlemen in charge of the kola trade are known as *dyago-tigi* 'owner of trade', also known as *dyago-kè-la* 'trader' or *dyago-kè-bagha* 'person doing trade'.

The hypothesis therefore drawn is that the word *dyago* has probably been corrupted to 'Jogo', since Jogo people are noted mostly as traders.

The table below also seeks to support or give evidence to the fact of words/ names being transformed or corrupted in Jogo.

Table 4. Transformed Words from other sources to Jogo

S/N	Original Word/ Name	Transformed Word	Gloss
1	Ibrahim	Broma/ Brama	Abraham
2	Abdullah	Amulei/ Awudu	Male name
3	Maimuna	Nimina	Female name
4	Umar	Moro/ Mieri	Male name
5	Zainab	Jenabu/ Jarimu	Female name
6	Rukaya	Woriata/ Worikia	Female name
7	Yakub	Yakoa	Male name
8	Manɔgɔ	Malɔgɔ	Cat fish
9	Kɔgɔ	Kuɔ	Salt
10	Yɛlɛnyɛlɛnnan	Yɛyɛrnan/ Yɛyɛrnɛ̃	ladder

In table 4 above, the last three (8-10) original entries are words from Bambara, and the remainder are Arabic names. There are many other names found similar to the case illustrated above. The situation illustrated in the table is to support the fact that it is highly probable that the word *dyago* has been corrupted to 'Jogo'.

For the purpose of this thesis, henceforth, reference will be made to *Jogo* [ʤɔɣɔ], as the dialect that is the focus of this research.

1.3 Geographical Location of Banda

The Banda District was carved from the Tain District, and forms part of the forty-six (46) new District and Municipalities created in the year 2012, and the District has thirty-five (35) settlements, as stated in the Ghana Housing and Population Census, of the Ghana Statistical Service (2014).

Its population was estimated at 45,000 as of 2010, according to the Ghana Statistical Service (2012).

The settlements of Banda District, among others, are Banda Ahenkro (Samanãkru), Bungasi, Sanŋwa, Makala, Gbau, Kabrono, all mainly inhabited by Nafanas (Nafaanra people); Kankan and Sasi, mainly inhabited by the Jogos, and in other settlements as Biema and Bofie; then Dompofie (called Kalanyã by the Jogos), mainly inhabited by the Dompos[11], also known as Kalah by the Jogos, and 'Kúló', i.e. secretive, by the Nafanas. The Jogos call the Nafanas as 'Babare', which is in reference to Bambara, i.e. those who refused to pray (see Table 1), and the Nafanas also call the Ligbis as 'Sɔ́ɔlɔ̀', i.e. those who pray.

[11] I have had an exclusive interview with the current Dompo Chief, Nana Shiembor Agba, who on record (on 20th February 2016) told me they are a subgroup of Gonja, and that they were the first settlers of the Banda land. The assertion was mentioned in Blench (2015:1), that he suspects that Dompo is a subgroup of Gonja, as also stated by Stahl (2001:52). A fact which was also confirmed to me in an interview I have had with Alhaji Abubakar Saeed (popularly known as 'Abu Soldier') earlier, on 31st January 2016, in Wenchi. Dompo is affiliated to Guang (Kwa), as suggested by Painter (1966:2).

Fig. 3: Map of Banda District. Source: Ghana Statistical Service (2014:3).

According to the Ghana Statistical Service (2014), the Banda District lies within latitudes 7° and 8° 45` north and longitudes 2° 52` and 0 28` west. In terms of land area, the district covers a total of 2, 298.3 square kilometers out of the region's

size of 39, 558 square kilometers. The district shares boundaries with the Bole District (Northern Region) to the north, Tain District to the south, La Côte d'Ivoire to the east and Kintampo South District to the west.

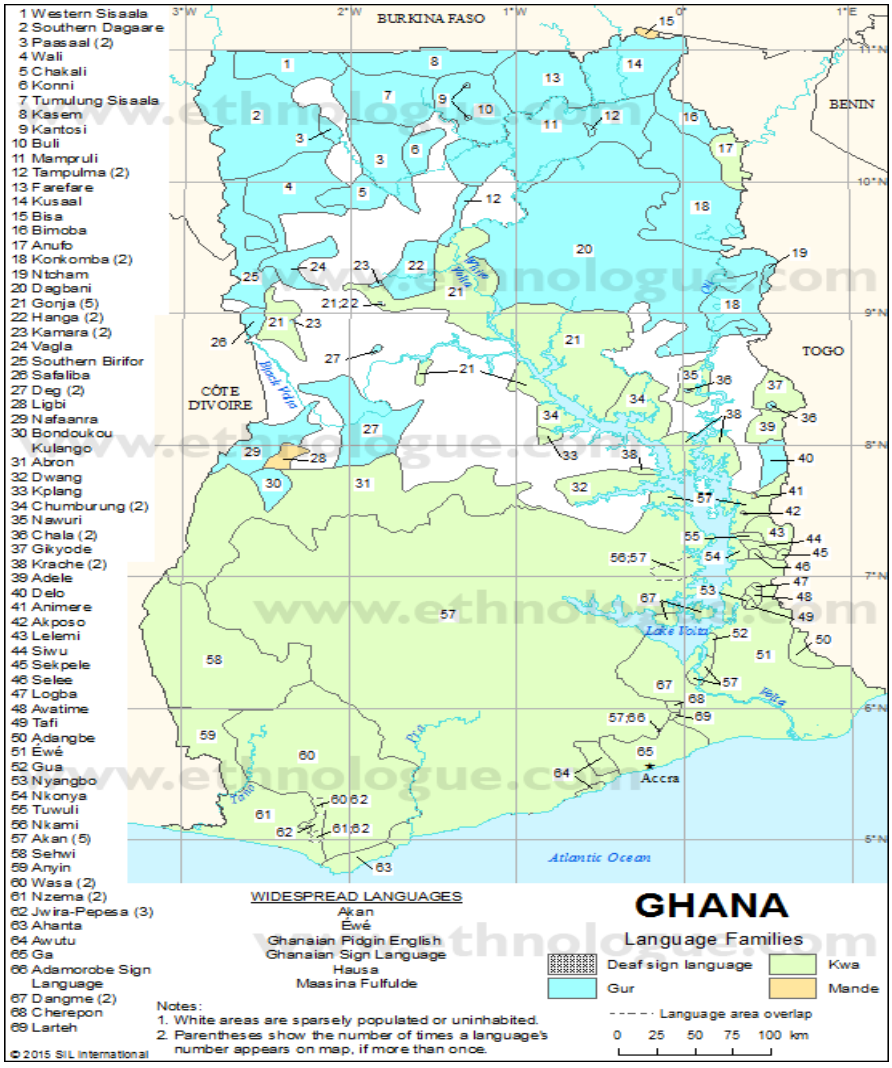


Fig. 4: Language Map of Ghana (Ethnologue: Lewis et al. 2016).

1.4 *Sociolinguistic Status*

The Jogos are mostly traders and they like engaging in the transport businesses as well. Jogos are Muslims, so they observe Islamic rites such as the five daily

prayers, fasting and performing the Hajj (among others), when one can afford it. At Kwametenten, there are muslims and Christian Ntɔlɛh people.

The 2010 Ghana population census (Ghana Statistical Service, 2012) suggest there are approximately 539, 684 speakers of Mande in Ghana. No detail however is given specifically on Jogo, but Lewis et al (2016) estimated it at 15,000, as at 2003.

According to Persson and Persson (1980a, b), quoted by Dakubu (1988:161), the tonal system of Jogo has two contrastive level tones, High and Low. Vydrin (2002:3), however opined that tone has not been described in some Mande languages, including Jogo. The tones, according to Dakubu (ibid), are symbolized by acute and grave accents respectfully, as exemplified in (6).

(6) Two contrastive level tones of Jogo

a. High wúlú wé ya.rè
Lorry DET come.PST
'The lorry has come.'

b. Low wùlú wé wè ya.ra
Dog DET COP come.PROG
'The dog is coming.'

Although tone will not be discussed in this study, it has been observed or discovered that Jogo is a contour language - with a rising tone, to be treated in subsequent publication.

Contour tone, according to Yip (2002:42), contrastive level tones may have four features, divided into two: one the one hand, a 'register' feature [+/- Upper]

divides the pitch range of the voice into two halves. On the other hand, a [+/ -high] feature, which is 'confusingly' referred to as tone feature, sub-divides each register into two and creating four tones. The contour tone falls in the latter description. In the following lexical items (7a-e), they illustrate contour tone - a rising tone LH, as it has been observed in Jogo.

(7) a. kŭ 'corps', b. kă 'snake', c. bŭ 'faeces', d. kŏ̃ 'testicles', e. să̌ 'chief'

With the exception of the H and L tone which bring some lexical difference in meaning, as wùlú 'dog', and wúlú 'lorry/vehicle' among others, none, including the contour tone, brings a grammatical change to a sentence or phrase.

1.5 Statement of the Problem

Kastenholz (1995) did a research on the Tense, Aspect, and Mode of Jogo.

Persson and Persson (1980) did some aspects of the grammar of Jogo, which was actually on the Numu dialect of Brohani. He looked at the word class and phrase structure in Numu.

Dakubu (1976) collected some data along Menji, Kwametenten and Namasa villages. Apart from Kastenholz (1995), not much has been written about the Jogo dialect, let alone the phonology. It is against this backdrop that I wish to conduct this research on some *Aspects of Jogo phonology*.

1.6 Objective of the Study

It is worth noting that to accurately describe a language, in this case an African language, its sound system, syllable structure, the tone, phonological processes and distinctive features need to be established.

The study is conducted within linear approach of generative phonology described in the Chomsky (1968) – The Sound Pattern of English (SPE) framework.

Within the linear phonology, the Phonemic and Distinctive Feature theory is used to describe the phonemes and establish the segmental structure of Jogo, while the syllable and CV Phonology of Clements and Keyser (1983), Katamba (1989), and Kenstowicz (1994) are employed to investigate the syllable structure, consonant and vowel sounds of Jogo.

1.7 Research Questions

1. What are the distinctive features of Jogo sounds?
2. What is the syllable structure and syllable type in Jogo?
3. Which phonological processes occur in Jogo?

1.8 Significance of the Study

Though there has been few works done on Jogo, it is very scanty.

Persson (1980b) did some grammatical analysis of the language. A thorough description of the language on the phonology of Jogo has not been done.

It is against this background that I wish to conduct this research, which is descriptive in nature.

This research will be useful for future linguistic researchers, students, and the speech community that could benefit from it as the language could be learnt in schools and thereby preserved.

1.9 Source of Data

The data of this work is mainly obtained from primary source. Secondary source, however, on the phonological aspect of Jogo is scanty. I have gathered data from experienced native consultants. Apart from Banda and Wenchi where I conducted my field work, I have also been at Menji, Kwametenten, Namasa, and Brohani to collect data with a 200-item Swadesh wordlist, for a comparative study of the dialects.

Data was collected by recording, with a digital recorder, sentences from well experienced native speakers. In other words, qualitative research method was used.

Ethical as well as human subject issues were taken into consideration, where permission was sought from the Chief of the village or town, who suggested names of individuals who are good consultants. In addition, as a native speaker, my intuitive knowledge of the language was used. Permission was also sought before recording conversations.

The consultants comprise eight (8) males and six (6) females of varying ages.

1.10 Data Collection and Methodology

This section explains the mode of data collection and reasons for the choice of such an approach. The data is mainly derived from primary sources.

Firstly, I gathered data with the Summer Institute of Linguistics African Word List (SILCAWL2), which comprises one thousand and seven hundred (1700) words. A digital recorder was used for recording my data.

Two native speakers, who are students of the University of Ghana, resident on Legon campus, i.e. Mr. Abubakar Saeed Asiba (Level 300-Econs & Maths), and Mr. Ishaq Hamza (L 400 – Social Work), helped me when I started collecting data with the SIL word list.

Data was also collected by interviewing some three women, on how to cook some local dishes, then a group of women, gathered by Chief Massatugu, for some folktales and proverbs, in Banda. Two of my consultants, Nsia Sallah and Mahama (a.k.a 'man pass man') also gave me an idea on issues related to planting yam in their farms. In Wenchi, two elderly women helped me with data collection with the word list, as well as three knowledgeable natives, in the persons of Alhaji Abubakr Saeed 'Soldier', a World War II veteran; Alhaji Adam Usman 'Abban', a cattle trader to Mali and former driver of State Housing Corporation; and Alhaji Abdulai Zakari (a.k.a Massabutu), not forgetting Alhaji Salia Mahama (Fiewura).

Then, much earlier, I created a WhatsApp platform, called 'Jogo Diaspora', with members who can suggest ideas on the Jogo language, or from whom I can obtain supplementary data. There are two other platforms, namely '1st National Banda Community' and 'National Banda Alliance', where conversation is mostly had by sending audios to the platform, on issues under discussion and information related to the community.

Finally, data from recorded FM programme was also obtained from Alhaji Mahama Iddrissu, regular host of a programme in Jogo on Royal 104.7 FM, which is aired every Sunday evening in Wenchi, in the Brong Ahafo Region.

The data was then transcribed and analyzed by me, as a native speaker. I made sure that any secondary source quoted is fully acknowledged accordingly. I made comparison of data with the one personally obtained from Dean Jordan (S.I.L./GILLBT), who is currently working on a bible project of Ligbi. The orthography is the same except for <ch>, which I substituted with <ky>, a choice made on the basis that the latter was agreed upon in the 1990 Report of the Ghana Alphabet Committee for Ghanaian languages (Bodomo 1997:36-37).

1.11 Thesis Overview

The thesis is divided into five main chapters. The first chapter gives a general introduction about the thesis, the problem statement, the objective of the study, the significance and organization of the study, the objective of the study, then the source of the data and methodology used.

Chapter two takes care of the literature review and the theoretical framework of the study. Chapter three focuses on the sounds of Jogo.

Chapter four takes a look at the syllable and types; syllable structure processes such as elision, epenthesis and reduplication; and some phonological processes such as nasalization, labialization, palatalization, and Homorganic Nasal Assimilation.

Chapter five which is the final part of the thesis which ends it with a conclusion, a summary and recommendations.

CHAPTER TWO

LITERATURE REVIEW & THEORETICAL FRAMEWORK

2.1 Introduction

This chapter contains the literature review, and the theoretical framework adopted to conduct this research.

Jogo being a Mande language, it has resemblance with other Western Mande languages as Dyula (Wangara) and Bambara, among others, and may have some similarities and divergence in many respects.

The first step in the phonological analysis of a language is to identify all of its basic speech sounds and the minimal units that serve to distinguish words from each other (Ladefoged 2003).

As Kenstowicz (1994:57) will put it, '[w]hen generative linguists study the phonology of a language, they try to discover three kinds of generalizations'. They first look for regularities that help to define the language's inventory of phonological elements, which consist of its vowels, consonants, syllables, and tones. Secondly, they try to determine the pattern of distribution of those elements in the language representations, whether they appear at word-initial, word-medial or word-final positions. And finally, they also investigate alternations in the shapes of morphemes and variant pronunciations of words within a sentence. In the final analysis, the regularities of the study will sum up of as assumed to be the joint product of the principles and parameters of Universal Grammar and the rules and representations that develop through the course of language acquisition. In other words, to accurately describe the phonology of a language, it is important to know what the segmental structure, the syllable structure and other phonological processes in the language are; how they are organised; and how they behave within and across words.

Therefore, the syllable, the syllable structure process and some phonological processes and their nature will be discussed using the syllable as a unit of organisation.

All the basic speech sounds will be identified and put into minimal pairs to establish the phonemic inventory.

2.2 Literature Review

In previous literature, many other names were used to refer to the Jogo language. Some of them are Nigwi, Ligbi, Numu (Ntɔlɛh)/AtumfoɔKasa, Huela/Wela, Dwera and Gyogo (Westermann & Bryan 1952:36).

Westermann and Bryan (ibid) have it that Ligbi is either referred to as *Banda* by Europeans (this being the name of part of their country, i.e Ghana), near Bondoukou, or called *Ligbi kpira* which is a dialect spoken north of Séguela at Koradougou, in la Côte d'Ivoire.

It is further stated by Westermann and Bryan (1952), that in the Bondoukou area, including Soko, dialects of Ligbi are either known as Wélakan or Numu Kpera (language of blacksmiths).

In Ghana, however, the language has three dialects, and they are referred to as Jogokpra, Wélakã, and Ntɔlɛh or Ntɔgɔlɛh, as the natives prefer to call their respective dialects. Painter (1966:2), however, lumped all the dialects together as Ligbi, and rather refer to the people as Jogo. Dakubu (1976:71) also quoted Goody (1964) as having said that all Ligbi speaking groups use the name 'Gyogo'.

With a Swadesh 100-wordlist, Painter's (1966) did a comparative study among languages spoken in Banda. None of the languages are related in terms of sub-classification, though they all belong to the Niger-Congo macro family.

In reference to Painter's (1966) work, Dakubu (1976:64) admits that none of the people from the villages around Hani, call their language Ligbi, as they have their own variety of Ligbi, as she stated: '… many of the villages speak a language I will call (following Painter) Ligbi, although none of the villages near Hani call it that, and no two of those that speak it use the same name for their own variety of it.'

Dakubu (1976) gave an historical account of the language, as stated in Delafosse (1904), Tauxier (1921) and Goody (1964). Dakubu (1988) stated that Jogo has seven vowels. An inventory of the alphabet was not given. It was also indicated in Dakubu (1988) that Jogo has two contrastive level tone.

According to Kastenholz (2001:52), Jeri-kuo which has a direct genetic relation with Jogo is spoken in seventeen (17) villages in and around Korhogo, in the north of la Côte d'Ivoire.

Sigismund Koelle (1854) first came up with the hypothesis of classifying Mande in the Niger-Congo phylum. Since then, the classification has been disputed and undergone modifications. Greenberg' (1963) classification has been universally supported. Another view expressed on classification:

> There are at least four approaches proposed respectively by Pozdniakov (1978), Grégoire & de Halleux (1994), Kastenholz (1997), and Vydrin

(2009a) of which the latest seems to us the most accurate from the comparative method standpoint. It places the South Western Mande group as a part of a larger Western Mande branch, (Babaev 201

In a field report, Persson and Persson (1980) did a sketch of the grammar of Ligbi. Persson and Persson's work was on the 'Word Classes and Phrase Structure of Ligbi', and specifically a dialect called Ntɔgɔlɛh by the indigenes from Brohani, which was referred to as Numu by Delafosse (1904) and Tauxier (1921).

Kastenholz (1995) wrote on the Tense, Aspect, and Mode (TAM henceforth) of Jogo. Kastenholz (1995:49) was honest in his paper on the TAM-system of Jogo, as he stated: 'Nevertheless, far from having carried out research on Jogo grammar properly speaking, my occasional labelling of function of a given TAM element in that language *must be regarded as provisional*' (emphasis mine). In Kastenholz's (ibid) paper, the following table was proposed:

Table 5: phonologically conditioned allomorphs

Verb root or stem	**Past**	**Non-past**
CVn	-ni	-ŋɔ, -ɔ
CVCVn	-nɛ	-ŋɔ, -ɔ

CVlV	CVl-ɛ	-ɔ
CVrV	CVt-ɛ	-ɔ
CVgV	-rɛ	CVkɔ
Other CVCV and CV	-rɛ	-wɔ, -ɔ

I have noticed to a large extent, the table on the TAM to be well-formed, except the use of *ni* to express the past tense for Jogo. The suffix *ni* could be from the other dialects (Weila, Nɔtlɛh or Ntɔgɔlɛh -Numu), as Kastenholz clearly stated that he 'collected texts in this language in the course of fieldwork carried out in the frame of a dialectological survey'.

2.3 Theoretical Framework

This section explains the theoretical framework used for this study. This study employs two phonological frameworks. Chomsky and Halle's (1968) linear phonology, or the Distinctive Feature theory of the Sound Pattern of English, replicated in Katamba (1989), and Hayes (2009), which is employed to analyze the phonemes and the syllable of the Jogo language.

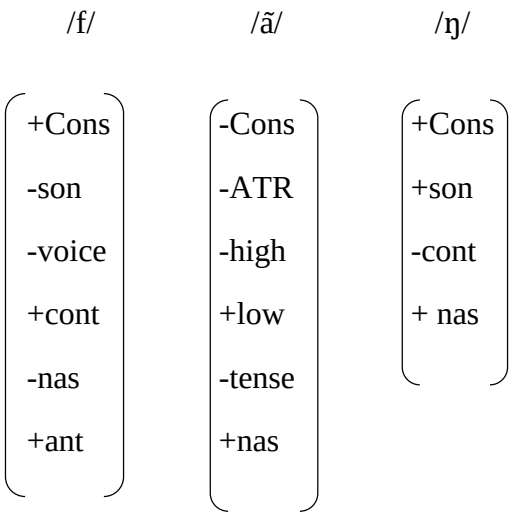
Although tone will not be discussed in this thesis, the non-linear and autosegmental framework will be used to explain tonal issues.

Similarly, the Feature Geometry (Kenstowicz 1994, Clements & Keyser 1983) is used to describe the phonetic and classification of vowels and consonants of Jogo.

2.3.1 The Linear Phonological Framework

Linear phonology is a classical generative phonological theory, proposed in Chomsky and Halle (1968)'s Sound Pattern of English (henceforth S.P.E.), in which sounds are represented as underlying units (segments), each defined by a matrix of distinctive features, with each column representing a single segment. The Distinctive Features of the SPE will be discussed further after the section on Phonological Rules. The representation of the noun or utterance */fãŋ/* 'dance' will look as follows:

Fig 5: Linear Representation of /fãŋ/



The features of the segments above, show that they are ordered linearly and within each segment, the features are not arranged in an orderly way. Linear phonology helps us generalize natural occurring phenomena and to formulate predictions about the behavior of sounds belonging to the same class. Despite the advantages mentioned concerning linear phonology, it has inadequacies when it comes to tone representation.

For instance if the /à/ in / fằŋ/ has a low tone, it will be represented linearly as follows:

Fig. 6: Linear Representation of Tone

/à/

-cons
+back
-low
-tense
+LOW

The feature [+LOW] in Fig. 6 represents tone. The linear phonology may not be able to account for complex sounds that combine different articulatory parameters such as labial-velars /gb/, /kp/ and the affricate /ʧ/, which is a single sound. As stated earlier, linear phonology is cumbersome in tone representation.

Though the Jogo language was said (Dakubu 1988:161) to have two contrastive level tones, I have discovered that it also has rising tone, for that matter Jogo is a contour tone language. The following figure 7, it illustrates tones in Jogo:

Fig 7: Linear Representation of Tone in Jogo

a. à b. á c. ă

a. à	b. á	c. ă
-con	- con	- con
-back	-back	-back
- rd	- rd	-rd
-H tone	+low	+low
+low	+H tone	+rising

2.3.2 The Non-linear Phonology Framework

The linear framework has some inadequacies, in that it is unable to adequately capture tones and other phonological phenomena that are prosodic in nature, such as nasal, voice and so on. For that matter, the linear framework was upgraded to the non-linear framework, propounded by the likes of Leben (1973), Goldsmith (1976), and Williams (1976). The nonlinear framework, operates on some conditions and principles as follows:

The Skeletal Tier, Linkage Condition, Universal Association Convention, Obligatory Contour Principle and Well-Formedness Condition.

To correct the inadequacies of the linear framework, it is replaced with the nonlinear framework whose point of interest is that tones and segments are realized on separate independent tiers.

In the following figure 8, the independent tier is illustrated:

Fig. 8: Independent Tier Representation

Segmental tier kpùɔkàná ‘heel’

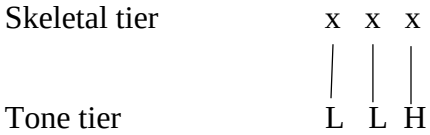


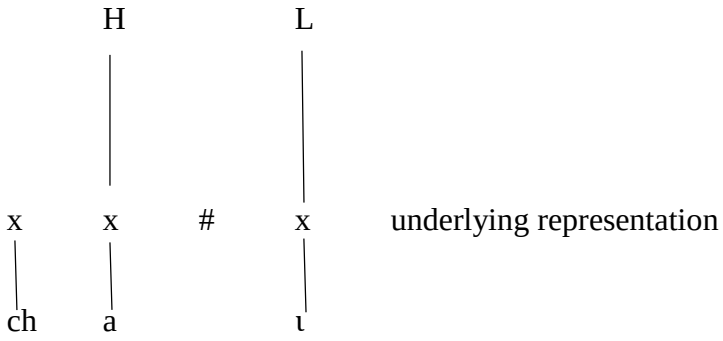
Figure 8 above shows that the segments are in a separate tier from the tones, but they are linked together through the association lines via skeletal tier. Tones is not going to be discussed in this work.

Abdul-Aziz (2015:29) states that tone stability occurs in Waali. As linear phonology uses rule ordering to solve a problem, in case linear is unable to solve a tone representation, nonlinear phonology can use tier representation, from other principles mentioned above, to represent tone stability as follows:

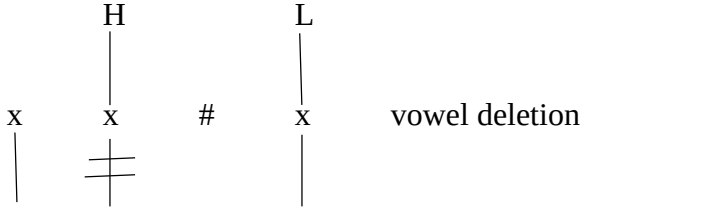
P-Rule 1. Nonlinear Representation of Tone Stability

chá + ì → chî

‘but’ ‘you’ ‘but you’



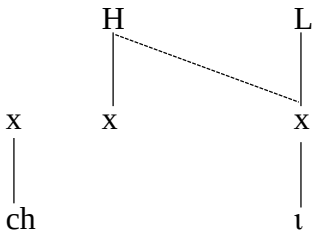
underlying representation



vowel deletion

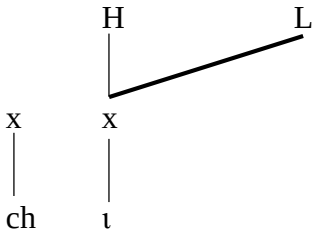
ch a ɪ

The vowel /a/ is deleted but the tone remains



shifting to tone location

The tone on deleted segment re-associates with the adjacent Tone Bearing Unit



Surface Representation

With rule 1 above, Abdul-Aziz (2015:30) explains that there is evidence that the Tone Bearing Unit is on different level from that of the tone, so one can do without the other and vice versa. Abdul-Aziz (2015:31) concludes that in that instance, tone stability cannot be catered for by linear phonology.

2.4 Levels of Phonological Representation

For the purpose of this thesis, two levels of phonological representation are used: the phonological representation, in other words the underlying representation, which is known by native speakers, then the second level is the phonetic representation, which represents what is spoken and heard. In a phonetic representation, according to Crystal (2008), for instance, ‘an utterance might be analyzed in terms of a matrix where the various rows are labelled by phonetic

features and the columns are successive segments'. In example (9), the level of representation used for this thesis is illustrated as follows:

(9) Levels of Representation of 'tell' (English)

a. phonetic representation: [t^h ɛl]

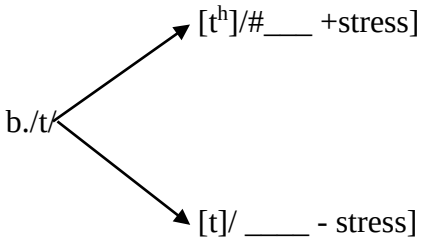
b. phonological representation: /tɛl/

The underlying representation of the word 'tell' in (9b), is the abstract aspect of /t/, i.e. what the native speaker utters, but the phonetic representation in (9a), guides its pronunciation as [t^h].

The representation will culminate in the formulation of the following rule:

P-Rule 2: Representation Rule

a. /t/ → [t^h] / # ___ [+stress]



Rule 2b indicates that each level (phonemic and phonetic) states the distribution of the element, as [t^h] occurs at the onset of a stressed syllable, while [t] occurs elsewhere.

It is therefore worth noting that ordered phonological rules govern how underlying representation is transformed into the actual pronunciation or the surface form.

2.5 Phonological Rules

In generative phonology, a phonological rule is a set of descriptive statements summarizing one's observations, as generative rules are predictive, expressing a hypothesis on the relationship between sentences which will hold for the language as a whole, and which reflect the native speaker's competence (Crystal 2008:420). As far as Hayes (2009:142) is concerned, some rules evidently apply in environments that are defined phonemically, rather than phonetically.

For instance, Katamba (1989:120) considered the rule of final consonant deletion in French as illustrated in Rule 3:

Rule 3: Final Consonant Deletion Rule

$$[+\text{cons}] \rightarrow \emptyset / \_\_\_\_\_ \begin{Bmatrix} C \\ \# \end{Bmatrix}$$

In Rule 3, the notation is explained as follows:

(a) ∅ stands for *zero*, which means the segment is deleted,

(b) # stands for *word boundary*,

(c) the *curly brackets* { } indicate alternatives; here deletion of a consonant occurs **either** before a consonant or before a boundary at the end of a word.

In another instance of rule ordering, Katamba (ibid) illustrates the case of vowel nasalization. The vowel nasalization rule is shown below in Rule 4:

Rule 4:

$$V \rightarrow [+\text{nasal}] / \_\_ \begin{matrix} C \\ [+\text{nasal}] \end{matrix} \begin{Bmatrix} C \\ \text{💬} \end{Bmatrix}$$

#

The following words were given to illustrate rule in rule 4 above:

a. [fɛ̃] <fin> ‘end’

b. [dã] <dans> ‘in’

c. [fɛ̃] <faim> ‘hunger’

d. [ɔ̃] <on> indef.Pron. ‘one’

A formal phonological rule, according to Katamba (1989), consist of the following:

(a) the *input*, which states the sound or sounds affected by the rule;

(b) the *arrow*, means 'is realized as 'or 'becomes' ;

(c) what occurs to the right of the arrow is the *output* of the rule;

(d) following the output, there is a diagonal line ' / ' to the right of that line is the *environment*, the line which forms part of the environment shows precisely where the changed segment is located;

(e) brackets around an element like (C), to indicate an element is optional.

The main types of phonological rules are in four parts (types): assimilation, dissimilation, insertion and deletion.

Katamba (1989:120) recommends that the distinctive feature should always be used in the formal statement of rules. On that note, as stated earlier, the next section is going to discuss the distinctive features of the Sound Pattern of English (SPE), propounded by Chomsky and Halle (1968).

2.6. Distinctive Features

Distinctive features, are ‘acoustically-defined phonological features with a set of features that have, in most cases, articulatory correlates’ (Katamba 1989:42). Distinctive Features is also explained as follows:

> It refers to a minimal contrastive unit recognized by some linguists as a means of explaining how the sound system of languages is organized. Distinctive features may be seen either as part of the definition of phonemes, or as an alternative to the notion of the phoneme, (Crystal 2008:151)

The SPE features are binary, as they are assigned two values, either (+) or (-). The major features that will be discussed in Chapter Three (3), among others, are: a) major class feature, b) cavity feature, c) manner feature, d) laryngeal feature.

2.7 Relevance of the Framework

The linear framework of the S.P.E was used to describe basic features of Jogo.

For a language that has not been adequately given basic description in phonology, this framework satisfies the conditions of observational, descriptive, and explanatory adequacy. Clements and Keyser (1983), are of the view that there has been increasing evidence that the exclusion of the syllable is a serious omission in generative phonology, as many phonological rules only receive appropriate formulation in terms of that notion.

2.8 Conclusion

This chapter reviewed existing literature, mostly related to Mandé or Manding languages, and a few on Jogo language, and explained the theoretical framework

used to analyze the data. It also explained the methodology that is used for the study.

The importance of establishing the distinctive features of a language has been explained, as in Clements and Keyser (1983), and the use of feature geometry (Kenstowicz 1994) to describe the vowels and consonants stated.

The essence of phonological rule order has been pointed out, as 'it offers us a way of constraining the power of the model so that only those operations that are possible in human language are catered for' (Katamba 1989).

CHAPTER THREE

SOUNDS OF JOGO

3.1 Introduction

This chapter discusses the phonemic inventory, the distribution, and the syllable structure of the Jogo language. As one of the major work to be done on the phonology of Jogo, a dialect of Ligbi, it seeks to provide a comprehensive orthography for the language. The chapter is divided as follows: Section 3.2 looks at vowels and consonants system, Section 3.3 focuses on the phoneme features, Section 3.4 intends to determine the distribution of Jogo phoneme within a word, while Section 3.5 discusses the orthography of the language, Section 3.6 being the last section analyses the distinctive features of Jogo.

3.2 Sounds

Durand (1990:4) states that sounds, which we consider as tokens of identical phonemes can really be different according to their position within a word.

The sounds of Jogo are described in the following section

3.2.1 Vowels

Vowels are 'sounds articulated without a complete closure in the mouth or a degree of narrowing which would produce audible friction; the air escapes evenly over the centre of the tongue. If air escapes solely through the mouth, the vowels are said to be oral; if some air is simultaneously released through the nose, the vowels are nasal.' (Crystal 2008:517).

According to Dakubu (1988:161), Jogo has seven vowels as follows: /i, e, o, u, a, ɛ, ɔ/

However, the following two observations were made:

a) The phoneme /**e**/, which is rather high and tensed, will be represented as <**é**>, just as the letter is pronounced in French, as in the word 'saut**é**'
b) Two more vowels as follows: / ɪ / represented as <i̲>, and / ʊ / represented as <ù̲>.

Like Waali (Abdul-Aziz 2015:20) which has nine (9) vowels /i, e, o, u, a, ɪ, ɛ, ɔ, ʊ/, Jogo also has nine distinct vowels as follows:

/i, e, o, u, a, ɪ, ɛ, ɔ, ʊ/

For Dagaare (Bodomo 1997), Birfor (Dundaa 2013), Dagara (Kuubezelle 2013), and Waali, cited in Abdul-Aziz (2015:21), all have nine vowels.

In Vydrin and Diané (2014a: 4) and Vydrin and Konta (2014b: 24), they posit that *ŋ́* (POSS 1SG) takes the place of a vowel. In Jogo, the High tone could also be

considered on the non-syllabic velar nasal < *ŋ́*> '1SG', to make a distinction between a simple consonant and a pronoun, as illustrated in (10).

(10) <ŋ́ŋwɔ́> 'my elder brother'

With the above example (10), the lexical item <ŋwɔ́> 'elder brother' already starts with a velar nasal, it will therefore be appropriate that the first velar nasal takes a high tone to indicate that it is a pronoun (here POSS).

3.2.1.1 The Vowel and Phoneme /**i**/

(11) a. A upper high vowel /i/:

The vowel in this case has an acute accent on top of it.

	SET A		SET B	
i)	/ʧíni/ 'male/man'	versus	/ʧɪnɪ/	'nation/country'
ii)	/d**i**/ 'sweet'	versus	/dɪ/	'child/offspring'
iii)	/ʧí**i**ɛ/ 'millet'	versus	/ʧɪɛ/	'basket'
iv)	/s**i**s**i**/ 'chest'	versus	/sɪsi/	'smoke'

b. A lower high vowel phoneme / ɪ /

The vowel is underlined for orthographic representation.

i) /falandɪ/ 'twins'

ii) /walandɪ/ 'young man'

iii) /ʧíndɪrɪ/ 'boy'

iv) /ɲandɪrɪ/ 'girl'

3.2.1.2. The Phoneme /e/

(12) An upper mid vowel phoneme /e/

The vowel in this case has an acute accent on top of it.

i) /si**e**/ 'meat'

ii) /bi**e**/ 'be sated/ satiated'

iii) /j**e**li/ 'bone / egg'

iv) /ʧi**e**/ 'moo

3.2.1.3. The Vowel Phoneme /ɛ/

(13) A lower mid vowel phoneme /

i) /bɛrikɛ/ 'beatings'

ii) /gba:rɛ/ 'dried/fierce'

iii) /jɛgbaga/ 'jaw'

iv) /tɛntɛrɛŋ/ 'stumble'

3.2.1.4. The Phoneme /o/

(14) a. A high vowel phoneme /o/

The vowel above has an acute accents on top of it for an orthographic representation.

i) /tur**o**/ 'thirty'

ii) /t**o**rí/ 'toad/frog'

iii) /f**o**ri/ 'crocodile'

iv) /gbu**o**/ 'knee'

b. A lower vowel/phoneme /ʊ/

i) /turʊ/ ‘sell’

ii) /jutʊ/ ‘maize food’=TZ

iii) /tʊ/ ‘food’

iv) /dugʊ/ ‘earth/ground’

3.2.1.5. The Phoneme /u/

(15) a. /t**u**r**u**/ ‘iron’

b. /b**u**l**u**/ ‘return’

c. /ʤ**u**g**u**/ ‘grow’ (weed or hair)

3.2.1.6. Nasalized Vowels

Nasal sounds (including nasal vowels) are produced with a lowered velum which allows air to escape through the nose (Chomsky and Halle 1968:316). The nasality is represented with a ˜ (tilde sign) on top of the vowel.

Making claims about positional difference between corresponding elements in the oral and nasal vowel systems have been more controversial (Ohala and Jaeger 1986:46). Ohala and Jaeger (1986) explain that the controversy or claims has to do with the diachronic versus the synchronic process of nasalization. The synchronic process is explained with an example in French *finir/fin* – exhibiting an /i/ ~ /æ̃/ alternation, which is produced by successive mergers to a lower vowel, first of oral mid front vowels before nasal consonants and later by the merger of high and mid nasal vowels. Ohala and Jaeger (1986) tentatively put the diachronic rule to: VN→Ṽ.

Ladefoged (1964:23) is of the view that in order to show that there is a distinction in certain languages between oral and nasal vowels, and between the members of the following pairs, it is necessary to find contrasts between at least three out of the phonetic items CV – C$\tilde{V}$ – NV – N$\tilde{V}$.

The following rule 5 illustrates nasalized vowel in Jogo

On another account, Creissels (1989:40) agrees that there is a challenge with nasalization of vowels in some Negro-African languages. He concedes that in some cases, it happens that a nasal consonant automatically transmits its nasality, in the following cases:

- immediately to the vowel that follows it
- immediately to the vowel that precedes it, in sequence VN, where V and N belongs to the same syllable (as it is the case of Soso language). Creissels suggest that many West African languages have the following vocalic system:

  /ĩ, ɛ̃, ã, ɔ̃, ũ/

Nasalized vowels in Jogo are as follows

/ĩ, ɛ̃, ã, õ, ɔ̃, ũ, ʊ̃/

(16) Examples of nasal vowels

	SET A		SET B	
a.	[kp**ã]**	‘death’	[kpa:]	‘scar/wound’
b.	[b**ɛ̃**ŋ]	‘meet/meeting	[beŋ]	‘uncle’

c. [gb**õ**ŋ] ‘thief’ [gboŋ] ‘stool/seat’

d. [s**ɔ̃**ŋ] ‘heart’ [suŋ] ‘nose’

e. [s**ũ**ŋ] ‘horse’ [suŋ] ‘nose’

f. [ʧ**ĩ**] ‘breast’ [ʧyi:] ‘rain’

g. [k**ʊ̃]** ‘testes’

The examples in (16) Set A illustrate nasalized vowels.

3.2.1.7 Long Vowel

It has been observed that Jogo has about three long vowels, which could bring about a difference in meaning, in some cases. Example (17) shows these long vowels in words

(17) a. a - aa /t**a**ga/ ‘go’ /t**a:**/ ‘fire’

b. i– ii /n**i**/ ‘offspring/child’ /s**i:**/ ‘tribe’

c. í- íí /ʧ**i**/ ‘arrive’ /ʧ**i:**/ ‘rain’

d. ĩ-ĩĩ /ʧ**in**/ ‘squirel’ /ʧ**i:n**/ ‘folktales’

Although tone is not going to be discussed in this thesis, it is worth mentioning its occurrence in Jogo, for further analysis in future works. In the meantime, words such as kŭ ‘corpse’, kă ‘snake’, bŭ ‘fecal matter’, să̌ ‘chief’, ɔ̌ ‘yes’, kpă ‘wound/sore’ have been noticed, indicating that Jogo is a contour tone language.

Table 6**.** The Vowel Chart of Jogo

	FRONT	CENTRAL	BACK

	[+ATR]	[-ATR]		[+ATR]	[-ATR]
High	i	ɪ		u	ʊ
Mid	e	ɛ		o	ɔ
Low			a		

3.2.2 Consonants

The Jogo language has twenty-seven consonants (27). They include stops: /ɓ, t, d, k, kp, ɠ, ɠb/; fricatives: / f, s, z, h, ʃ, ʒ, ɣ /; affricates: /ʤ, ʧ/; then sonorants such as nasals:

/m, mw, n, ɲ, ŋ, ŋw/; liquids: /l, r/; and glides / w, j/

3.2.2.1 Nasal consonants

Nasals, as shown earlier, are six in Jogo, as follow: /*m, n, ɲ, ŋ*/, and /mw, *ŋw*/. The nasalization as a process will be discussed further in Chapter four, under phonological processes.

Table 7**.** Phonem[illegible]art of Jogo consonants

	Bilabial	**Labio-dental**	**Aveolar**	**Palato-alveolar**	**Palatal**	**Velar**	**Labio-velar**	**Glottal**
Stop -	p		t			k	kp	
+	b		d			ɠ	ɠb	

Fricative – +		f	s z	ʃ		 ɣ		h
Affricate – +				ʧ ʤ				
Nasal	m		n		ɲ	ɴ	ŋw mw	
Glide/semi-vowel					j		w	
Lateral			l					
Flap			r					

3.3. Minimal pairs

According to Crystal (2008:307), a minimal pair test is a procedure conducted by linguists to determine which sounds belong to the same class, or phoneme, as in English *bin* vrs *pin*, *cot* vrs *cut*; and that 'a group of words differentiated by each having only one sound different from all others, for instance, *big*, *pig*, *rig* is sometimes called minimal set.'

The following minimal pairs of vowels have been observed in Jogo, as illustrated in (18-21).

3.3.1 Vowels

(18)

/i/	/ɪ/
a. /ʧel[illegible]ath’	/ʧɛl**ɪ**/ ‘husband’
b. /ni/ ‘here’	/n**ɪ**/ ‘if’
c. /di/ ‘sweet’	/d**ɪ**/ ‘child’
d. /kpie[illegible]od’	/kp**ɪ**ɛ/ ‘white’
e. /fie/ ‘forest’	/f**ɪ**ɛ/ ‘calabash’
f. /ʧie/ ‘moon’	/ʧ**ɪ**ɛ/ ‘basket’

(19)

/e/	/ɛ/
a. /kpie/ ‘god’	/kpɪ**ɛ**/ ‘white’
b. /fie/ ‘forest’	/fɪ**ɛ**/ ‘calabash’
c. /ʧ**e**li/ ‘oath’	/ʧ**ɛ**lɪ/ ‘husband’
d. /ʧie/ ‘moon’	/ʧɪ**ɛ**/ ‘basket’

(20)

/u/	/ʊ/
a. /turu/ ‘iron’	/t**ʊ**r**ʊ**/ ‘sell’
b. /funu/ ‘dust’	/f**ʊ**n**ʊ**/ ‘a bark’

c. /tugu/ ‘join’ /tʊgʊ/ ‘pot’

d. /fugu/ ‘blind’ /fʊgʊ/ ‘flour’

e. /bulu/ ‘return’ /bulʊ/ ‘hand’

(21)

	/o/	/ɔ/
a.	/koɣo/ ‘tortoise’	/kɔgɔ/ ‘argument/ deny’
b.	/fori/ ‘crocodile’	/fɔri/ ‘pinch’
c.	/togo/ ‘keep silent’	/tɔgɔ/ ‘name’
d.	/wogo/ ‘crab’	/wɔgɔbi/ ‘rummage’

In Jogo, minimal pairs of consonants observed are as follows in example (22):

3.3.2 Consonants

(22) a. /**p**a:no[12]/ ‘bread’ /**ba**:no/ ‘goats’

b. /**t**a:/ ‘fire’ /**d**a:/ ‘mouth’

c. /**k**an/ ‘mistake’ /**g**an/ ‘half’

d. /**kp**an/ ‘build’ /**gb**an/ ‘room’

e. /**f**anŋ/ ‘dance’ /**s**anŋ/ ‘fight/war’

f. /**m**ɔgɔ/ ‘person’ /**n**ɔgɔ/ ‘taste’

[12] Dakubu (2012:30) has it that the word is originally from Portuguese, and adopted by other Ghanaian languages, such as Akan and Ga, and also adopted by Jogos.

g. /**ŋ**an/ ‘lost’ /**ɲ**an/ ‘woman’

h. /**ŋw**ɔ/ ‘elder brother’ /**mw**ɔ/ ‘cook’

i. /**ɲ**aga/ ‘nest’ /**j**aga/ ‘sit’

j. /**w**ie/ ‘bath’ /**j**ie/ ‘send someone’

k. /**ʧ**ĩnʃan/ ‘confused’ /**ʤ**indʒan/ ‘spill/spread’

l. /fo**l**i/ ‘throat’ /fo**r**i/ ‘crocodile’

3.4. Distribution of phonemes within a word

3.4.1 The Stop Consonant Phonemes

The stop consonants in Jogo are eight (8). As indicated in table 7, the stops are /p, b, t, d, g, k, kp, and gb/ which occur randomly in word initial, medial and final position. In the examples below, are the distribution of each phoneme mentioned earlier.

3.4.1.1 The Phoneme /p/

(23) a. Word Initial

/**p**rugoŋkɛ/ ‘swim’

b. Word medial

/da**p**ata/ ‘stink bug’ (halyomorpha halys)

c. Word final

/pa**p/** ‘onomatopoeia’ (of a fleeting object /person)

The voiceless bilabial stop /p/ occurs in full- in all positions.

3.4.1.2 The Phoneme /b/

(24) a. word initial

/**b**iɛga/ ‘animal’

b. word medial

/bila**b**ila/ ‘firefly’

c. word final -Ø

The voiced bilabial stop /b/ occurs in word initial and word medial only.

3.4.1.3 The Phoneme /t/

(25) a. word initial

/**t**iɛnkɛ/ ‘to sneeze’

b. word medial

/ ʤa**t**erikɛ/ ‘to think’

c. word final -Ø

The voiceless alveolar stop /t/ occurs at word initial and word medial. It does not occur at word final.

3.4.1.4 The Phoneme /d/

(26) a. word initial

/**d**elikɛ/ ‘request’

b. word medial

/la**d**iri/ ‘advice’

c. word final - ∅

The voiced alveolar stop /d/ occurs at word initial and word medial only. It does not occur at word final.

3.4.1.5 The Phoneme /ɡ/

(27) a. word initial

/ɡan/ ‘ranch/ pen’

b. word medial

/ ʤoɡori/ ‘uncle’ (younger)

c. word final - ∅

The voiced velar stop occurs at word initial and word medial only.

3.4.1.6 The Phoneme /k/

(28) a. word initial

/**k**akali/ ‘lies’

b. word medial

/ʤaran**k**ara/ ‘pains’

c. word final - ∅

The voiceless velar stop occurs at word initial and word nasal only.

3.4.1.7 The Phoneme /kp/

(29) a. word initial

/**kp**iŋ **kp**iɛ/ ‘white stone’

b. word medial

/ma**kp**iantɔ/ ‘lazy person’

c. word final -∅

The voiceless labio-velar stop /kp/ occurs at word initial and word medial only.

3.4.1.8 The Phoneme /gb/

(30) a. word initial

/g**b**a: g**b**uŋ / ‘short wood’

b. word medial

/gboŋ *si*g***b****a/* ‘three stools’

c. word final - ∅

The voiced labio-velar stop /gb/occurs at word-initial and word-medial only.

3.4.2 Fricatives

3.4.2.1 The Phoneme /f/

(31) a. word initial

/**f**unʊ/ ‘bark’ (of tree)

b. word medial

/ma**f**ala/ ‘seven’

c. word final ∅

The voiceless labio-dental fricative /f/ occurs at word initial and word medial only.

3.4.2.2 The Phoneme /s/

(32) a. word initial

/**s**anŋ/ ‘fight’

b. word medial

/wan**s**o/ ‘be proud’

c. word final ∅

The voiceless alveolar fricative /s/ occurs at word-initial and word-medial only.

3.4.2.3. The Phoneme /z/

The voiced alveolar fricative /z/ occurs in loan words only.

3.4.2.4 The Phoneme /ʃ/

Words with the voiceless palato-alveolar fricative / ʃ / is rare in Jogo. Words with such a consonant are loan-words from Arabic, English or other languages, as in the case of /h/.

The only word found in Bambara *shyéere* ‘witness’ (Bailleul et al: 2017) with its equivalent in Jogo as *sìɛrɛ*.

(33) a. word initial

/ʃeitan/ ‘satan’

b. word medial

/ajʃa/ ‘first name of a female person’

c. word final Ø

The voiceless palato-alveolar fricative / ʃ / occurs in word initial and word-medial only, and are found in loanwords, as stated earlier.

As observed by Dakubu (1988:161), my data also confirms that the phonemes /h, z, ʃ/ occur in loanwords.

3.4.2.5. The Phoneme /ɣ/

(34) a. word initial Ø

b. word medial

/koɣo/ ‘tortoise’

c. word final Ø

The voiced velar fricative /ɣ/ occurs in word-medial only

3.4.2.6 The Phoneme /h/

(35) a. word initial

hakila ‘mind’

b. word medial Ø

c. word final ∅

The voiceless glottal fricative /h/ occurs in word initial and word medial only.

3.4.3 Affricates

3.4.3.1 The Phoneme /ʤ/

(36) a. word initial

/ʤan/ ‘tail’

b. word medial

/baraʤí/ ‘blessings’

c. word final ∅

The voiced palato-alveolar affricate /ʤ/ occurs at word initial and word medial only.

3.4.3.2 The Phoneme /ʧ/

(37) a. word initial

/ʧini/ ‘man’ (male)

b. word medial

/kamanʧini/ ‘host’

c. word final ∅

The voiceless palato-alveolar affricate /ʧ/ represented as occurs at word-initial and word-medial only.

3.4.4 Nasals

Nasals in Jogo are six (6) and are /m, n, mw, ɲ, ŋ, ŋw/

3.4.4.1 The Phoneme /m/

(38) a. word initial

/**m**oli/ ‘shame’

b. word medial

/wu**m**agba/ ‘wickedness’

c. word final ∅

The bilabial nasal /m/ occurs at word initial and word medial only.

3.4.4.2 The Phoneme /mw/

(39) a. word initial

/mwan/ ‘grandmother’

b. word medial ∅

c. word final ∅

The labio-velar nasal /mw/ occurs at word initial only.

3.4.4.3 The Phoneme /n/

(40) a. word initial

/**n**ambara/ ‘deceit’

b. word medial

/ka:**n**a/ ‘back’

c. word final ∅

The alveolar nasal /n/ occurs at word initial and word medial only.

3.4.4.4 The Palatal Nasal Phoneme /ɲ/

(41) a. word initial

/ɲadiri/ ‘young lady’

b. word medial

/maɲina/ ‘sadness/pity’

c. word final ∅

The palatal nasal /ɲ/ occurs at word initial and word medial only

3.4.4.5 The Velar Nasal Phoneme /ŋ/

(42) a. word initial

/ŋaɲi/ ‘thong/spike’

b. word medial

/loŋga/ ‘drum’

c. word final

/gbuŋ/ ‘short’

The velar nasal /ŋ/ can appear in all the positions, word initial, medial and word final. The velar nasal could syllabic or non-syllabic.

3.4.4.6 The Phoneme /ŋw/

(43) a. word initial

/ŋwon/ ‘elder brother’ N.B. <ńŋwő> ‘my elder brother’

b. word medial ∅

c. word final ∅

The labio-velar nasal /ŋw/ occurs at word initial only

3.4.5 Glides

3.4.5.1 The Phoneme /j/

(44) a. word initial

/jaga/ ‘sit’

b. word medial

/da**j**i/ ‘saliva’

c. word final Ø

The palatal semi-vowel occurs in word initial and word medial only.

3.4.5.2 The Phoneme /w/

(45) a. word initial

/wu/ ‘head’

b. word medial

/wu**w**ulu/ ‘louse’

c. word final Ø

The voiced labio-velar glide occurs in word initial and word medial only. It does not occur in word final.

3.4.5.3 The Phoneme /l/

(46) a. word initial

/landa/ ‘tradition’

b. word medial

/gu**l**u/ ‘debt’

c. word final

/jell/ ‘hole’

The alveolar lateral /l/ occurs in full position- word initial, medial and word final.

3.4.6 The Phoneme /r/

(47) a. word initial ∅

b. word medial

/so**ri**/ ‘squat’

c. word final ∅

The alveolar glide /r/ occurs in word medial only.

3.5 Phonetic Feature Description

The segments of Jogo, like those in other languages, may be construed as containers within which different features are contained. In other words, we may consider the phonemes of the language as being made up of basic phonological features referred to as distinctive features. There is a relatively small inventory of phonetic features from which the language selects different combinations to construct its individual phonemes (cf. Katamba 1989). The sections below discuss the distinctive features of Jogo segment inventory.

3.5.1 Major Class Features

According to Katamba, (1989: 43) “the major class features define the major classes of sounds that are relevant in phonological analysis”. These major class

feature include sonorants and non-sonorants, syllabics (vocalic) and non-syllabics, and consonantal and non-consonantal.

3.5.1.1 Sonorant/Nonsonorant [± sonorant]

Sounds that are articulated with inherent voicing are sonorants whereas, those that are produced with vocal cavity disposition that hinders spontaneous voicing are non-sonorants (Katamba 1989). [+Sonorant] sounds in Jogo are /m, n, l, r, j, w/.

3.5.1.2 Syllabic/Non-syllabic [± Syll]

Jogo Syllabic sounds are those that function as syllable nuclei while non-syllabic sounds occur at periphery of the nucleus. Vowels are syllabic and so are syllabic consonants such as [m] and [n]. Thus, though these nasals are consonants they can occupy the nucleus position of syllables in Jogo. For instance ńjé /n.ʤe/.

Another major class feature to be discussed is Sonorant/Non-sonorant [± sonorant].

3.5.1.3 Consonantal/Non-consonantal [± Cons]:

Consonantal [+Cons] sounds are those that are articulated with various strictures. They include /p, b, m, f, t, d, n, s, z, ʧ, ʤ, ɲ, ŋ k, g, kp, gb, l, w, j, h/.

Non-consonantals [-Cons] are those that are articulated without obstruction of the moving airstream in the oral cavity. Non-consonantal sounds in Jogo are the vowels in the language, /i, ɪ, e, o, a, ɛ, ɔ, ʊ, u/.

3.5.2 Cavity Features

Cavity features constitute those distinctive features that relate to place of articulation. According to Katamba (1989:43), these features specify where in the

oral tracts the active and passive articulators modify the airstream. They are the Coronal, the Anterior and Body Tongue features.

3.5.2.1 [Coronal/Non-coronal]

[Coronals] are feature distinguishes between sounds that are articulated with the tip or blade of the tongue raised towards the upper teeth, alveolar ridge or the hard palate (Katamba 1989). Dental, alveolar, and palato-alveolar consonants are Coronal (Chomsky and Hall 1968:304). Coronal sounds in Jogo include /t, d, s, z/, while non-coronal ones include /p, b, f, v, ʧ, ʤ, k, ɡ, r, j, w/

3.5.3. [Anterior/Non-anterior]

3.5.3.1 [Anterior]

The [Anterior] feature is associated with sounds that are articulated from the palato-alveolar region of the mouth. Labials, dentals, and alveolar are anterior. The [+Anterior] sounds in Jogo are /t, d, s, z, f, p, b, m/.

3.5.3.2. [Non-anterior]

Sounds produced without such an obstruction [Anterior], in that case, are [Non-anterior] (Chomsky and Hall 1968:3014). And the [–Anterior] sounds include /ʧ, ʤ, ŋ, k, ɡ/.

3.5.4 [Labial/Non-labial] Features

Labials describes a sound produced with the involvement of the lips as against those that are articulated without the involvement of the lips. According to Katamba (1989), “a sound is has the feature labial if it is articulated with a stricture that involves the lips.” In Jogo, labial sounds include / p, b, m, f/. Vowel sounds that are produced with lip rounding are also labial sounds. These include /u, o, ɔ, ʊ/. The rest of Jogo phonemes are non-labial. Labial sounds are [Anterior].

3.5.5. Tongue Body Feature [Pharyngeal]

These features describe sounds based on the height of the tongue, part of the tongue that is used and the tenseness of the tongue in the articulation of the sounds. These features are mostly used to describe vowe

[+High/-High] feature is used to describe vowels that are produced by raising body of the tongue very high, beyond the neutral position. High vowels in Jogo include /i ɪ ʊ, u/. The rest of Jogo vowels are [–High].

[+Low/-Low]: +Low vowels are produced with the tongue lying at a level below that which it occupies when at rest. The vowels /a/ is the only [+Low] vowel in Jogo. The rest of the vowels are [–Low]. The vowels /ɔ, ɛ, e, o/ are [–Low] and [–High].

[+ATR/-ATR]: Sounds that are articulated with the root of the tongue pushing forward are described as [+ATR] (Advanced Tongue Root). These Jogo [+ATR] sounds are /i, e, o, u/. The vowels /ɪ, ɛ, a, ʊ, ɔ / are [–ATR] (unadvanced Tongue Root).

[+Round/-Round]: [+Round] vowels are those that are articulated with a rounded lip posture. In Jogo, all back vowels are articulated with a rounded lip and therefore have the feature [+Round]. These [+Round] vowels are / ɔ, o, u, ʊ /. The front vowels on the other hand are produced with a spread lip. These [–Round] vowels in Jogo are /i, ɪ, e, ɛ, a/.

3.5.6. Secondary Apertures

3.5.6.1. [Nasal/Non-nasal]

The nasal sounds are produced with a lowered velum which allows the air to escape through the nasal cavity. These Jogo sounds include /m, n, ŋ /. Non-nasal sounds are those that are articulated with the air escaping only through the oral cavity. These Jogo sounds include / p, b, f, t, d, t, k, ɡ/.

3.5.7. [Lateral/Nonlateral]

The sound /l / in Jogo is a lateral whiles all other Jogo sounds are nonlateral. The lateral sound is produced with the front of the tongue touching the hard palate and the sides lowered to allow the air to escape through the lowered sides.

3.5.8. Manner Feature

Manner of articulation features characterize the way articulators obstruct the airstream during the production of speech sounds. Distinction is made between Continuants and non-continuant sounds [± Cont].

3.5.8.1 [Continuant]

According to Chomsky and Halle (1968:317), continuant sounds are produced when the primary constriction in the vowel tract is not narrowed to the point where the air flow past the constriction is blocked, then in stops, the air flow through the mouth is effectively blocked. Sounds considered as [+Continuant] are plosives, including nasal and oral, the affricates, glottal stops and labiovelars. In a nutshell, the feature describes vocoids.

Vowels such as /i, e, u, o, a, ɛ, ɔ, ĩ, ɛ̃, ã, õ, ɔ̃, ũ, j, w/ have the feature [+ continuant] because the airstream flows without the articulators completely blocking it.

3.5.9 [Released Features]

There are two ways in which a closure in the vocal tract may be released. They are either instantaneous, as far as plosives are concerned, or delayed in the affricates. In other words, those with the feature [+Del Rel] are produced with the stricture of complete closure but the release of the stricture is not spontaneous like observable about stops but rather gradual.

Delay release is another manner of articulation feature that describes certain sounds in Jogo. We can make a distinction between sounds that have the feature [+ Del Rel] and those that are [–Del Rel.]. The sounds / ʧ, ʤ/ have the feature [+Del Rel] while the rest of the sounds have the feature [–Del Rel].

Table 8: Distinctive Features of Jogo Vowels

	i	ɪ	e	ɛ	a	o	ɔ	ʊ	u
High	+	-	+	_	_	+	-	-	+
Low	_	+	_	_	+	_	+	+	_
Round	_	_	_	_	_	+	+	+	+
ATR	+	_	+	_	_	+	-	_	+
Front	+	+	+	+	_	_	-	_	_
Back	_	_	_	_	_	+	+	+	+

3.5.10 Feature Specification for Jogo Vowels

The table below shows the feature specification for the vowels in Jogo.

Table 9: Feature Specification for Jogo Vowels

FEATURE/VOWEL	**i**	**ɪ**	**ĩ**	**e**	**ɛ**	**ɛ̃**	**a**	**ã**	**ɔ**	**ɔ̃**	**o**	**õ**	**ʊ**	**ʊ̃**	**u**	**ũ**
[nasal]			+			+		+		+		+		+		+
[LABIAL]									+	+	+	+	+	+	+	+
[CORONAL]	+	+	+	+	+	+										
[DORSAL]							+	+	+	+	+	+	+	+	+	+
[HIGH]	+		+	+							+	+			+	+
[LOW]		+			+	+	+	+	+	+			+	+		
[PHARYNGEAL]/ [ATR]/ [RADICAL]	+	+	+	+	+						+	+			+	+

Redundant features have been ignored.

Per the feature specification matrix above, the vowels can thus be described as follows:

Feature Geometry Description of Jogo Vowels

i [CORONAL] [high] [RADICAL]

ɪ [CORONAL] [low] [RADICAL]

ĩ [CORONAL] [high] [RADICAL] [nasal]

e [CORONAL] [low] [RADICAL]

ɛ [CORONAL] [low]

ɛ̃ [CORONAL] [low] [nasal]

a [DORSAL] [low]

ã [DORSAL] [low] [nasal]

ɔ [LABIAL] [DORSAL] [low]

ɔ̃ [LABIAL] [DORSAL] [low] [nasal]

o [LABIAL] [DORSAL] [high] [RADICAL]

õ [LABIAL] [DORSAL] [high] [RADICAL] [nasal]

ʊ [LABIAL] [DORSAL] [low] [RADICAL]

ʊ̃ [LABIAL] [DORSAL] [low] [RADICAL] [nasal]

u [LABIAL] [DORSAL] [high] [RADICAL]

ũ [LABIAL] [DORSAL] [high] [RADICAL] [nasal]

3.6 Conclusion

In this chapter, the phonemic inventory and distribution of Jogo were discussed. The orthography suggested was as accurate and descriptive as possible. The chapter was divided as follows:

Section 3.2 looked at vowels and consonants system of Jogo language. In this section, it was established that Jogo has nine (9) oral vowels and twenty-seven (27) consonant phonemes. Section 3.3 focused on the phoneme features. Section 3.4 determined the distribution of Jogo phoneme within a word, and the last section, Section 3.5 analyses the Distinctive Features of Jogo segments.

The phonetic description of the segmental sounds and their classification are based on the Distinctive Feature theory (Chomsky and Halle 1968). The consonants and vowel phonemes of Jogo have been described under the major class, manner and place features such as [LABIAL], [CORONAL], [DORSAL] and [RADICAL].

The study revealed that Jogo has twenty-seven (27) consonants and nine (9) oral vowels, and seven (7) of these have nasal counterparts.

With the distribution of consonant phoneme, it has been observed that, in most cases, they do not occur at word final. The velar nasal <ŋ>, however, occurs at all the positions: word-initial, word-medial and word-final. In the distribution of the vowel phonemes in Jogo, /ɔ/, /u/ and /i/ do not occur at word-initial position. All other vowels occur at word-initial, word-medial, and word-final positions in Jogo.

CHAPTER FOUR

THE SYLLABLE AND PHONOLOGICAL PROCESSES

4. 1 Introduction

This chapter discusses the syllable structure processes and some assimilatory processes in Jogo, such as assimilation, labialization, palatalization, and nasalization are studied. *Assimilation* is when a sound changes one of its features to be more similar to an adjacent sound.

The research also seeks to identify the distinctive features of Jogo. In Linguistics, features that are not regular are unpredictable or distinctive.

The chapter is divided in three parts: the syllables; the syllable structure processes such as elision, and epenthesis; and the assimilatory processes such as nasalization, labialization, palatalization, homorganic nasal assimilation.

4.2 The Syllable

In explaining what a syllable is, Hockett (1958:64) states that in speech production, ‘the lungs are neither quiescent nor loosely exhaling, but are actively pushing air outwards’, and, ‘the force of the pushing varies rhythmically, in a way which correlates with successive units we call syllables.’

In the study of a language, the understanding of syllable is necessary as the basic unit of sound organization. According to Akanlig-Pare (1994:53), syllable structure ‘are often motivated by the need to preserve preferred syllables or to readjust those that are not preferred’. For instance, since CCV is alien to the syllable structure of the Buli language, a vowel insertion is required to break up a

CCV cluster into CVCV. A parallel could be drawn when it comes to Jogo. An Arabic word such as *kurb* 'be near', has become Kurubi[13].

There are divergent views on the syllable which need to be looked at.

4.2.1 Views of the Syllable

It is the view of Hayes (2009:251) that 'the basis on which syllabification is derived must be (partly) language specific', as he gives the following example in Spanish for the numeral 'four':

[kwa]$_\sigma$ [tɾo]$_\sigma$ while in another language as Ilokano (also known as: Ilocano, Iloko, Samtoy), the same word is syllabified as [kwat]$_\sigma$ [ɾo]$_\sigma$

Hayes (2009:252) concludes that, 'such interlinguistic differences, however, are modest; it is the cross- linguistic resemblances that are perhaps more striking.'

On another account, Hockett (1958:86) states that syllables in English are determined by the number and location of peaks. Sequences or clusters, however, of two consonants occurring as onsets often have /l, r, w, j/, as second, in examples such as in *pride, play, dwell.* Hockett (1958:87) adds that, onset clusters of three consonants, which all begin with /s/ and end in /r, l, w, j/, i.e. /spr, str, skr, spl, skl, skw, spj, skj/, in examples such as *spread, stretch, scratch, splash, sclerosis, squelch, spume, skew*.

[13] Kurubi, is a festival celebrated by some Mande people (females only), as Ligbi and Dyula (Wangara), on the 27th day of Ramadan, as a way to get close to Allah, whilst the males are in the Mosque praying for His blessings. But in Wenchi, the date has been changed or rescheduled to the subsequent week after Ramadan, i.e. after the Eid-ul-Fitr celebration.

For the purpose of this work, the two views to be looked at are the sonority and the structural views.

Hayes (2009:77) is of the view that 'every syllable may be said to have a nucleus, which is the most sonorous segment.' He explains further that segments forming the nucleus of a syllable will be classified as [+Syllabic], while the remaining segments in the syllables are classified as [-Syllabic].

From the view expressed above by Hayes (2009:77), the pattern of the sonority should therefore have the sonority hierarchy as follows:

Fig. 9: Sonority Hierarchy (adapted from Hayes 2009:75)

Greater Sonority less sonority

←----------→

Vowels glides liquids nasals obstruents

4.2.2 The Structural View of the Syllable

Hockett (1958:99) explains that 'a syllable consists of a single consonant, plus a single vowel, or of this followed by a single coda consonant; a single consonant between vowels goes with the following vowel as onset, while two consonants between vowels are divided, the former being a coda for the preceding vowel, the latter an onset for the following vowel.'

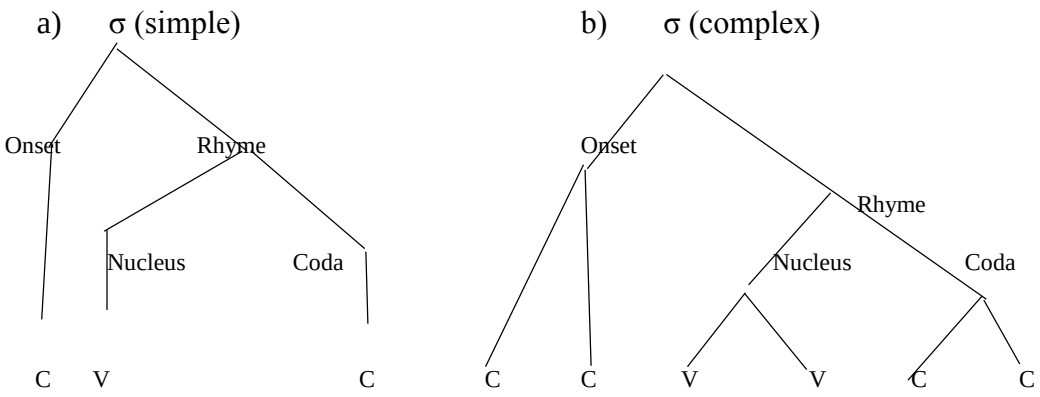
In describing the syllable, Hayes (2009) put it as:

> The **coda** is the consonant or sequence of consonants at the end of a syllable. The **nucleus** of a syllable is the vowel or diphthong found at the syllable's

> core and functioning as its sonority peak (sometimes **peak** is used instead of nucleus). It is obligatory for a syllable to have a nucleus, very common for a syllable to lack a coda, and less common for it to lack an onset
> Hayes (2009:251)

The structure in fig 10 illustrates the internal structure of the syllable.

Fig 10. The Hierarchical Structure of the Syllable



The above illustration shows the internal structure of a syllable, as it is explained in Hockett (1958:99).

Onsets, codas, and interludes (nucleus), according to Hockett (1958:86), vary a great deal in complexity. He explains that ‘zero’ onsets occur, as in *out, in, end, awful, ooze*; and likewise, zero codas occur, as in *filly, window, soda, bah*, and more rarely, zero interludes˜ occur, as in *idea, reality, naïve*.

For the Jogo syllable, the vowels do occur as nucleus, and the consonants in onset and coda positions, in most cases.

4.2.3 The Jogo Syllable and Type

As the literature shows on Mande languages (Dwyer 1974: 61, Williamson 2000:20, Dwyer 1989:54, Creissels 2013:11-12, Vydrin 2004:1-2, and Vydrin & Konta 2014b:29), the syllable structure are typically: V, CV, CV:, CVn, CVŋ (non-syllabic), and disyllabic CVCV, CVCVn, CVNCV, CVNCVN. Green (2015) also suggests that the language permits derived CVV syllables, where an intervocalic velar consonant is removed when flanked by identical vowels.

Green (2015:4) is of the view that in Bambara CCV and CVC syllables are permitted when onset in a CCV syllable or the coda of CVC syllable is a sonorant. The process cited in Green (2010:54-56) is described as 'Split Margin Approach', developed in Baertsch (2002).

The Jogo syllable, when it comes to the past and future tense, give us the following stems, according to Kastenholz (1995): CVn, CVCVn, CVlV, CVrV, CVgV, as stated in Chapter two.

4.2.4 V Syllable

The Nucleus only is either a vowel or syllabic nasal. Whenever a single vowel acts as a syllable, it most often serves as a pre-nuclear margin. The V syllable, which are somehow rare in Jogo, are illustrated in example (48):

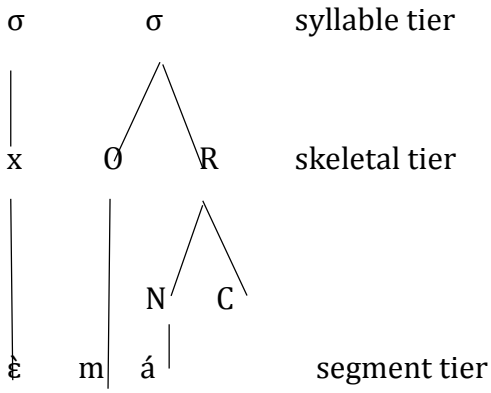
(48) a. à.mo̲no̲ 'we'

b. è.má 'he/she'

c. é .má 'you'

d. ŋ́ 'I or my'

Fig.11: Nonlinear Representation of the V syllable



In Jogo, the bilabial nasal /m/, the alveolar nasal /n/ and the non-syllabic velar nasal /ŋ/ at onset position, is either 1SG, when in front of a verb, or expressing possession, i.e. 1SG. POSS, when placed in front of a noun, as illustrated in (49)

(49) a. [ŋ́.gbarɛ] 'I dried it'

b. [n.niɛ] 'my mum'

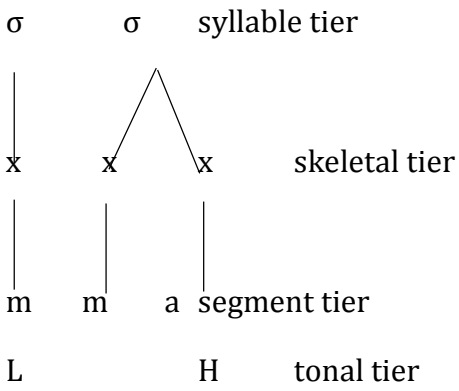
c. [m.beŋ] 'my uncle'

d. [m.mwa] 'my grandmother'

e. [m.ma] 'me/myself'

The Jogo language has some similarity with Waali (Abdul-Aziz 2015:78), in the use of the velar nasal *ŋ́* {49a} and bilabial nasal *m* {49c, d} as pronouns; to some extent with Birfor (Dundaa 2013:74), in the use of *ɛ* {49b} as a past marker; and with Dagbani (Hudu 2014:13, ex13).

Fig. 12: Non-linear Representation of Nasal Assimilation



4.2.5 CV Syllable

The CV syllable is the most common syllable stem in Jogo, as illustrated in example (50) below:

(50) a. [wu] 'head'

b. [sɔ] 'know/enter'

c. [dɪ] 'child'

d. [tu] 'food'

e. [ji] 'water'

f. [ʤi] 'see'

g. [ja] 'come'

h. [sa] 'sleep'

i. [ʤan] 'tail'

j. [ʤan] 'leaf'

The lower mid vowel *ɛ* and *o* rarely occur in CV stems in Jogo, as it is the case for Proto-Western Mande, a restriction explained in Vydrin (2004:4), that *ɛ* and *ɔ* are generally incompatible. I have not yet come across anything contrary to that position in Jogo language. The examples (50i-j) differ in tone, H and L.

Apart from (50i) and (50j), as far as nasality in CV stems is concerned, there are other examples as illustrated in (51) and (52)

(51) a. [tã̀] ‘ten’ e. [kpã̀] ‘death’

b. [gõ̀] ‘pimples’ f. [gbã̀] ‘elephant’

c. [gã̀] ‘cloth/ half’ g. [gbã̀] ‘room’

d. [ʤõ̀] ‘slave’ h. [ɲá] ‘woman’

(52) Set A Set B

a. [kpa:] ‘scar/wound’ e. [kpã̀] ‘death’

b. [gba:] ‘tree’ f. [gbã̀] ‘elephant’

c. [gã̀] ‘cloth/ half’ g. [gbã̀] ‘room’

d. [da:] ‘mouth h. [dá] ‘create (a human)’

Although (52f –g) look the same, they differ in tone, L and H respectively.

The CṼŋ is very common in Jogo, with the velar nasal, which is mostly in final position, as illustrated in example (53) below.

(53) a. [sõ̀ŋ] ‘heart’ e. [sũŋ] ‘horse’

b. [dɛ̃̀ŋ] ‘bottle’ f. [dɛ̃ŋ] ‘lean against’

c. [tɛ̃̀ŋ] ‘friend’ g. [bɛ̃ŋ] ‘meeting’

d. [gbõ̀ŋ] ‘thief’ h. [gbõŋ] ‘big’

For the similarities mentioned for (50 i-j), (51 f-g), (52 f –g), it is the same for (53b-f), L and H, respectively for the latter.

4.2.6 CVC Syllable

According to Vydrin (2004:1), in West Mande, syllables are usually of CV or CVN. He posits that though the monosyllabic words are well represented, the disyllabic words outnumber the former. In Jogo, however, I have observed two types of CVC: the CVŋ and the CṼŋ stems, with the latter having a nasalized vowel, as in (53), while the CVŋ in (54).

Examples shown in (53) are rather CṼŋ, with the vowel nasalized. In example (54) below, however, the CVŋ stem (or CVC) does not have its vowel nasalized.

(54) a. [gboŋ] ‘stool/chair’ d. [kpiŋ] ‘stone’

b. [ʤeŋ] ‘spear’ e. [seŋ] ‘bridge’

c. [duŋ] ‘hunter’ f. [suŋ] ‘nose’

4.3. Syllable Structure Processes in Jogo

The discussion on syllable structure is born out of the fact there is the need to find out the processes that occur in an understudied language such as Jogo. The syllable structure is motivated by the need to realize simpler as well as acceptable forms in a language, as Akanlig-Pare (1994:59) indicates. The processes may lead to the interchange of segments, changes in their class feature, addition or loss of segments (Akanlig-Pare, 1994:59).

The processes observed in Jogo are syncope and epenthesis.

4.3.1 Elision

The process known as elision refers to the omission of sounds related to speech. The sound omitted could be a vowel or consonant, or in some cases a whole

syllable may be omitted or elided. The elision can take several forms: if it occurs at word-initial, it is known as *aphaeresis* or *prosiopesis*, in word-medial position it is known as *syncope,* and in word-final position it is known as *apocope* (Crystal 2008:166).

In Jogo, the elision observed takes the form of syncope, and in vowel elision. This occurs in compounding - when two verbs, or nouns and verbs are merged to form another verb, therefore, the vowel preceding the second verb, or the last vowel of the first verb is elided. The phenomenon is illustrated in example (55).

(55) Vowel elision

	Stem 1		Stem 2		Compound Word
a.	/ɛbɛri/	+	/ɛba/	→	[ɛbɛriba]
	‘to hit’		‘to fall’		‘to knock down/ blow down’
b.	/ ɛbeɡe/	+	/ ɛbɔ̃ŋ/	→	[ɛbeɡebɔ̃ŋ]
	‘to cut’		‘to spill/spread’		‘cut down’
c.	/kpra/	+	/ɛtɔgɔ/	→	[kpratɔgɔ]
	‘language’		‘to tell’		‘to speak’
d.	/ɛdaka/	+	/ɛbɔ̃ŋ/	→	[ɛdakɛbɔ̃ŋ]
	‘to pour’		‘spill’		‘throw away’
e.	/taga/	+	/ɛ.ra/	→	[tagɛra]
	‘go’		‘it.COMPL’		‘take it away’
f.	/ja/	+	/ɛ.ra/	→	[jɛra]
	‘come’		‘it.COMPL’		‘bring it’
g.	/fini/	+	/ɛbɛri/	→	[finibɛri]
	‘feather’		‘beat/hit’		‘fly’

h. /jeli/ + /ɛba/ → [jeliba]

‘egg’ ‘to fall’ ‘lay an egg’

i. /jeli/ + /ɛtie/ → [jelitie]

‘egg’ ‘to break’ ‘to hatch an egg’

j. /ɛkatɛ/ + /ɛbɔnɛ/ → [ɛkatɛbɔnɛ]

‘broken’ ‘spilled’ ‘collapsed’

The above data is going to be analyzed in three (3) sets. The three examples (55 a-c) will constitute the first set. The second set is (55 d-f) and the last set will be (55g-j).

In the first set, the first vowel of the second verb is elided. In the second set, it is rather the last vowel of the first verb that is elided. And finally, in the last and third set, with the same occurrence as the first set, the front High vowel /i/ is maintained in the first verb. From the above analysis of the three (3) sets, I have observed that if the first word is a noun, it maintains its final vowel.

4.3.2 Epenthesis

This term is used in phonology to refer to a type of intrusion, where an extra sound has been inserted in a word; often subclassified into prothesis and anaptyxis (Crystal 2008:171). Crystal (ibid) further explains that epenthetic sounds are common both in historical change and in connected speech.

For the present study of Jogo, two types of insertions have been observed. Consonant insertion and vowel insertion.

4.3.2.1 Consonant Insertion

(57) Consonant Insertion

	Stem 1		Stem 2		Compound Word
a.	tégɛ̃	+	kɛ́	→	tégɛ̃ŋkɛ
	‘cough’		‘do’		‘to cough’
b.	búrú	+	kũ	→	búrúŋkũ
	‘property’		‘eat’		‘inherit’
c.	jɛ́lɛ̃	+	jí	→	jɛ́lɛ̃njí
	‘money’		‘get’		‘to be rich’
d.	kũũ	+	bɔ	→	kũũmbɔ
	‘honey’		‘remove’		‘harvest honey’

P-Rule 5: Consonant Insertion

1. ø → [Nas] / _____ Cons
2. [+N] → [α place] / _____ [α place]
3. P-R 1 ~ P-R 2

The P-Rule 5, as explained above is ordered, and indicates a feeding rule.

The data in (57) shows an insertion of a nasal consonant, either a velar nasal, alveolar nasal or a bilabial nasal depending on the environment the nasal consonant occurs – a case of Homorganic Nasal Assimilation.

It has also been observed that in (57), in between the first stem and second stem, the nasal sound, which is missing is known as vacuous. In the compounding process, a nasal assimilation process takes place. We posit that there is a case of floating consonant in this instance.

4.3.2.2 Vowel Insertion

(58) Vowel Insertion

a. kurb → kurubi[14]

b. [bleid] → bílédì + gbáa → bílédìgbá

‘blade’ ‘stick’ ‘razor’

c. ‘bicycle’ → baísíké

d. ‘ticket’ → tíkítí

Vowel insertion in the data above (58) usually occurs in borrowed words either from Arabic, or English, or in any other loanword.

4.3.3 Reduplication

According to Crystal (2008:407), the term reduplication is a morphological process of repetition whereby the form of a prefix/suffix reflects certain phonological characteristics of the root.

4.3.3.1 Reduplicated Nouns

(59)

[14] Refer to previous foot-note 12, p. 75.

a. kãkã ‘top’ d. wolwol ‘kidney’ g. wéléwélé ‘bell’

b. kùnákùná ‘bile’ e. grégré ‘cartilage’ h. kàlãŋkàlãŋ ‘liana/creeper’

c. fɔgɔfɔgɔ ‘lungs’ f. yégégégé ‘hiccough’ i. lógóólógó ‘anywhere’

j. Onomatopoeia: tíŋkómtíŋkóm ‘sound of pounding fufu’

g. kpɛ̀rɛ́kpɛ̀rɛ́! Expressing astonishment k. lɔgɔɔlɔgɔ ‘in any case/ however’

The nouns reduplicated in (59) do not have any meaningful stem, except (59b), which has a stem *kùná* meaning bitter.

4.3.3.2 Reduplicated Verbs

Table 10. Reduplication of Verb Stems in Jogo

	Base	**English**	**Reduplicated form**	**English**
a.	ɛdɛŋ	to place/lean against	dɛndɛŋ	to spy
b.	tíŋ	to jump	tíntíŋ	to hop/skip
c.	ɛtìéŋ	to make	ɛtìéntìéŋ	to repair
d.	jéreŋ	to swell	jénjéreŋ	to swell severally
e.	ɛfílí	to discard	ɛfífílí	to discard at random
f.	ɛbɛrí	to hit/beat	èbɛ̀bɛ̀rí (ŋárìdì)	to wink
g.	ɛtãŋ	to push	tãntãŋ	to roll
h.	bɛ̃ŋ	to meet/gather	bɛ̃mbɛ̃ŋ	to assemble
i.	fíŋ	to sprout	fínfíŋ	to sprout severally

In the data above in table 9, it is observed that the base is either reduplicated in full or the first syllable is reduplicated. In table 9, the examples a), b), c), g), h), and i) show total reduplication, while examples d), e) and f) are partial reduplication. The reduplicated forms do not show any epenthesis.

In (59b), if the infinitival particle *ɛ* is added to the verb *tíŋ,* to have *ɛtíŋ*, that will mean 'swallow' (IMPER), hence no infinitival particle placed before the verb (59b). In most cases, a verb without the infinitival particle could be in the imperative. Some other verbs may also take the infinitival particle in the imperative, without which the verb will not make sense. In another case, (59d) does not take an infinitival particle *ɛ* as the verb is involuntary.

On another hand, (59e) cannot be said without the particle *ɛ*, as it will not make sense without that particle. It is also observed that in some cases (59d & h), the reduplicated form indicates the plural form.

4.3.3.3 Reduplicated Adjectives

Table 11. Reduplication of Adjective

	Base	**English**	**Reduplicated form**	**English**
a.	kpìéŋ	'at first/before'	kpìéŋkpìéŋ	'ancient/olden days'
b.	búrú	?	(sù̲mɔ̀gɔ́) búrúbúrú	'early (in the morning)'

c.	títí[15]	'very'	(gbógó) títítíti/tígítígí	'deep (black)'
d.	kání	?	káníkání	'rough'
e.	pàrá	?	(kpìɛ) pàrápàrá	'crystal (white)'
f.	dìā́	'sweet'	dìā́dìā́	'very sweet'

In table 11, with the exception of {a}, most of the stems do not have a meaning at the base. Just as in {c}, the meaning of 'very' could be expressed in the following sentence in {g}.

(60) g. kyíí gbógórɛ́ títítíti
rain black.PST very
'The weather looks very stormy'

4.4 Assimilatory Processes

This section discusses the following assimilatory processes: nasalization, palatalization, labialization, and Homorganic Nasalization Assimilation.

4.4.1 Assimilation

In phonology, assimilation is a phonological process where one sound changes to become more like some other sound in its environment (Katamba 1989:36). In other words, Katamba (1989:80), puts assimilation as the modification of a sound

[15] Bearth (1971:182-183), cited in Vydrin (2004b), indicates that the adjective *tɪ́tí* is used in about fifteen (15) Mandé languages/dialects, including Toura and Gweeta.

In Vydrin (2005:83, ex 4), the stem gbúŋ (short in Jogo), was reduplicated in Dan-Gweeta, to mean 'short and big'.

in order to make it more similar to some other sound in its neighborhood. The assimilation is bidirectional: progressive assimilation and regressive assimilation.

4.4.2 Nasalization

Nasalization is a process where the velum is lowered to allow the airstream to escape through the nasal cavity. Crystal (2008:320) defined nasals as sounds produced while the soft palate (velum) is lowered to allow an audible escape of air through the nose.

Nasal vowels feature prominently in Jogo. A vowel is nasalized when it precedes a nasal consonant.

P-Rule 6: Vowel Nasalization

1. /V/ → [+ nas] / ___ [+ nas]

2. [+Nas] → ø/____ #

Assimilation can be regressive or progressive. The following subsection is going to throw some light on them.

4. 4.2.1 Regressive Assimilation

The following examples illustrated in (61) demonstrate some regressive assimilation

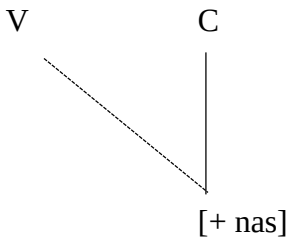
(61) Regressive assimilation

a. gằ ‘cloth’, b. tắ ‘ten’, c. gbồ ‘thief’, d. sắ ‘chief’

The data show that the oral vowel precedes nasals, as such, they are nasalized, as illustrated in (7b) below. The data can be represented nonlinearly as:

P-Rule 7: a. Regressive Nasal Assimilation Rule

$$V \rightarrow \tilde{V} / \_\_ N$$



Rule 7b. /fa[ŋ]/ → Underlining Form

↓

/fãnŋ/ → Vowel nasalization

↓

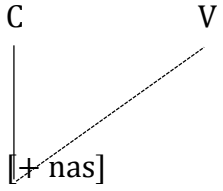
/fãŋ/ → Consonant deletion → Surface Form

The phonological rule 7b illustrates the process of vowel nasalization.

4.4.2.2 Progressive Assimilation

P-Rule 8: Progressive Nasal Assimilation Rule

$$V \rightarrow \tilde{V} / N\_$$



From the above rules 8 and 9, we can conclude that assimilation can either be regressive or progressive, in other words, from right to left or from left to right. The phonological process of nasalization features prominently in the Jogo language.

The progressive nasalization is illustrated in (62).

(62) a. [ɲã:] ‘woman, b. [nãŋ] ‘guest/stranger’, c. [mã] ‘who?’ d. [kàmã] ‘plunder’

The data above in example (62), indicates nasalized oral vowels, as they are preceded by nasal sounds.

4.4.2.3 Complementary Distribution

In Jogo, when a word ends with the voiced velar nasal stop /g/, the stop changes into a velar nasal /ŋ/. The phenomenon is illustrated in (63).

/g/ → [ŋ]/____#

(63)

a. gbɔ̃g → gbɔ̃ŋ ‘thief’

b. wóróg → wóróŋ ‘thigh’

c. tùõg → tùõŋ ‘side/middle’

d. táalég → táaléŋ ‘folktale’

4.4.3 Palatalization

Palatalization is a term referring to a secondary articulation, involving a movement of the tongue towards the hard palate (Crystal 2008:347). In other words, the palatalization process being regressive, a consonant tend to be palatalized when in

juxtaposition with the [+high] front vowel /i/. Furthermore, it may describe an altered articulation, as illustrated in (64)

(64)

a. tié ‘break/burst’ [tʸe]

b. diéŋ ‘one’ [dʸeŋ]

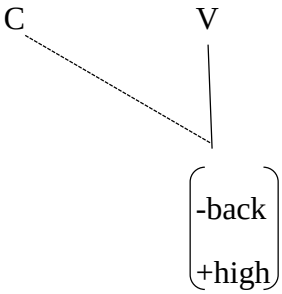
c. bié ‘satiated’ [bʸe]

d. kpié ‘god’ [kpʸe]

The rule of this palatalization can be formulated as follows:

P-Rule 9: Palatalization Rule

$$[+\text{Cons}] \rightarrow [+\text{Palatal}] / \_\_\_\_\_ \begin{matrix}[-\text{Back}] \\ [+\text{High}]\end{matrix}$$



4.4.4 Labialization

Labialization is a general term referring to a secondary articulation involving any noticeable lip-rounding, as in the initial [k] of *cool* or *sh*-[ʃ] of *shoe*, which are here **labialized**, because of the influence of the rounding feature in the following vowel [u] (Crystal 2008:263). Labialized consonants in Jogo are illustrated in the example (65) below:

(65)

a. gùó ‘shack’	[g^{w}uò]
b. kùá ‘sea’	[k^{w}ùa]
c. gbùó ‘knee’	[gb^{w}ùo]
d. sùó ‘concubine’	[s^{w}ùo]
e. dùɔ ‘trample/stamp’	[d^{w}ùɔ]

The rule of the labialization can be formulated in rule 11 as follows:

P-Rule 10: Labialization Rule

C→ [+Labial]/ _____ [+Round, +Back, - Cons

4.4.5 Homorganic Nasal Assimilation

Homorganic is a general term in phonetic classification of speech sounds, referring to sounds which are produced at the same place of articulation, such as [p], [b] and [m] (Crystal 2008:231). He further explains that sounds involving independent articulations may be referred to as heterorganic. Then sounds that are mutually dependent are sometimes distinguished as contiguous.

Homorganic Nasal Assimilation is known as anticipatory or regressive assimilation.

In some African languages such as Akan (Dolphyne 1988:142), Birfor (Dundaa 2013:93), Dagara (Kuubezelle 2013:98), Waali (2015:99), to mention just but a few, Homorganic Nasal Assimilation is an attested phonological process. In Jogo, Homorganic Nasal Assimilation operates in word formation process, and a syllable coda must be homorganic with the onset of the following syllable. The two consonants will have to share the same place of articulation.

In sharing the same place of articulation, if for instance a velar nasal consonant occurs or precedes a bilabial, the velar nasal takes the bilabial place of articulation. The following in examples (66) illustrate the phenomenon.

(66)

a. N → m/ _ bilabial nasal

N + m → [mm]

Ŋ́	+ mwã	→	m.mwã
1SG	'grandmother'		'my grandmother'

b. N + n → [nn]

Ŋ́	+ nìɛ	→	n.nìɛ
1SG	'mother'		'my mother'

c. N + m → [mm]

gban	+	máránì	→	gbãm máránì
'house'		'nine'		'nine houses'

d. N → m/_ bilabial plosive

N + b → [mb]

Ŋ́	+ béŋ	→	m.béŋ
1SG POSS	'uncle'		'my uncle'

e. N + b → [mb]

tíŋ	+ bɔ̀sí	→	tímbɔ̀sí
'feather'	'uproot'		'to pluck'

The Homorganic Nasal Assimilation rule, as illustrated in P-Rule below is ordered.

P-Rule 11: Homorganic Nasal Assimilation

[+Nas] → [α place]/ _____ [αplace]

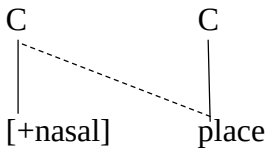
The velar nasal *ŋ́* can have two meanings in the first place, if it is placed in front of verb, it indicates a pronoun (1SG). Secondly, in case it occurs in front of a

noun, it takes the meaning of a possessive adjective (1SG.POSS). Like in Dagbani, the above description of the nasals, as in (66a-b, & d), are referred to as proclitic nasals in Hudu (2014:13, ex13), which discuses Nasal Place Assimilation.

In example (66c), we are not dealing with a single lexical item as a noun, it is rather a phrase, in which the assimilation occurs for smooth transition.

The above examples illustrated, that are Homorganic Nasal Assimilation, are regressive in place of assimilation. A rule can therefore be formulated non-linearly as follows:

P-Rule 12: Place of Assimilation Rule

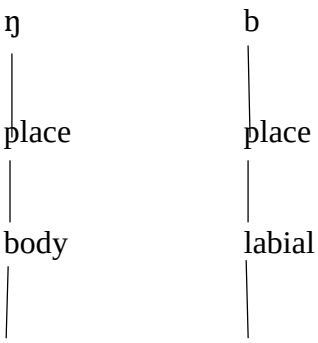


With the above rule, a non-linear representation of Homorganic Nasal Assimilation can be exemplified as follows:

Fig. 13: Non-Linear Representation of H.N.A.

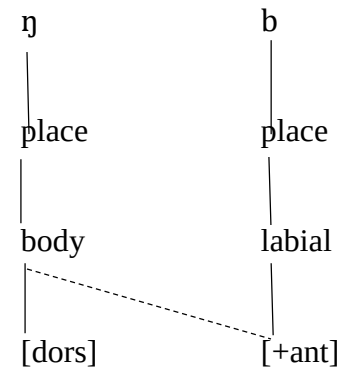
Ḿ	+ béŋ	→	m.béŋ
1SG POSS	‘uncle’		‘my uncle’

a. Underlying form

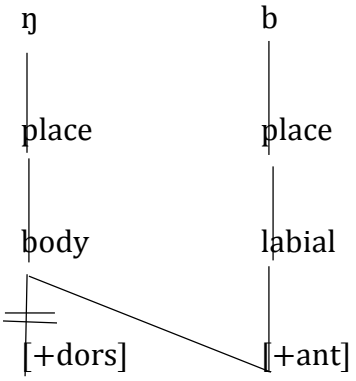


[+dors] [+ant]

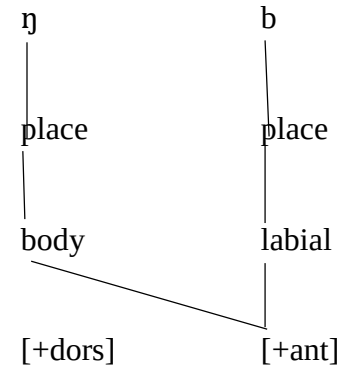
b. Anterior spreading



c. Delinking of dorsal feature



d. Surface representation



4.5. Summary of the Chapter

The syllable of Jogo has segmental components. It is composed of the nucleus and pre-nuclear margin. Syllabification of the stem is based on the Sonority Hierarchy as indicated by Hayes' model, which determines which segment occupies the nucleus position of the rhyme in any given syllable.

It has been observed from this study that Jogo has V, CV, CV:, CrV and CVC types. Although the V syllable is somehow rare, it occurs mostly with personal pronouns. The CV stem is reduplicated to form lexical items. Complex onsets with CCV from borrowed words are resolved with epenthesis, specifically vowel insertion.

It been also observed that the velar nasal *ŋ* occurs at word-initial, word-medial and word-final.

Elision occurs in Jogo, as the vowel ɛ which is either plac[illegible] the end of the first verb, or at the beginning of the second verb is elided, in the course of compounding.

Reduplication occurs mostly with verbs on the one hand, or with adjectives on the other hand.

The occurrence of reduplication with adverbs are scan[illegible]s not many have been observed.

Assimilatory processes such as nasalization, palatalization, labialization and Homorganic Nasal Assimilation have been observed in this study. Nasalization features prominently in Jogo.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This is the concluding chapter of the study on aspects of Jogo phonology. It presents the main discussions and findings of this study. It draws a conclusion and provides recommendations for further studies.

5.2 Summary of Main Issues

In chapter One, the main Manding family was described. A brief statement was given on Jogo and its speakers with a sketch of dialectal variation in the language. It was indicated that there are three main dialects: Jogo, Weila and Ntɔlɛh; which differ considerably, for now, at the lexical level.

The dialect spoken in Menji is considered almost the same as the one in spoken in Banda. And the Ntogoleh or Numu spoken in Brohani is also almost the same as the Ntɔlɛh spoken in Kwametenten. My consultant at Brohani admits that Ntɔlɛh is 'deeper' than theirs. Weila has its own peculiarity – accent and some vocabulary, which are not the same as the two sets mentioned earlier, though there is some degree of intelligibility amongst them.

From the study, Chapter Two provides an inventory of the sound system, which is composed of twenty-seven (27) consonants and nine (9) oral vowels and seven (7) nasal counterparts. This research found two additional vowels, in addition to the

seven (7) posited earlier (Dakubu 1988:161), to make it nine (9). With the exception of /p/ that rarely occurs in word-final, the following consonants occur at word-initial and word-medial only: / b, t, d, s, k, kp, g, gb, f, s, z, ʧ, m, n, ɲ, j, w /. The following sounds /ŋ, l/ are the only phonemes that occur in all the positions, that is word-initial, word-medial, and word-final. The consonants /mw, ŋw/ occur at word-initial only, then /r, ɣ/ occurs at word-medial only.

The Distinctive Features were discussed using the linear approach of the Generative phonology, as described in Chomsky and Halle (1968). The Distinctive Features of the consonants and vowels of Jogo were described.

In Chapter Four, the syllable structure was investigated. The CV Phonology, as described in Clement and Keyser (1983) was used for the analysis of vowel epenthesis, and how the onset cluster is broken to satisfy the CV structure. The syllable types found are V, CrV, CV, CV:, and CVC.

The syllable structure processes observed are vowel elision and consonant insertion, in epenthesis.

The phonological processes observed are labialization, palatalization, nasalization and Homorganic Nasal Assimilation. The discussion demonstrated that rule ordering is an important part of generative phonology, which uses a set of rules to derive phonetic representations from abstract underlying forms, as stated by John McCarthy (1979).

Chapter Five discusses the findings and gives recommendations.

5.3 Limitation and future research

This research work is without doubt the first in the study of the phonology of the Jogo language. As a matter of fact, in such a circumstance, there may be many challenges to be encountered, in terms of time constraints, factors related to data collection, among others.

In the collection of data of Jogo, there were challenges encountered as many persons contacted were found wanting in terms of a good repertoire in the knowledge of lexical items. Many young persons resort to code-switching/ code-mixing to refer to some items. As a result, it was a bit difficult finding minimal pairs, at a point in time, to establish certain sounds in the language. The older persons were able to know how to say certain things in the language.

The data collected indicated that Jogo is a contour tone language. However, tone was not discussed in this thesis due to limited time. It is expected that tone will be treated separately in future publications. There are other aspects or areas that need to be worked on, such as Diphthongs, Vowel Harmony, Glide formation, floating consonant, among others.

5.4 Conclusion

The aim of this research was to discuss some aspects of Jogo phonology, in the linear framework of the generative phonology.

The sound system, the syllable structure, syllable structure processes and some assimilatory processes were discussed. As the study was not exhaustive, the

syllable structure observed were epenthesis, and vowel elision. The phonological processes discussed were labialization, palatalization, nasalization, and Homorganic assimilation.

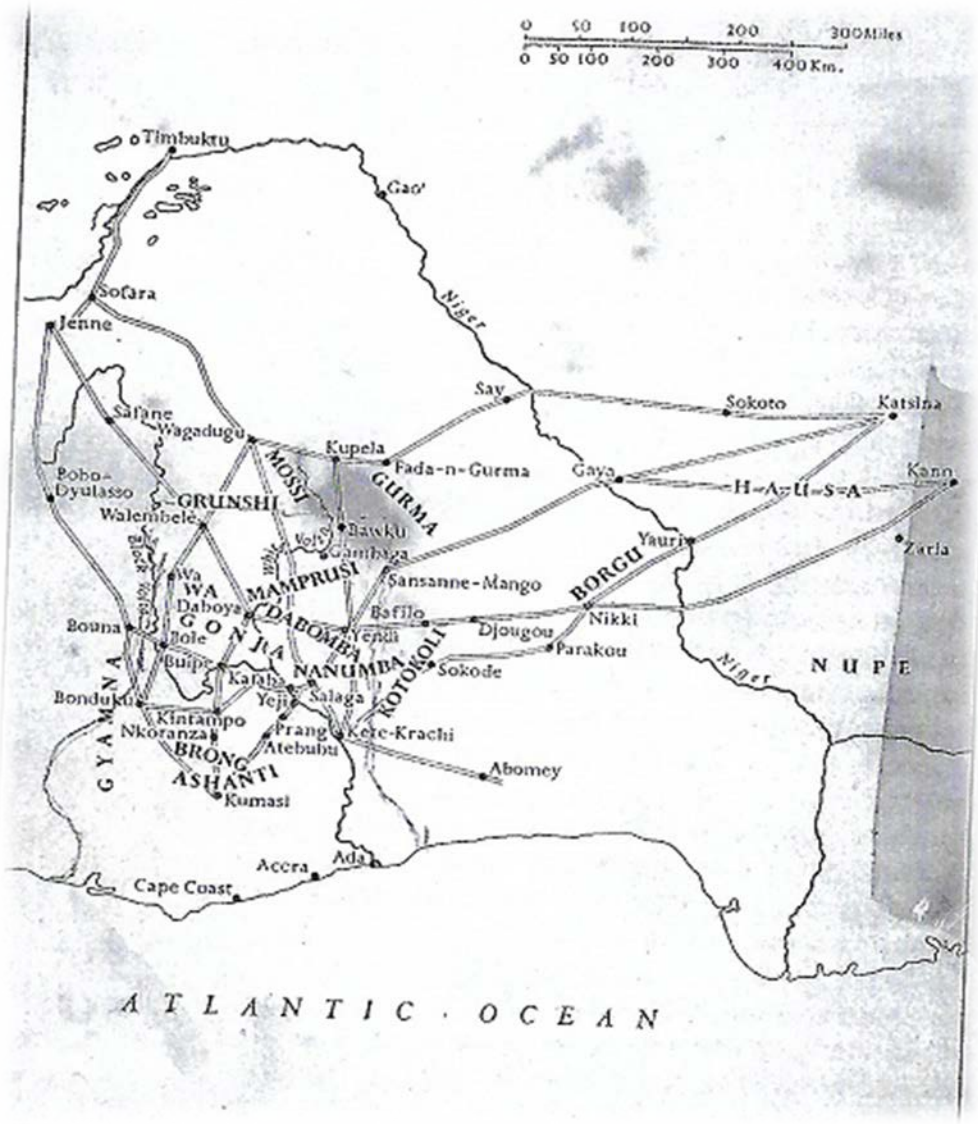
5.4 Recommendation

The study which is probably the first to discuss the phonology of Jogo to some extent, but not in any case exhaustive. For that matter, there is the need for a wider phonological study of the Jogo language, as suggested.

As I am aware, it is the wish of many natives to see books written in the language to enable the coming generation of Jogo people learn their language, but not forget it due to urbanization and cross-ethnic marriages, among others. I would recommend that funding is made available to students who are willing to conduct further research into the language. I would also like to recommend that after the standardization of the Jogo language, a dictionary is worked on, a curriculum is developed such that the language included in the Ghana Education Services languages taught in schools, especially in the Brong Ahafo Region, and within the catchment areas of Jogo communities.

APPENDIX A

Route to the Volta Basin



Source: Levtzion (1968:14)

APPENDIX B

The Distribution of Mande Clans

MANDE CLAN NAMES*
at Bighu (Be'o) (according to IASAR /79)
Bamba were Ligouy - Veï
Kamaghatay Kamaghate were Hwela imams
Timitay
Gbani
Jabaghatay
Tarawiri
Kuribari
Watara
Kawtey (Kaouté)

Kong	Bouna	Larabanga	Bondoukou	Mango	Salaga
Saganogo	Kamara	Kamara	Kamakhaté	Jabaghte	Dambélé
Ouattara	Kante	Timité	Watara	Konaté	Jabaghte
Traoré	Ouattara	Kamaghte	Kamata		
Barou	Diabakhaté	Dao	Kouloubali		
Konaté	Dioubaté				
Dandé	Diarra=Traoré				
Mande-Bamba					
Dao					

Wa (Mandé fr Kong)	Wala-Wale	Mamprousi	Sansanne-Mango	Bole
Sanu	Sissé	Traoré	Jabaghte	Kamaté
Dao	Diabakhaté	(Wangara)	Kamaghaté	(fr. Bego)
Juna	Kamara	Diabakhaté	Watara	Jabaghte
Kunate	Traoré	Kamara	Timité	(Bouna)
Taraore		Dao	Dabo	Bamba
(Dagomba=Haoussa			Ouattara	Timité
Mandé)			(fr. Kong)	Dabo
Sissé			Touré	(fr. Kong)
Touré fr. Nord			Couroubare	Gbane
Mandé (before creation			(fr. Bouna)	
of Sansanné)			Traoré	

Source: Massing (2000:303)

APPENDIX C:

Suggested Orthography

An alphabet, according to Donaldson (2017:180), 'refers to a writing system that in general tends towards the graphic representation of phonemes'. In other words, Donaldson (2017:184) is also of the view that 'orthography is not just a set of conventions for using a script to write', but it is rather 'a set of conventions for using a script to write an actual language', for that matter, 'one's approach to language and languages is an important part of orthography development.'

In my estimation, the orthography of an unwritten language needs to be carefully planned and developed to adequately capture the phoneme and/or sounds of that language.

As Jogo is a Mandé language, it would be in order to adapt some of the orthography of other Mandé languages, as Bambara, Jula or even Jeri.

Balenghien (1987) states that in 1966, under the auspices of UNESCO, a conference was organized in Bamako (Mali), which brought together linguists and representatives of West African governments, with the aim of determining and harmonizing the alphabets of six major languages, including Mandé languages (Manding).

In addition to the UNESCO (1966)[16] conference on some African languages, Balenghien (1987), Vydrin and Konta (2014b) also worked on the orthography of

[16] The UNESCO conference was held in Bamako, from the 28th February to 5th March 1966. Experts were invited from the U.S.A., France, the USSR, then representatives from Mali, Guinea (Conakry), Sénégal and Upper Volta (Burkina Faso). Six language groups (sessions) were formed, including Manding. There was

Bambara of Mali, while Vydrin and Diané (2014a) worked on the orthography of the Maninka of Guinea.

Due to the divergence[17] of opinion between Guineans and Malians on a common orthography, another meeting was held in Bamako in 1967, to standardize the alphabets for four Malian local languages: Manding, Fulfulde (Fula), Tamasheq and Songhay.

As much as I have come across primers and samples of chapters on the ongoing project of Bible translation into Jogo, the convention of script or alphabet that GILLBT came up with as far as Jogo is concerned is not yet made official.

---

however a split in the Manding group, as the Guineans wanted to have their own sets of Alphabets for Maninka, different from Bambara

[17] The alphabets 'ó', among others, proposed by Gérard Galtier was the bone of contention for Guineans, as that alphabet was not available on the AZERTY typewriters of the time**,** a position which led not only to a loss of economies of scales in terms of printing, but to the irony that mutually intelligible spoken varieties use different orthographies depending on where they are printed (Calvet 1987:220, quoted by Donaldson 2017:187)

Three other conferences were organized after the UNESCO 1966 conference and 1967 meeting in Mali. In 1978, at Niamey, a conference was organized by UNESCO and 58 alphabets were penned down. In November 1979, in Niamey, a meeting organized by CELHTO, arrived at 34 alphabets, referred to as the 'Manding Alphabets of Reference'.

Finally, in July 1982, in Mali, the 'Manding Alphabet of Reference was promulgated with a Legislative Instrument No. 159 PG-RM, for the following local languages: Bambara, Bobo, Bozo, Dogon, Fulfulde, Soninke, Songhay, Senoufo-Minianka (Nafaara), and Tamasheq. (Balenghien 1987:16-17)

I agree with Houis' (1964) opinion, quoted in Donaldson's (2017:186), that what matters most in the orthography of a language, 'is to produce the most accurate description possible…'

I would therefore like to propose the orthography for Jogo language, alongside other Manding languages in the Table below.

Table 1. Phonemes and alphabets

UNESCO (1966) Manding	Bamako (1967) Manding	Balenghien (1987) Bamanankan	Vydrin and Konta (2014) Bamanankan	GILLBT Bible (2016) Jogo	My proposed alphabets for Jogo
/p/	p	p	p	p	p
/b/	b	b	b	b	b
/m/	m	m	m	m	m
/f/	f	f	f	f	f
-	-	-	v	-	-
/t/	t	t	t	t	t
/d/	d	d	d	d	d
/n/	n	n	n	n	n
/s/	s	s	s	s	s
/sh/	sh	-	sh	sh	-
/z/	z	z	z	z	z
/ty/	c	c	c	ch	ky
/dy/	j	j	j	j	j
/ny/	ny	ɲ	ɲ	ny	ny
/nw/	ŋ	ŋ	ŋ	ŋ	ŋ

/k/	k	k	k	k	k
/g/	g	g	g	g	g
-	-	x	-	-	-
/kh/	kh	-	-	kp	kp
/gb/	-	-	gw	gb	gb
/l/	l	l	l	l	l
/r/	r	r	r	r	r
/j/	y	y	y	y	y
/w/	w		w	w	w
/h/	h	h	h	h	h
/i/	i	i	i	i	i
/é/	è	ɛ	ɛ	ɛ	ɛ
/e/	e	e	e	e	é
/a/	a	a	a	a	a
/o/	o	o	o	o	o
/ó/	ö	ɔ	ɔ	ɔ	ɔ
/u/	u	u	u	u	u
					u

My proposed orthography has taken into consideration the economy principle as stated by Houis (1966:4), in that, the speaker makes a ‘choice’ of phonemes to convey so and so message.

My choice of alphabet, particularly the consonants are <gb>, <ny>, and <ky>, which will be more accommodating compared to <gw>, <ɲ> and <c> of Vydrin and Konta (2014b). Other alphabet I proposed, related to vowels are: /e/, /ɪ/, and

/ʊ/, represented as <  i̲>, and <u̲> respectively. In that case, it will make it, not only easier for the learners of the Jogo language, but the arbitrariness of the present Jogo alphabets cannot be done away with.

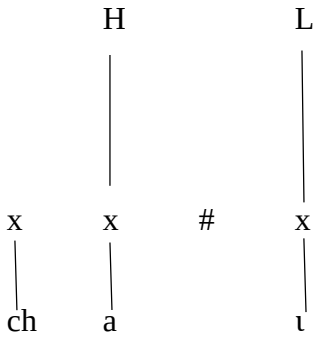
APPENDIX D

PHONOLOGICAL RULES

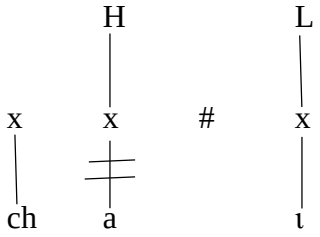
P-Rule 1. Nonlinear Representation of Tone Stability

chá + ì → chî

‘but’ ‘you’ ‘but you’

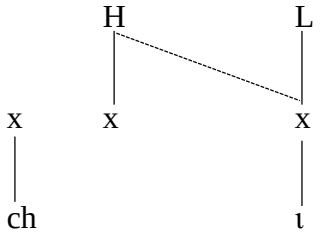


underlying representation



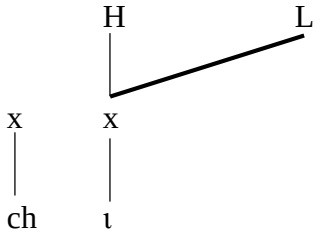
vowel deletion

The vowel /a/ is deleted but the tone remains



shifting to tone location

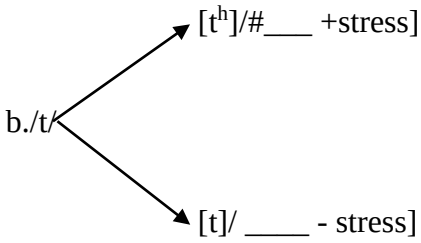
The tone on deleted segment re-associates with the adjacent Tone Bearing Unit



Surface Representation

P-Rule 2: Representation Rule

b. /t/ → [t^h] / # ___ [+stress]



P-Rule 3: Final Consonant Deletion

[+cons]→Ø/_____ $\left\{ \begin{matrix} C \\ \# \end{matrix} \right\}$

P-Rule 4: Vowel Nasalization

V→ [+nasal]/ __ [+nasal] $\left\{ \begin{matrix} C \\ \# \end{matrix} \right\}$

P-Rule 5: Consonant Insertion

4. ø → [Nas] / _____ Con

5. [+N] → [α place] / _____ [α place]

6. P-R 1 ~ P-R 2

P-Rule 5 above is ordered, and indicates a feeding rule

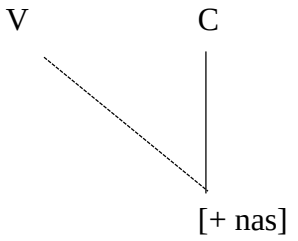
P-Rule 6: Vowel Nasalization

1. /V/ → [+ nas] / ___ [+ nas]

2. [+Nas] → ø/_____ #

P-Rule 7: Regressive Nasal Assimilation Rule

Rule 7 a. V → Ṽ /__ N



Rule 7 b. /fanŋ/ → Underlining Form

↓

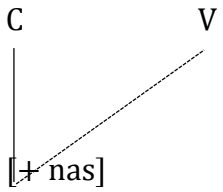
/fãnŋ/ → Vowel nasalization

↓

/fãŋ/ → Consonant deletion → Surface Form

P-Rule 8: Progressive Nasal Assimilation Rule

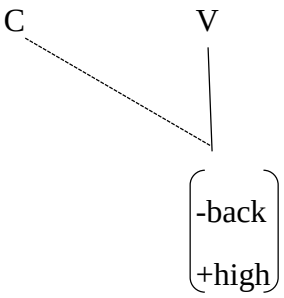
V → Ṽ/ N_



P-Rule 9: Palatalization Rule

[+Cons] → [+Palatal]/ _____ [-Back]

[+High]



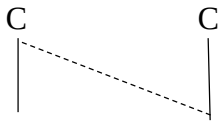
P-Rule 10: Labialization Rule

C→ [+Labial]/ _____ [+Round, +Back, - Cons]

P-Rule 11: Homorganic Nasal Assimilation

[+Nas] → [α place]/ _____ [αplace]

P-Rule 12: Place of Assimilation Rule



[+nasal] place

APPENDIX E

SIL COMPARATIVE AFRICAN WORD LIST 2 (SILCAWL 2)

S/N.	List ID	GLOSS (English)	JOGO WORDS
1.	1	body	krù
2.	2	skin	krùdì
		Head	
3.	3	head	wú
4.	4	forehead	kyìgí
5.	5	face	ŋà̰rì
6.	6	eye	ŋà̰rdì
7.	7	eyebrow	ŋà̰rdìtúŋgbá

8.	8	eyelid	ŋ̀ɛ̀rdìkãkã
9.	9	pupil lash	ŋ̀ɛ̀rdìtíŋ
10.	10	pupil (of eye)	ŋ̀ɛ̀rdìgbógó
11.	11	nose	súŋ
12.	12	bridge of nose	súŋgbá
13.	13	ear	tùlu̲
14.	14	cheek	gbìɛ
15.	15	mouth	dáá
16.	16	lip	dáákprù
17.	17	tongue	nɛ̃ndì
18.	18	tooth	nyíŋ
19.	19	molar tooth	nyíŋgbã
20.	21	jaw	yɛgbàgá
21.	22	chin	dáákɔ̀rá
22.	23	neck	fólí
23.	24	nape of neck	fólíkàná
24.	25	throat	fólí
25.	26	larynx (Adam's apple)	fólígrégré
26.	27	hair (head)	wútìgí
27.	28	beard	dáátìgí
28	29	hair (of body)	tíŋ
29.	30	tuft, lock (of hair)	dõŋkànáwútigi
	Trunk	**Tùõŋ**	
30.	31	shoulder	gbɑ̃́ŋ

31.	32	shoulder blade	kànǎyèlí
32.	33	chest	sísí
33.	34	breast	kyĩ
34.	35	side (of body)	jĩĩmã
35.	36	waist	kùɔ
36.	37	navel	ŋùnú
37.	38	umbilical cord	ŋúnidì
38.	39	abdomen (external)	kõŋ
39.	40	stomach (internal)	nɔ̀gɔ̀dì
40.	41	womb	kõŋ
41.	42	back	káanãŋ
42.	43	small of back	kùɔ
43.	44	buttock	bàrãnbõŋ
44.	45	anus	bàrãnyélí
45.	46	penis	fɔrõŋ
46.	47	testicle	kŏ̌/ kõdì
47.	48	vagina	kúlóŋ
48.	49	clitoris	kúlóndì/ nyɛrrì

	Limbs		**ŋsɔgɔrã (my limbs)**
49.	50	arm	bùlu̲
50.	51	armpit	blãŋ
51.	52	upper arm	bùlu̲*
52.	53	elbow	bùlu̲gbùó
53.	54	forearm	bùlu̲*

54.	55	wrist	bùlu̲túgúŋ
55.	56	hand	bùlu̲
56.	57	fist	bùlu̲mùgú
57.	58	palm (of hand)	bùlu̲tìgɛ
58.	59	finger	bùlu̲dì
59.	60	thumb	bùlu̲dìwúgbélé
60.	61	knuckle	bùlu̲fólí
61.	62	fingernail	bùlu̲nyányí
62.	63	leg	kpùɔ
63.	64	hip	jĩĩ
64.	65	thigh	wóróŋ
65.	66	knee	gbùó
66.	67	shin	kpùɔnyàrdì
67.	68	calf of leg	kpùɔdɛ̃ŋ
68.	69	ankle	bùlu̲gbùó
69.	70	foot	kpùɔ
70.	71	heel	kpùɔkàná
71.	72	sole	kpùɔsàbarã
72.	73	toe	kpùɔdì

Internal parts and products

73.	74	bone	yélí
74.	75	bone marrow	sɔmɔ
75.	76	skeleton	kúuyélí
76.	77	skull	wúfiɛ
77.	78	breastbone	sísíyélí

78.	79	spine, backbone	káanàyélí
79.	80	rib	jĩyélí
80.	81	brain	wúnĩgɛ
81.	82	heart	sɔ̃ŋ
82.	83	liver	bɔgɔŋ
83.	84	kidney	wɔlwɔl
84.	85	lung	fɔgɔfɔgɔ
85.	86	intestines	nɔgɔdì
86.	87	bladder	wòlídɛ̀ŋ
87.	88	gall bladder	kúnàkùnádɛ̀ŋ
88.	89	muscle	sìé buŋ
89.	90	tendon	fégé
90.	91	vein	nyìnífégé
91.	92	breath	súmna
92.	93	saliva (spittle)	dááyí
93.	94	phlegm	nɔgɔyí
94.	95	nasal mucus	súnyí
95.	96	earwax	tùlu̲bùu
96.	97	tears	ŋàryí
97.	98	blood	nyìní
98.	99	bile, gall	kúnàkùná
99.	100	semen	máaníwú
100.	101	urine	wòlí
101.	102	excrement, faeces	bŭ̲/chílɔ

BODY PROCESSES, FUNCTIONS

102.	103	blink	bɛbɛrì
103.	104	wink	bɛbɛrì
104.	105	blow nose	sunfiɛ
105.	106	breathe	nɛnɛkìlì
106.	107	yawn	tàléŋ
107.	108	snore	kurnugu
108.	109	pant	sunnakili dìɛrɛndiɛrɛ
109.	110	blow (with mouth)	ɛfiɛ (blow it)
110.	111	spit	dàyí bõ
111.	112	cough (v)	tɛgĩ kɛ
112.	113	belch	kɛndégé
113.	114	hiccough (n)	yégéyégé
114.	115	sneeze (v)	tíãkɛ
115.	116	groan (with pain)	jàrãkarawɛmã*
116.	117	grunt (from effort)	ŋunakɛ*
117.	118	palpitate (of heart)	sõnbɛrì
118.	119	urinate	wólíkɛ/ yàgá yímã
119.	120	break wind, fart	tũŋkɛ
120.	121	defecate	bukɛ/ tàgá kpùɔmã
121.	122	shiver, tremble	jɛjɛrì
122.	123	perspire, sweat	kínãdìɛbɔ
123.	124	bleed	nyìníbɔ
124.	125	coagulate, clot	nyìnísá?
125.	126	(be) dizzy	kɔnyá?

126.	127	faint	kíríŋ
127.	128	sleep (v)	nyìŋbá
128.	129	dream (n)	kórí
129.	130	wake up (intr)	yɛ̀lì
	Senses		
130.	131	see	ɛjí
131.	132	notice (v)	ɛkɔrɔsì
132.	133	look at, watch	ɛfìlɛ̃ŋ
133.	134	hear	ɛrá mɛ̃mã
134.	135	listen	ɛmɛ̃ŋ
135.	136	smell (v)	ɛmíŋ sà
136.	138	touch, feel (active)	màgá
137.	139	taste	ɛnɔgɔ
	Ingestion		
138.	140	eat	ɛkũŋ
139.	141	bite (v)	ɛnyíŋ
140.	142	crunch	ɛkùó
142.	143	chew	ɛdóŋ
143.	144	gnaw (ronger)	ɛkpùó
144.	145	swallow	ɛtíŋ
145.	146	choke	kyígì
146.	147	lick	fìlɛ̃ŋ
147.	148	suck	mɔsɔ
148.	149	drink	mɛ̃ŋ
	BODY MOVEMENT		

149.	150	sit	yàgá
150.	151	rise up (intr)	yɛl ɛrá yõŋ
151.	152	lie down	sá dugumã
152.	153	turn around	dãbúlú
153.	154	walk	tagama
154.	155	step (v)	kpùɔbɔsí
155.	156	stumble	tɛntɛreŋ
156.	157	limp	ba ɛjimmã
157.	158	crawl	ŋùrúmã
158.	159	run	fìrí
159.	160	swim	prúgóŋkɛ
160.	161	jump (v)	tíŋ
161.	162	kick	bũŋ
162.	163	stamp (with foot)	dùɔ
163.	164	trample	dɔdùɔ
164.	165	wave (hands) (v)	bùlu bɔ
165.	166	indicate, point (with finger)	ɛdɔlí ɛbula*
166.	167	clap (hands)	bùlu bɛrì
167.	168	slap (v)	tùlu gbéŋ

Body positions

168.	169	stand	yõŋ
169.	170	straddle	kpùɔfìfìlí
170.	171	lean against (intr)	dɛ̃ŋ
171.	172	bend down, stoop	gbùrúŋ
172.	173	bow (as in greeting)	gbùrúŋ

173.	174	(be) seated	yàgá
174.	175	squat	sóri
175.	176	kneel	gbùrá (/gbuó) kpã
176.	177	(be) lying down	sá dugumã
	Body conditions		
177.	178	(be) hot (of a person)	kprù dìɛ
178.	179	(be) hungry	kɔgɔ
179.	180	(be) sated	bìé
180.	181	(be) thirsty (v)	yíkyélì
181.	182	(be) drunk	ɛyíkpìɛ mĩnɛ/ ɛbìérɛ dɔlíra
182.	183	(be) tired	kpĩĩ
183.	184	(be) sleepy	nyìí yí sã
184.	185	rest	kõŋgɔsílé
185.	186	(be) awake, alert	ɛhakílawɛ*
	IRREGULAR CONDITIONS		
186.	187	wrinkle (n)	nyɔfɔtɛ (wrinkled)
187.	188	pimple	gõ
188.	189	hump (of hunchback)	jìgá
	Abnormal qualities (adjectival)		
189.	190	(be) bald	wú fìlɛ̃nnɛ (s/he is bald)
190.	191	(be) blind	ɛ fúgúrɛ (s/he is blind)
191.	192	(be) myopic	kinãjí dárá*
192.	193	(be) thin	ɛra ma pɛɛrɛ/ ɛra yélí
193.	194	(be) impotent	kyíníɛ
	HANDICAPPED PEOPLE		

194.	195	barren woman	gbɛ̀ndé
195.	196	blind person	fùgú
196.	197	deaf person	nàmú
197.	198	hunchback	kyɛ̀kyɛ̀mã
198.	199	cripple	fúrúgã
199.	200	dwarf	mɔɣɔ gbúndìrí
200.	201	giant	kãkàránɛ
201.	202	stupid person	júgã/ hàkílãnté
202.	203	senile person	hákílãnte*
203.	204	mad person	dùgútɔ

HEALTH AND DISEASE

204.	205	(be) healthy/well	kprú dìá
205.	206	(be) sick	kyìrìyá
206.	207	hurt oneself	ɛdìáná mádìénɛ (s/he's hurt herself/ himself)
207.	208	heal, cure (v)	gbàrá
208.	209	medicine	bélí
209.	210	get well, recover	làɣãfiá jí
210.	211	revive	ŋúnã

Abnormalities

211.	212	abscess	búɣúnyá
212.	213	swelling	jéréŋ/ géréŋ/ɛyúgúrɛ
213	214	tumour	jéréŋ

214.	215	bruise (n)	wúráɾɛ
215.	216	burn (n)	táakpáa
216.	217	goiter	dùgú* fólìyúgú
217.	218	hernia	kúlɑ́
218.	219	ulcer	kõŋkpáá
219.	220	wound, sore	kpă
220.	221	pus	búɣúnyãyí
221.	222	scar	kpáá kprà
222.	223	intestinal worm	koŋkɔn nyɔlɔlɔ
	Diseases, malaise		
223.	224	illness, disease	kyìrìyá
224.	226	ringworm	yɛ̀ríŋyáɣá
225.	227	leprosy	kókóɣó
226.	228	malaria (fever)	sìɛ̀
227.	229	fever (not malaria)	kprù dìɛ
228.	230	pain (n)	díéŋ/jàrãŋkàrá
229.	231	give pain, hurt	màdíéŋ
230.	232	throb (with pain)	wólí
231.	233	vomit (v)	fùùndù
232.	234	stomach ache	kɔ̀ndíéŋ
233.	235	headache	wùdíéŋ
234.	236	diarrhea	kõŋkàrí
235.	237	scabies (the itch)	gbõnmĩŋ
	Life and death		

236.	238	life	nyíí
237.	239	(be) alive	nyíímã
238.	240	menstrual period	lãdá
239.	241	(be) pregnant	kɔ̀nsõŋ
240.	242	miscarriage	kɔ̀nbáa/kɔ̀ŋkànɛ
241.	243	labour (n), birth pains	bólí jàrā́**k**àrá / bólímàyá kɔ̀ndíéŋ
242.	244	bear (child), give birth	bólí
243.	245	(be) born	bólí
244.	246	(be) young	(wúlãdì/ fìnãdì = youth)
245.	247	grow up	kóŋ
246.	248	(be) old (not young)	kprà
247.	249	die	ɛra kpã
248.	250	death	kpã
249.	251	(be) dead	nãŋ/ kpã

2 MAN'S NONPHYSICAL BEING

2.1 KNOW, BÉLIEVE, TEACH

250.	252	think	jàtéríkɛ̀/táɣàsi
251.	253	believe	límánìnyá
252.	254	hope (v)	jìgí
253.	255	know (someone/smth)	sɔ̀
254.	256	knowledge	kpùrú /lɔ̀ní
255.	257	wisdom	kusɔyá
256.	258	(be) wise	kusɔ

257.	259	(be) intelligent	kʊ̲sɔ
258.	260	(be) stupid	jùgā́/ dambolí
259.	261	(be) confused	hákilá ra kyĩnkyãŋ
260.	262	learn	sĩŋ lãnıgı
261.	263	teach	sĩŋ dɔlı
262.	264	show	ɛdɔlı
263.	265	remember	yíríyá
264.	266	forget	ɛrá nyínã
	EMOTIONS		
265.	267	(be) happy	ɛnínsɔ rá dìá
266.	268	rejoice	nínsɔdìá
267.	269	laugh	ɛrá jɛlìkɛ
268.	270	smile	ŋárfùlóŋ
269.	271	(be) sad	ɛ súnná rá bìé
270.	272	cry, weep	ɛra díí
271.	273	sorrow	mànyìnã
272.	274	shame (n)	mólìyá
273.	275	pity (n)	mànyìnã
274.	276	fear	gbìãya
275.	277	frighten	gbìãya ba
276.	278	startle, surprise	káákʊ̲̀
277.	279	(be) angry	ɛ bɔ̀ɣɔ̀mã rá kpã
278.	280	calm (oneself)	nyìntɛlìya/ sàwáríjí
279.	281	(be) proud	wãsó
280.	282	respect (v)	bónyã

281.	283	honour (v)	dàrájá
282.	284	love (v)	kání
283.	285	hate (v)	búnú/ bɔɣɔmàkã
284.	286	despise, disdain	dɔɣɔyá

HUMAN WILL

285.	287	want, desire (v)	lànyìní
286.	288	decide	ɛ kpã/ ɛsùɣú
287.	289	choose, pick	dóbɔ, dìénbɔ
288.	290	hesitate	jàtéríkpànɛrɛ
289.	291	abstain	ɛdìánàkyígí
290.	292	allow, permit	ɛdìɛ̃ ɛŋɛ/ dìã
291.	293	forbid	ɛbàrì
292.	294	prevent	bárísí
293.	295	plan (n)	fàsání
294.	296	try	bãŋbɜ̃
295.	297	succeed	ɛrákyí/ɛrányìã
296.	298	fail	ɛgbìɛrɛ/ ɛgàlɛ
297.	299	pretend	liɛliɛ/ dàwárí

HUMAN CHARACTER

298.	300	(be) kind	kõdí
299.	301	“ generous	ɛbùlo̲ fùlónɛwɛ
300.	302	“ selfish	kõkyiã
301.	303	“ honest	liɛkíká
302.	304	“ corrupt	dàwárímɔgɔ

303.	305	“ wicked	wùmágbá
304.	306	“ fierce	gbáarɛ
305.	307	“ jealous	ŋàrdíéŋ
306.	308	“ shy	mólí
307.	309	“ courageous, brave	bɔɣõgbàyá
308.	310	coward	gbìãtɔ
309.	311	“ curious	ɛsomrɛwɛ
310.	312	“ eager, zealous	bãbãnɛwɛ*
311.	313	“ lazy	màkpìãtɔ
312.	314	“ patient	sàwárí/ sàwárímɔɣɔ
313.	315	“ impatient	sàwárínté
314.	316	“ restless, unsettled	wúrãŋ/ hàkìlábɛrì
315.	317	“ stubborn	tùlo̲fɔrí
316.	318	reputation	tóɣɔ́
	DIFFICULTY		
317.	319	hardship, distress	gbàyá
318.	320	be difficult	gbárɛ
319.	321	suffer (v)	tɔ̀rõ
320.	322	obstruct (v)	ɛ kpɛtrɛ
321.	323	obstruction (stumbling block)	kpɛtrɛnã
322.	324	danger	wúmátɛlì
323.	325	problem, trouble	wùóku̲ / bàláwú /músíbá
	PERSONS		
324.	326	human being, person	mɔ̀ɣɔ̀
325.	327	self	mmā́

326.	328	man (male)	kyíní
327.	329	woman	nyấ
328.	330	white man	nấsàrá
	STAGES OF LIFE		
329.	331	fetus	kõŋ
330.	332	baby	dìbàɣà
331.	333	twin	fàlãndì
332.	334	child	dì
333.	335	boy	kyíndìrì
334.	336	girl	nyàdìrì
335.	337	adult	kpùrãŋgbɔ̀ŋ
336.	338	young man	wúlãdì/ fínãjìé
337.	339	virgin	kàrìkpéréŋ (à bɛ̃nɛrá)/ kàrìdìrì
338.	340	old person	kyínkùrá/ kurãgbõŋ
	BLOOD RELATIONS		
339.	341	relative (by blood)	làmɔ̀ɣɔ̀
340.	342	ancestor	filéŋ
341.	343	grandparent	síã
342.	344	father	jé
343.	345	mother	nìɛ̀
344.	346	brother (elder/younger)	ŋwố/ dɔ̀ɣɔ̀
345.	347	sister (elder/younger)	jíã/ dɔ̀ɣɔ̀
346.	348	uncle (paternal)	jéŋgbõŋ (elder) / jógórí (younger)
347.	349	uncle (maternal)	béŋ

348.	350	aunt (maternal)	nɔ̀gbõŋ (elder) / nɔ̀ɣɔ̀rí (younger)
349.	351	aunt (paternal)	nɔ̀gbõŋ (elder) / nɔ̀ɣɔ̀rí (younger)
350.	352	cousin	béndı kyínìmã/nyàmã
351.	353	first born	dı sĩŋkpìéŋõ
352.	354	descendant	zùriánɔ
353.	355	son	dıkyíní
354.	356	daughter	dınyá
355.	357	grandchild	mwárì
356.	358	nephew	bélì
357.	359	name	tóɣɔ́
358.	360	namesake	tóɣɔ́mã
	MARRIAGE RELATIONS		
359.	361	in-law	birã
360.	362	husband	kyɛ̀lì
361.	363	wife	dìá
362.	364	fellow-wife, co-wife	tínã
363.	365	father-in-law	bìrã
364.	366	mother-in-law	bìrã
365.	367	brother-in-law	bìrã
366.	368	sister-in-law	bìrã
367.	369	son-in-law	bìrã
368.	370	daughter-in-law	bìrã
369.	371	widow	frìyátɔ/ frìyá nyá
370.	372	widower	frìyá kyìni

371.	373	orphan	fàlàdì
372.	374	fiancé	kyɛlì
373.	375	fiancée	dìá
374.	376	bastard	sùóyà dì
3.4	RELATIONS, EXTENDED AND SOCIAL		
375.	377	tribe, ethnic group	síí
376.	378	clan	kàbílá
377.	379	family	làmɔ̀ɣɔ̀
378.	380	friend	tɛ̃ŋ
379.	381	neighbor	dànányɔ̀ɣɔ̀
380.	382	acquaintance	sɔ̀yámɔ̀ɣɔ̀
381.	383	host	kàmãkyíni
382.	384	guest, visitor	nấŋ, nãŋkyíni / nãnnyã
383.	385	stranger	mɔ̀ɣɔ̀dó, nãŋkyínidó / nãnnyãdó, nấŋ
384.	386	enemy	kòlì
385.	387	traitor	nàmímá /minãfígi
386.	388	thief	gbố̌ŋ
387.	389	guide (n)	báádà (also leader)
388.	390	messenger	kyìérá
389.	391	crowd	jàmấ
390.	392	chief	sǎ
391.	393	elder	kurãgbõŋ
392.	394	master	màtígì
393.	395	slave	jɔ̀

3.5	PROFESSIONS		yíá nõ
394.	396	farmer	bágàsamɔ̀ɣɔ̀
395.	397	fisherman	yàgãbɔmɔ̀ɣɔ̀
396.	398	hunter	dúŋ /fɛlɛgɛmɔ̀ɣɔ̀
397.	399	blacksmith	nùmú
398.	400	potter	tùgú̲tiémmɔ̀ɣɔ̀
399.	401	weaver	dɛngbɛlì
400.	402	butcher (n)	sìétùrɔmɔɣɔ̀
401.	403	trader	dínsɔmɔ̀ɣɔ̀
402.	404	(domestic) servant	táakɔrɔdì
403.	405	beggar	délíkɛmɔ̀ɣɔ̀
404.	406	soldier	sója/ gbúŋyírí
405.	407	prostitute	fàsíɣí
406.	408	midwife	bólìdàgámɔɣɔ
407.	409	traditional healer	mɔ̀gɔ̀ gbàrámɔ̀ɣɔ̀
408.	410	fetish priest	kpìémãmɔ̀ɣɔ̀
409.	411	sorcerer (male)	gbrákyínì
410.	412	witch (female)	gbrányá
411.	413	fortune-teller	dù̲ɣù̲ bɛrìmɔ̀ɣɔ̀ / fílé̲ŋkɛmɔ̀ɣɔ̀
4.0	PERSONAL INTERACTION		
4.1	ASSOCIATION OF PERSONS		
412.	414	meet, encounter	dàwóŋ
413.	415	accompany	kùrákɛ
414.	416	(be) together	kyàɣá
415.	417	assemble, meet together	(wu) bɛ̃ŋ

416.	418	invite	kìlı
417.	419	(be) alone	ɛra tu̲ díéŋ
418.	420	abandon	gbɑ̀
419.	421	flee, run away from	fìrı
420.	422	drive away	kyìlí
421.	423	avoid	fàrã
422.	424	(be) same	díéŋ
423.	425	(be) different	ɛwɛ ɛdórá/fárãfárãsĩŋ
424.	426	resemble	mu̲nu̲
425.	427	imitate	báabɔ*
426.	428	admire	ɛra dìá ɛŋɛ
427.	429	befit, suit	ɛdàgárɛ/ kan
4.2	SPEECH, LANGUAGE		
428.	430	language	kprá
429.	431	word	kprá dì
430.	432	meaning	kɔrõŋ
431.	433	say	rɛ/ tɔ̀ɣɔ́
432.	434	voice	nĩŋ
433.	435	speak, talk	tɔ́gɔ́/ kprátɔ̀ɣɔ́
434.	436	whisper (v)	kprátɔ̀ɣɔ tulokono/ kprásà
435.	437	shout (v), cry out	wólí
436.	438	chat (v)	báaró bɔ̀
437.	439	mumble	kprátɔ̀ɣɔ dáakɔrá
438.	440	stutter	mɛ̃mɛ̃
439.	441	(be) eloquent	dáadìà

440.	442	(be) silent	ɛra tógó
4.2.1	**Greeting**		yɛlkɛ
441.	443	greet (v)	ɛra yɛlkɛ
442.	444	call (someone)	ɛra kìlkɛ
443.	445	say goodbye, take leave of	ɛra kyílí délí/ bɛ̃mbá
4.2.2	**Information and questions**		
444.	446	announce	ɛsá jámã ŋàrá
445.	447	announcement	wãgólóyá*
446.	448	news	híbárú/ kprá làkyélí?
447.	449	explain	kɔrõndɔlì
448.	450	advise	làdírí kɛ/ kàwúndì kɛ
449.	451	gossip (v)	mìnãfigíyá mã*
450.	452	lie (n) (falsehood)	kàkàlì
451.	453	ask, request (n)	délíkɛ
452.	454	plead, implore	ɛra délíkɛ
453.	455	request (n)	délíkɛ
454.	456	answer, reply (v)	ɛ dàabɔ
455.	457	thank	ɛkɔ àníkyé ra
4.2.3	**Promise**		
456.	458	promise (n)	làyírí
457.	459	oath	kyélí
458.	460	swear	kyélíkɛ
4.2.4	**Strife and praise**		
459.	461	insult (v)	kúrõŋkɛ
460.	462	insult (n)	kúrõŋ

461.	463	slander (v)	káanà sìédóŋ
462.	464	threaten	bàbàɣà
463.	465	argue	kítíkɛ
464.	466	argument	kítí/kɔɣɔ
465.	467	grumble, complain	kúnãmã
466.	468	contradict	ɛra gbã kpràrá
467.	469	accuse	kusá mɔɣɔrá
468.	470	deny	kɔɣɔkɛ
469.	471	admit	dàɣá ɛkɛ
470.	472	agree	yõŋ ɛra
471.	473	agreement	kɔrõmĩ
472.	474	persuade	hákílásùɣu
473.	475	praise (n)	màkìlì
474.	476	bless, praise	làkyéli
475.	477	congratulate	ɛkɔ àniwálé/ anikyé ra
476.	478	boast, brag	dáakɛ

4.2.5 Discourse genres

477.	479	tell, recount (story)	kísá tɔgɔ
478.	480	story (tale)	kyĩ́
479.	481	proverb	táaléŋ
480.	483	account, (report) (n)	làsélí

4.3 INTERPERSONAL CONTACT

481.	484	embrace, hug (v)	ɛ nyàfù sùɣu

482.	485	caress (v)	srã
483.	486	kiss (v)	dáamɔsɔ
484.	487	copulate	sìní /sa ɛra
485.	488	nurse, suckle (baby) (tr)	ɛ kɔ kyĩrá
486.	489	tickle (v)	ɛ nyàɣáló
487.	490	spank (child)	ɛ gúmbɛrì
488.	491	whip (n)	nyíŋgbàɣá

4.4 HELP AND CARE

489.	492	help (v)	ɛ dìɛmã
490.	493	protect, defend	kpɛtɛrɛ/ yõŋkàaná*
491.	494	look after	filéŋ (as in ‘see’)
492.	495	bring up (a child)	kùlù

4.5 DOMINION AND CONTROL

493.	496	rule over, dominate	márá
494.	497	ord (to do something)	síé
495.	498	command (n)	ŋãgbàbɛrì
496.	499	duty, obligation	ɛ màkù
497.	500	send (one do something)	yìé
498.	501	serve	ɛ màyá
499.	502	lead, guide (v)	ɛra báadà
500.	503	follow	ɛra kpã
501.	504	obey	làbàtu?

4.6 CONFLICT AND RESOLUTION

502.	505	please, satisfy (v)	ŋàrìfĩ/ ŋàrwìá
503.	506	annoy, disturb	ŋàrìbɛrì
504.	507	deceive (v)	nãmbàrá/fiɛfiɛ
505.	508	quarrel (n)	sằŋ
506.	509	fight (v)	sằŋ
507.	510	stab (v)	ɛsɔrõŋ
508.	511	kill, murder (v)	ɛkpã
509.	512	take revenge	gùlùbɔ/ ŋɔɣõbɔ
510.	513	resolve, settle (dispute)	tùõtíéŋ
511.	514	intercede, mediate	sɔkʊ̲kɔn
512.	515	compromise	ɛtùrábélí*
513.	516	appease, pacify	ɛ kúnàkɛ (kùná)
4.7	CRIME AND JUSTICE		màrì wɛ lìãdíríya
514.	517	steal	ɛgbìã
515.	518	rape	sɔ ɛwúrá
516.	519	judge (v)	kítí béɣé
517.	520	law	mmàrá/sháríá
518.	521	(be) fair, just	ɛmá liãdìrì wɛ
519.	522	(be) guilty	akɔrɛ gòlónnà
520.	523	(be) innocent	ɛkʊ̲sɔrɛ/ sɔkʊ̲bélí
521.	524	punish	ayi tʊ̲lʊ̲kyígí
522.	525	penalty, punishment	haddu /tʊ̲lʊ̲kyígí

5.0 HUMAN CIVILISATION

5.1	SETTLEMENT		yàɣá dìrá
523.	526	dwell, inhabit	yàɣá/ wɛ
524.	527	inhabitant	kắmɔɣɔ
525.	528	bush dweller	bàgàkãmãmɔ̀ɣɔ̀
527.	529	move away, migrate	púɣùtí /bɔsì
528.	530	country	kyi̋nì̋/jámànà
529.	531	frontier (of ethnic area)	béɣédáa/lókókɔrɔ
530.	532	town, city	kãŋ
531.	533	village	bàɣàkắŋ
532.	534	camp, encampment	bàɣàkắmã
533.	535	market (n)	díŋ
5.2	CLOTHING AND ADORMENT OF BODY		
5.2.1	**Clothing**		
534.	536	clothes	déréŋgé/ sulo
535.	537	wear clothes	déréŋgésɔ̀
536.	538	dress (v)	dìénáyɛl
537.	539	undress	ɛra wúrá
538.	540	(be) naked	wúrá
539.	541	hat	gbónfílá
540.	542	shirt	déréŋgé
541.	543	trousers	kùrúsí
542.	544	loincloth	bìlá
543.	545	robe (man’s gown)	jàlbáb
544.	546	cloth worn by a woman	gắ
545.	547	baby sling	gắ

546.	548	shoe, sandal	sàbrɑ̃ŋ

5.2.2 Adornment and accessories

547.	549	bead	ŋunusĩŋ/ŋùnù
548.	550	string, thread (beads) (v)	ŋunusɔ
549.	551	bracelet	bùlàsĩŋ/ gbɛ̃rɛŋ
550.	552	necklace	fólàsĩŋ
551.	553	ankle ring, bangle	gbànya
552.	554	ring (finger)	gbɛ̃ndìrì
553.	555	earring	túlásĩŋ
554.	556	pierce (ears)	ɛsɔrõ
555.	557	labret, lip plug, lip disk	dáagbáa
556.	558	plait, braid (hair)	ɛra wúyírí
557.	559	(facial) incision(s), tattoo (s)	lólóɣó
558.	560	cane, walking stick	kpɪ́

5.2.3 Care for body

559.	561	bathe, wash oneself	ɛra wìé
560.	562	apply (ointment)	tìlé srã
561.	563	wipe off (excreta)	bàrã tílí/ dìénàtìéŋ
562.	564	cut (hair)	wútíɣí bébéɣé
563.	565	shave (v)	síŋ
564.	566	razor	bílédìgbá
565.	567	comb (n)	sɛ̀rɛ̃ŋ
566.	568	tooth stick, toothbrush	dóŋgbá

5.3 FOOD AND DRINK

5.3.1 Food

567.	569	food	tù̲
568.	570	meat	síé
569.	571	fat	kyḯḯ
570.	572	oil	tìlé
571.	573	soup	tàɣá
572.	574	pap, mushy food	tù̲kɔ̃nɛ
573.	575	bread	páanɔ
574.	576	crust	fàrá
575.	577	flour	fù̲ɣù̲
576.	578	salt	kùɔ
577.	579	breakfast	dàrákã
578.	580	evening meal	kŏrótù̲
579.	581	feast	wálímá
580.	582	leftovers (*overnight*)	tu̲gbíŋ
581.	583	spoil	ɛrà kã
582.	584	mould	fún
5.3.2	**Drink**		**mínsĩ**
583.	585	milk	nyɪgé
584.	586	curdled milk	nàará
585.	587	alcohol	dɔlì
586.	588	beer	dɔlì
587.	589	mead, honey bear	dɔlì
588.	590	palm wine	dɔlì

5.4 FOOD PREPARATION

5.4.1 Kitchen preparation

589.	591	prepare (food to cook)	tu̲mwɔ/tu̲mã
590.	592	cut	ɛbéɣé
591.	593	cut open	ɛbéɣé tùlá
592.	594	slice	nyɪnyɪgɪ
593.	595	peel	ɛmáɣǻ
594.	596	mix	ɛkyáɣà
595.	597	stir	ɛmàmàɣá
596.	598	strain	ɛgbùó (liquid)/ ɛtènnɛ́ (flour)
597.	599	pound	ɛtìɣí
598.	600	grind	ɛyéɣé
599.	601	knead	ɛsɛɣɛ
600.	602	pluck (feathers)	tímbɔse

5.4.2 Cooking

601.	603	cook	ɛmwɔ̃
602.	604	roast	ɛsìrã
603.	605	fry	ɛjìlã
604.	606	bake	ɛsìrã
605.	607	be smoked	ɛgbàa
606.	608	boil	ɛmwɔ̃
607.	609	ferment (alcohol)	ɛra ŋúŋ

5.5 DOMESTIC UTENSILS AND CONTAINMENT

5.5.1 Kitchen utensils

608.	610	cooking pot	tu̲ɣu̲
609.	611	metal	dàrìsɛŋ

610.	612	pot (water)	tu̲ɣu̲
611.	613	ladle	tàɣákàtó
612.	614	cooking stone	bõŋkpíŋ
613.	615	grinding stone	tàɣáyéɣékpíŋ
614.	616	upper grinding stone	tàɣáyéɣékpíŋdì
615.	617	lower grinding stone	yèɣékpíŋ
616.	618	pestle	ŋõŋdì
617.	619	mortar	ŋõŋ

5.5.2 Eating utensils

618.	620	plate	kùmãkpãkpã
619.	621	bowl	tasa/ kúrúwa
620.	622	cup	bóŋsua/ fìɛ
621.	623	spoon	bàɣákàtó/yɛlɛ̃ŋ
622.	624	bag	(suluke) bɔtõŋ
623.	625	box	fórógó?
624.	626	basket	kyíɛ
625.	627	bucket	wìésélgbúŋ/ bókítí
626.	628	calabash	fìè
627.	629	bottle	dɛ̃ŋ
628.	630	stopper	dáatɔɣɔsíŋ
629.	631	handle	sùɣu̲dìra
630.	632	pour	ɛbõŋ/ ɛsìɛ
631.	633	spill (liquid)	ɛra dàkábõŋ
632.	634	take out (from container)	ɛbɔ
633.	635	fill	ɛfɛ̃ŋ

634.	636	(be) full	ɛra fɛ̃ŋ
635.	637	(be) empty	ɛramã wãŋ
636.	638	(be) open	ɛra lájí
637.	639	open	ɛlàjí
638.	640	close, shut	ɛblãŋ
639.	641	stop up	ɛdáanàrì
640.	642	cover	ɛtɔɣõ
641.	643	uncover	ɛ bãŋgé
642.	644	store (up)	ɛ tìénsá
643.	645	bundle (n)	yìrí
644.	646	heap (n)	kùrú
645.	647	heap up	ɛra kùrú
646.	648	wrap up	ɛyìrí
647.	649	unwrap	fùlóŋ
648.	650	pack	sógólóŋ
649.	651	strap (n)	màrãjùlú
650.	652	string (n)	jùlúmĩŋ/ jésé
651.	653	rope	jùlú
652.	654	knot	kõ
653.	655	fasten	ɛyìrí/ ɛtùgúŋ
654.	656	tie	yìrí
655.	657	untie	fúlóŋ
656.	658	tighten	ɛ yìtɛ gbarɛ
657.	659	(be) tight	ɛ yìrí gbáarɛ
658.	660	loosen	ɛkõŋ làjírɛ

659.	661	(be) loose, slack	ɛkõŋ làjí

5.6 HABITATION

5.6.1 Parts of a house

660.	662	compound, house	kyórí tùõŋ
661.	663	hut	bíŋgbã/bíŋkyórí
662.	664	wall	kpìrí
663.	665	door, doorway cover	kóŋ
664.	666	doorway	kóŋgbá
665.	667	window	tókóró
666.	668	roof	bríŋ
667.	669	beam, rafter	bànábírí
668.	670	floor	du̲ɣu̲mã
669.	671	room	gban
670.	672	bedroom	gbankõkɔŋ
671.	673	kitchen	jáadì
672.	674	entrance	gbãnàdáa
673.	675	courtyard	kyórítuõŋ
674.	676	fence (n)	kpìrí
675.	677	fence in (v)	ɛ kpɛtɛrɛ
676.	678	granary	lasó
677.	679	well (n)	kɔ̀lõŋ
678.	680	bathing place	jùɔ
679.	681	latrine, toilet	tìyá
680.	682	garbage dump	sùndùɣú
681.	683	garden	kàrã

682.	684	shelter	pàtã

5.6.2 Construction

683.	685	build	ɛkpã
684.	686	mark out, peg out	kpáa sá
685.	687	mud block	tórófa
686.	688	thatch (n)	tété
687.	689	plaster	ɛnɔɣɔ
688.	691	paint	péntí
689.	692	ladder	yɛrɛyɛrɛnã

5.6.3 Furniture

690.	693	chair	gbóŋ
691.	694	stool	sǎ̰yagbóŋ/gbóŋ
692.	695	wickerwork	dɛ̃bɛlìgbòŋ
693.	696	bed	bãmbé
694.	697	mat	nĩŋgɛlì
695.	698	lamp, torch	fìtíná
696.	699	fan (n)	féndé
697.	700	bell	wéléwélé
698.	701	ring (bell)	wéléwélébɛri

5.7 PROFESSIONS AND WORK

699.	702	act, do	mã
700.	703	work (n)	yìá
701.	704	mend, repair	ɛtìéŋ

5.7.1 Smithing

702.	705	forge (n)	nùmú

703.	706	hammer	túrúbɛrìsiŋ
704.	707	anvil	kpĩ
705.	708	bellow	fàfúu

5.7.3 Wood work

706.	712	wood	gbáa
707.	713	cut down (log)	gbáa béɣé
708.	714	log	gbáa gbélé
709.	716	axe	jéndé
710	717	chop into pieces	ɛtu̲lá
711.	719	saw (v)	ɛtu̲lá
712.	721	knot (in wood)	kàlãkàlãŋ (liane)
713.	724	nail (n)	túrú

5.7.4 Tailoring and weaving

714.	725	sew	ɛkárã
715.	726	needle	mìnyìní
716.	727	thread (n)	jésé
717.	729	pocket	jùfá
718.	730	(be) torn	tɪĩ
719.	731	weave	kólóŋ mã
720.	732	cloth	gǻ

5.7.5 Domestic work

721.	733	rag	kpíndìgí
722.	734	broom	sàdìgí
723.	735	sweep	ɛfɛ̃ŋ
724.	736	polish	fɛ̃nfɛ̃ (sàbrãŋ)

725.	737	wash (utensils)	bìɛlɛ̃ŋ wìé
726.	738	draw water	yíkyígí
727.	739	fetch (firewood)	sɔɣɔrã sìnì?
728.	740	dig	sĭŋ
729.	741	rubbish	nyànyímã

5.8 AGRICULTURE

5.8.1 Cultivation

730.	742	cultivate	báɣásá?
731.	743	field	báɣá /kpéndéɣé
732.	744	boundary (of field)	dáa
733.	745	fertile soil	dù̲ɣú̲kyímã
734.	746	(be) barren (of land)	kyéréŋkyéré dùɣú
735.	747	clear (land for planting)	kyɛsí / súgãbéɣé
736.	748	sow, plant	ɛbáa/ símãba
737.	750	weed (v)	(see 747)
738.	751	hoe (v)	wɔrõŋ
739.	752	hoe (n)	kpúó/ lóó (for digging hole)
740.	753	big hoe	kpúógbõŋ
741.	754	sickle	kótófiów/ lókó
742.	755	machete, cutlass	bɔrìfiãgbõŋ

5.8.2 Harvest

743.	756	harvest season	sumɔ kyìrɛ
744.	757	harvest (maize)	jónjí kyìrɛ
745.	758	harvest yam, dig up (yams)	wùóbɔ

746.	759	pick, pluck (fruits)	lómùrúbéɣé
747.	760	harvest, collect honey	kũũmbɔ
748.	765	shell (groundnut) (v)	mãtìgá tìé
749.	766	husk (corn) (v)	jónjí fɛlɛgɛ

5.8.3 Animal husbandry

750.	768	herd (cattle, sheep) (n)	yéɣékyɔgàlí
751.	769	herd, tend (cattle, sheep) (v)	kùlú
752.	770	cattle pen	gáã
753.	771	tether (sheep, goats) (v)	ɛkɔ kyĩnã
754.	772	feed (animals)	ɛko kúmára
755.	773	milk (cows, goats) (v)	nyìgébùĩŋ
756.	774	castrate	sɛrɛkõŋ

5.9 HUNTING AND FISHING

5.9.1 Hunting

757.	775	hunt (v)	fɛlmã
758.	776	stalk (v)	tùõŋ
759.	777	chase (v)	kpã ɛrá
760.	778	track (animal) (n)	báɣàsiékpùɔkpá
761.	779	footprint (human)	mɔɣɔkpùɔkpá
762.	780	bow (hunting)	kàlì (kàl)
763.	781	arrow	kàlìdì
764.	782	poison (on arrow)	bàɣã (also venom)
765.	783	head of arrow	bìédì
766.	785	lance (spear) (n)	jéŋ

767.	786	knife	bɔrìfiã
768.	788	club, cudgel	kutukuru
769.	789	hunting net	lãŋ
770.	791	trap (n)	dìɛlɛ̃ŋ
771.	792	set (trap)	dìɛlɛ̃ŋ sá
772.	793	trap (animal) (v)	dìɛlɛ̃ŋ sá baɣasiema
773.	794	evade	ɛra fìrì
774.	795	escape	(see 773)
775.	796	wound (animal)	màdìénɛ
776.	797	slaughter, kill	kãtìgɛ̀
777.	798	skin (animal) (v)	kprù bɔ

5.9.2 Fishing

778.	799	fish (v)	yàɣãkùlʊ
779.	800	fish dam	yàɣãkùldrá
780.	801	fish trap	jĩjɛl
781.	802	fishing net	yàɣǎ lãŋ
782.	803	fishing line	kɔntójùlú
783.	804	fishhook	kɔntó
784.	805	bait	kɔntódàsié

5.10 POSSESSIONS AND COMMERCE

5.10.1 Possessions

785.	806	have, possess	dɔ
786.	807	need (v)	màkɔ
787.	808	get, obtain	jí
788.	809	give	kɔ

789.	810	return, give back	búlúmã
790.	811	belongings	kàríjúgó
791	812	owner	màtígì
792.	813	rich man	jɛlɛ̃mmàtígí
793.	814	poor man	déɣétɔ
794.	815	(be) rich	jɛlɛ̃njí
795.	816	(be) poor	ɛrama déɣétɔ wɛ

5.10.2 Money exchange, finances

796.	817	money	jɛlɛ̃ŋ
797.	818	cowrie, shell	kɛ̀kɛ̀
798.	819	barter	súgùnã
799.	820	buy	sã
800.	821	sell	tù̲rú̲
801.	822	(be) scarce	kù gbárɛwɛ
802.	823	(be) expensive	sõŋgɔ̀ gbárɛwɛ
803.	824	(be) inexpensive	ɛsõŋgɔdí
804.	825	price	ɛsõŋgɔ
805.	826	haggle, negotiate a price	ɛtɛlìmã
806.	827	payment	gúlúbɔ
807.	828	pay (goods and services)	ɛ gúlúbɔ
808.	829	gift	kɔnã / bónyã
809.	830	hire (v)	páabɛre
810.	831	beg (for money)	délíkɛ
811.	832	borrow	ɛdɔ̃ndɔnɛ
812.	833	lend	ndɔ̃ndɔrɛ

813.	834	debt	gùlú
814.	836	accept, receive	ɛdàgákɛ
815.	837	refuse	gbǎ̀
816.	838	tax (n)	sàgálé
817.	839	tribute	kõnã
818.	840	inheritance	bùrú
819.	841	inherit	bùrúŋkõ
5.11	TRAVEL AND TRANSPORTATION		
820.	842	journey	sàfárákõn
821.	843	travel (v)	kyìlí bégé/ pugutí (sase)
822.	844	traveler	sàfárábámɔgɔ
823.	845	wander	wúráfìlí
824.	846	(be) lost	ɛra ŋ̀ã
825.	847	path, road	kyìlí
826.	848	fork (in path)	kyìlífuó
827.	849	crossroad, intersection	kyìlífuónáanì
828.	850	cross (river)	yíbéɣé
829.	851	canoe	gbáawúlú
830.	852	paddle (n)	suŋgbàlì
831.	853	paddle (v)	yínɔgɔ
832.	854	bale out	ɛ wógóbɔ̃ŋ
833.	855	capsize	ɛtínàrɛ
834.	856	bring	yá ɛra (yɛra)
835.	857	take, carry away	táɣà ɛrá (táɣɛra)
836.	858	send (something to someone)	ɛyié

837.	859	carry (in arms)	ɛra taɣa ɛra
838.	860	carry (child) on back	ɛsunnɛ ɛkana
839.	861	carry on head	ɛsúnnɛ ɛwùó
840.	862	headpad	kpìndígí
841.	863	load, burden	sùlu̲ súŋ
842.	864	load (v)	jìgí
843.	865	unload	jɔ̀ɣɔ̃
5.12	WAR		
844.	866	war	sɛ̀ŋ
845.	867	peace	tùlu̲kúmã
846.	868	army	sãŋkɛmɔɣɔ
847.	869	spy	mɔgɔdɛ̃ndɛmɔɣɔ
848.	870	spy (v), spy on	dɛ̃ndɛ
849.	871	sword	tókófìów
850.	872	gun	màrífá
851.	873	shield (n)	kpɛtrɛnã
852.	874	conquer, defeat	dìãkõŋ
853.	875	(be) defeated	ɛra gàl (ɛ)
854.	876	prisoner, captive	gbãŋgbìrí sá mɔɣɔ, jõ
855.	877	plunder (a town)	kàmã

5.13 ARTS AND LEISURE

5.13.1 Music and dance

856.	878	music	sùgú
857.	879	song	sùgú
858.	880	sing	sùgúsá

859.	881	hum (v)	ŋùnúŋùnã?
860.	882	whistle (v)	fiélέŋ fiɛ
861.	883	dance (n)	fãŋ
862.	884	dance (v)	fãnbà

5.13.2 Musical instruments

863.	885	big (gest) drum	tùlágbõŋ
864.	886	small (est) drum	tùládìrí
865.	887	talking drum	lóŋgá
866.	888	hourglass drum	lóŋgá
867.	889	flute	gbḯ / lɛkõ
868.	890	harp	sùgúbɛrìjùlú?
869.	891	balafon	dãgbélì
870.	892	horn (musical instrument)	gbé
871.	893	shell (musical instrument)	dɛ́ŋdìrí
872.	894	rattle (musical instrument)	yambara
873.	895	play instrument	bɛ́rí
874.	896	blow (horn)	fiɛ

5.13.3 Arts

875.	897	draw (picture)	ɛlégé
876.	898	decorate	ɛmàyírí
877.	899	carve	ɛ sìé

5.13.4 Leisure

878.	900	play (child)	fãmbáa
879.	901	game	ŋàrwiásĩŋ
880.	902	tobacco pipe	tɛ̃̀tu̲ɣu̲

881.	903	tobacco-stem	tǎ̱tù̱ɣ̱ù̱gbá
882.	904	tobacco	sàrrí
883.	905	awe, reverence (for God)	àllágbiã

5.14.1 Supernatural beings

884.	906	God (Supreme being)	Allah
885.	907	god (lesser), fetish (fetish)	kpìé
886.	908	demon, evil spirit	jìnní
887.	909	ghost (visible apparition)	kŭ slέŋ
888.	910	soul, spirit (living person)	níí
889.	911	spirit (of dead person)	kŭ slέŋ

5.14.2 Religion and witchcraft

890.	912	pray	sélí
891.	913	blessing	bàrágà
892.	914	divine, prophesy (v)	lɛgbɛri bɛ́rí
893.	915	prophecy (n)	kìnã jí
894.	916	vision	kìnã jí
895.	917	omen	míŋsàlí
896.	918	witchcraft	gbràyá
897.	919	bewitch, cast spell	nyànyíní
898.	920	curse (v)	ɛdãŋgà
899.	921	curse (n)	dãŋgá
900.	922	poison (n)	kɔrtì/báɣ̃ã
901.	923	poison (a person) (v)	kɔrtìkɛrɛ
902.	924	amulet, charm, fetish	srí/sɛ́bɛ̀
903.	925	protect by charm	kpɛlínɛ

904.	926	mask (n)	dìbínã
905.	927	(be) taboo	tánã
906.	928	exorcise	gbàlì
907.	929	sacrifice	sàrágà
908.	930	pour libation	dɔlíbõŋ
909.	931	dweling place of the dead	kúsɔdìrá

5. 15 CEREMONIES

910.	932	tradition, custom	lãdá /làsírí
911.	933	feast (n)	walima/ níŋsɔdìáko
912.	934	naming ceremony (baby)	dì wúsíŋ
913.	935	circumcision (male)	kyìníkyìnísɔ

5.15.1 Marriage

914.	939	marry	fúrú
915.	940	marriage (state of wedlock)	fúrú
916.	941	(be) engaged	góróbɔ
917.	942	brideprice (bride's family)	fùrú jɛlɛ̃ŋ
918.	943	wedding (ceremony)	kpìãyá
919.	944	bride	kpìã
920.	945	groom	kpìãŋkyɛlì
921.	947	adultery	gyìnàyá
922.	948	divorce (v)	gbãŋ

5.15.2 Funeral

923.	949	funeral	dìí
924.	950	mourning	dìí

925.	951	wail, ululate	dìí/ wólí
926.	952	console, comfort (v)	ɛkɔsàwáríra
927.	953	corpse	kǔ
928.	954	bury	kúsɔ
929.	955	grave	kábùrú
930.	956	cemetery	kúsɔkɛdìrá
6.	**Animals**		**baɣasie no**
931.	957	animal	báɣàsìé/ bìɛgá

6. 1 DOMESTIC ANIMALS

6.1.1 Bovines

932.	958	ox, bovine	yéɣékúlámã (sɛrɛgùnɛ)
933.	959	bull	yéɣékyìnímã
934.	960	cow (female)	yéɣényàmá
935.	961	heifer	yéɣékpéréŋ
936.	962	steer	yéɣé sìrɛkõŋ
937.	963	calf	yéɣédì
938.	964	herd (of cattle)	yéɣénõ

6.1.2 Ovines and caprines

939.	965	goat	báa
940.	966	he-goat, billy goat	báa kɔrõŋ
941.	967	she-goat	báa nyàmá
942.	968	kid	báa dì
943.	969	sheep	tàɣã
944.	970	ram	tàɣãkyìnímã

945.	971	ewe	tàɣãnyàmã
946.	972	lamb	tàɣãdì
947.	973	flock (of sheep, goats)	tàɣãno/báano

6.1.3 Poultry

948.	974	chicken	tɔ̀ɣɔ́
949.	975	rooster (cock)	tɔ̀ɣɔ́ kyìnímã
950.	976	hen	tɔ̀ɣɔ́ nyàmã
951.	977	chick	tɔ̀ɣɔ́dì
952.	978	turkey	kókókúló
953.	979	guinea fowl	kámí
954.	980	duck	súnsú
955.	981	camel	nyɔɣɔmã
956.	982	horse	sṵ̃ŋ
957.	983	stallion	sṵ̃ŋkyìnímã
958.	984	mare (femal horse)	sṵ̃nnyàmã
959.	985	colt	sṵ̃ndì
960.	986	donkey	fàní

6.1.5 Others

961.	987	pig	pàríkuó/kɔkɔtì
962.	988	boar (male pig)	pàríkuó kyìnímã
963.	989	sow (female pig)	pàríkuó nyàmã
964.	990	piglet	pàríkuódì
965.	991	dog	wùlú
966.	992	pup	wùlúdì
967.	993	cat	jéŋkúmá

968.	994	kitten	jéŋkúmádì
6.2	MAMMALS		
969.	995	elephant	gbɑ́
970.	996	hippopotamus	mìní
971.	997	buffalo	sìgí
972.	998	rhinoceros	lìɛ
973.	999	giraffe	kõŋgósógóló
974.	1000	warthog	sìɛ
975.	1001	monkey	kùlá
976.	1002	baboon	gbɔ̃ŋ
977.	1003	hyena	jérému/ kóló
978.	1004	jackal	gbógbó
979.	1005	antelop	kyìlá (kunan-red, jan-white)
980.	1006	zebra	bàɣáléŋ
6.2.1	**Rodents**		
981.	1009	mouse	tu̲lá
982.	1010	rat	tu̲tũŋ (salaga tuladi)
983.	1011	grass cutter/cane rat	nyìnã
984.	1012	palm rat	púré
985.	1013	shrew	gbànákúu
986.	1014	mole	síŋsíŋkùrá
987.	1015	mongoose	bárãbéɣé/fìríjágá
988.	1016	hare	bíŋkɔŋ kyíndìrí
989.	1017	squirrel	chḯĩn
990.	1018	porcupine	báalɛ̃ŋ

991.	1019	bat	tólé
992.	1020	fruit bat	kúá
6.2.2	**Cats**		
993.	1021	wild cat	haỲlísúmã
994.	1022	civet cat	hàllígbúndìrì
995.	1024	leopard	kɔl
996.	1025	lion	jàrá
6.2.3	**Mammal parts**		
997.	1026	hide (of animal)	kprú
998.	1028	horn	gbɑ́
999.	1029	hump (of cow)	jìká
1000.	1030	udder	yégékyĩ
1001.	1031	tail	jɑ̀
1002.	1032	hoof	kókórá
1003.	1034	elephant’s trunk	gbɑ́ suŋ
1004.	1035	elephant’s tusk	gbɑ́ nyì
1005.	1036	den, lair, hole	yéll
6.2.4	**Mammal actions**		
1006.	1037	bark	wólí
1007.	1038	bare, show (teeth)	nyíŋɔrì
1008	1039	growl	ŋúnu?
1009.	1040	ruminate	fùnúdóŋ
6.3	BIRDS		
1010.	1041	bird	kõŋdìrì
1011.	1042	crow	kwãkúráa

1012.	1043	dove	lɛ̃ŋ/ gbáálì (pigeon)
1013.	1044	weaver bird	kùã
1014.	1045	parrot	àkó / làláá
1015.	1047	cattle egret	kúlãŋkpiɛkpiɛ
1016.	1048	heron	yídáarákõŋdìrì
1017.	1053	ostrich	kõnõsógóló
1018.	1054	owl	gúmàlúgú
1019.	1055	eagle	sɛgɛ
1020.	1056	hawk	kòló (sɛgɛ-small)
1021.	1057	vulture	gósó

66.3.1 Birds parts and things

1022.	1058	feather	tíŋ
1023.	1059	wing	fìní
1024.	1060	beak, bill	dáa
1025.	1061	crest (of bird)	nyáɣã
1026.	1062	comb (of rooster)	jéŋ
1027.	1063	crop (of bird)	sìyá
1028.	1064	gizzard	kɔsì
1029.	1065	claw	ŋànyí
1030.	1066	egg	yélí
1031.	1067	eggshell	yélí fùnú
1032.	1068	yolk (of egg)	tɔgɔyélí yítárìmá
1033.	1069	nest	kõŋdìrì nyàgá
1034.	1070	flock (of birds)	kõŋdìrìnõ

6.3.2 Birds actions

1035.	1071	fly (v)	ɛra bɔsì
1036.	1072	dive	bõŋ
1037.	1073	soar	lìɛri
1038.	1074	land, alight	jɔ̀ɣɔ́
1039.	1075	perch	yõnnìnámã
1040.	1076	flap the wings	fìníbɛrì
1041.	1077	cackle (as of chicken)	yélíkìl
1042.	1078	crow (as a rooster) (v)	dǐ
1043.	1079	peck	chóchógó
1044.	1080	lay (eggs)	yélíbà
1045.	1081	incubate, set (on eggs)	mùɣú
1046.	1082	hatch	yélítìé
6.4	FISH		
1047.	1083	fish	yàɣá
1048.	1084	catfish	màlɔgɔ
6.4.1	**Fish parts**		
1049.	1087	fish bone	yàɣá yélí
1050.	1088	fish-scale	yàɣá fù̲nú̲
1051.	1090	fin	yàɣábù̲lù̲
6.4.2	**Shellfish and mollusks**		
1052.	1091	crab	wóɣó
1053.	1092	shrimp	jàtólélé?
1054.	1093	clam	sàrámãtá kérékété
1055.	1094	snail	kérékété
6.5	REPTILES		

1056.	1095	snake	kă
1057.	1096	spitting cobra	jéŋkáa
1058.	1097	puff adder	yéɣébúkáa
1059.	1098	python	dù̱niɛ̃
1060.	1099	green mamba	jãŋkáa
1061.	1100	lizard	kólgbéŋ
1062.	1101	agama lizard	kólgbéŋwútarama
1063.	1102	chameleon	kànãgbórí
1064.	1103	gecko	gbànáwúlú
1065.	1104	monitor lizard	káaní/ kúrãŋ
1066.	1105	crocodile	fórí
1067.	1106	frog	tórí
1068.	1107	toad	gbɛrɛ
1069.	1108	tortoise	kóɣó
1070.	1109	turtle	táawá

6.5.1 Reptile parts

1071.	1110	fang	kănyí?
1072.	1111	venom	bàɣ̀
1073.	1112	shell	kóɣókànã

6.5.2 Reptile actions

1073.	1113	slither (snake)	jùɔ/kyígí
1074.	1114	bite (snake)	ɛnyíŋ
1075.	1115	crawl (lizard)	tàɣámà
1076.	1116	hiss	kădíí

6.6 INSECTS

1077.	1117	insect	dõŋgbàɣá
1078.	1118	flea	kpànyìɣɛ/ kpànyɛɣɛ
1079.	1119	louse	wúwùlú
1080.	1120	bedbug	sàmãŋkóró/kpàgàlá
1081.	1121	maggot	tùmú
1082.	1122	cockroach	nyìmĩ
1083.	1123	ant	dùŋgbàɣá
1084.	1124	army ant	sìlé
1085.	1125	flying ant	finna dùŋgbàgá
1086.	1126	termite	dõŋ
1087.	1127	spider	kɛ̀lĩ̀ndrì
1088.	1128	tarantula	dẽŋgbɛlì
1089.	1129	scorpion	yéndàɣá
1090.	1130	dung beetle	bu̲gbúlá
1091.	1132	grasshopper	gãgà
1092.	1133	cricket	kɛ̀ɛrĩ
1093.	1134	locust	gãŋga
1094.	1135	praying mantis	àllásígõgõ
1095.	1136	leech	sɔmõ
1096.	1137	cartepillar	kánàkpiɛnà túmú
1097.	1138	centripede	wéndaɣa
1098.	1139	millipede	gbànásunná?
1099.	1140	earthworm	nyɔlɔlɔ

6.6.1 Flying insects

1100.	1141	fly (n)	sĩĩŋ

1101.	1142	mosquito	sù̲sõŋ
1102.	1143	bee	kǔ̃ndì
1103.	1144	mud wasp	dɛŋgbɛlì
1104.	1145	dragonfly	yídáarasùsõŋ
1105.	1146	butterfly	finfini
1106.	1147	moth	kǒró finfini

6.6.2 Insect things

1107.	1149	sting	nyíŋ
1108.	1151	spider web	kɛndì nyàɣã
1109.	1152	cocoon	brúgó
1110.	1153	termite hill	dõŋgbã
1111.	1154	beehive	kǔ̃nnyàgá
1112.	1155	beeswax, bee-bread	kànyá
1113.	1156	honey	kǔ̃ŋ
1114.	1157	swarm	kǔ̃ndɪnũ

7. PLANTS

7.1.1 Tree

1115.	1158	tree	gbáa
1116.	1159	ebony tree	kɔ̀lbútú
1117.	1160	mahogany tree	gɔ́ɔlɛ̃ŋ
1118.	1161	teak tree	tiik
1119.	1162	baobab tree	kóyígbá
1120.	1163	silk cotton tree	kólóŋgbá
1121.	1164	shea-butter tree	kɔlgbá
1122.	1165	fig tree	yɛ̃yɛ̃ŋgbá

1123.	1166	thorn-tree	brágbá
1124.	1167	tamarind tree	sãgá gbá
1125.	1168	oil palm tree	tìĩŋ gbá
1126.	1169	coconut palm tree	kúbégbá
1127.	1170	raffia palm	sànyógó gbá
1128.	1171	date palm	tɛmɛrɛ
1129.	1172	bush	bíŋ

7.1.2 Grasses

1130.	1173	grass	sàalɛ̃ŋku
1131.	1174	bamboo	gbĩ̃gbɛlì
1132.	1175	reed	tété
1133.	1176	weeds	bíŋ

7.2 PLANT PARTS

1134.	1177	leaf	já́
1135.	1178	branch	gbáabùlu̲
1136.	1179	trunk	gbáatùõ
1137.	1180	bark (tree)	fùnu̲
1138.	1181	sap	gbáayí
1139.	1182	stump	gbáakuŋ
1140.	1183	root	kúŋ
1141.	1184	bulb, tuber	símã
1142.	1185	stem, stalk	tùõ
1143.	1186	silk, hair (of maize)	jónjidáatígí
1144.	1187	blade (of grass)	bíndáa
1145.	1188	flower	fiélɛ́ŋ

1146.	1189	bud	nɛ̃ŋ
1147.	1190	shoot (new plant)	ɛfinnɛ̃
1148.	1193	thorn	ŋàɲí
1149.	1194	palm branch	jɛ̃bɛ́l
1150.	1196	palm needle	tɛ̃nɲaŋi

7.3 PLANT PRODUCTS

7.3.1 Plant products parts

1151.	1197	juice	(name of fruit+) yí
1152.	1198	stone, pit	(name of fruit+) dì
1153.	1199	bunch (of banana)	súuŋ
1154.	1200	corn cob	jónjígbá
1155.	1201	kernel (of corn)	jónjídìrá
1156.	1202	seed	símã
1157.	1203	skin (of fruit)	fùnù
1158.	1204	shell (of groundnut)	mãtìgáfùnu
1159.	1205	corn husk	jónjífùnu
1160.	1206	chaff	fófó/ ɲɛŋɛ

7.3.2 Fruits

1161.	1207	fruit	gbáadì
1162.	1208	banana	kɔdú
1163.	1209	plantain	bàlná
1164.	1210	lemon	lémúrúmĩ
1165.	1211	orange	lémúrú
1166.	1213	pawpaw	bɔfîrɛ
1167.	1214	pineapple	ábrɔbɛ

1168.	1215	guava	gɔ́abɛ
1169.	1216	avocado	pàyá
1170.	1218	date	tɛmɛrɛ

7.3.3 Vegetables

1171.	1219	tomato	tómákɛsì
1172.	1220	onion	gáabu
1173.	1221	garlic	gáabúmĩmã
1174.	1222	pepper (green)	bɔnyɔgbélé
1175.	1223	red pepper	bɔnyɔ̃tàrámá
1176.	1224	okra	kpìã̀
1177.	1225	egg-plant	tɔ̀rɔ́
1178.	1226	mushroom	fìnã́

7.3.4 Tubers

1179.	1227	cassava	gbéndé
1180.	1228	cocoyam	mãkáni
1181.	1229	yam	wúó
1182.	1230	sweet potato	sãnyáwúó

7.3.5 Cereals

1183.	1232	maize	jónjí
1184.	1233	millet	kyìɛ
1185.	1234	sorghum	wágà
1186.	1235	guinea corn	sógú / gɔlngɔ (for tubani)
1187.	1236	rice	màlóŋ

7.3.6 Other plant products

1188.	1237	groundnut	mãtìgá

1189.	1238	sesame seed	kyíémĩ
1190.	1239	cola nut	gòró
1191.	1240	palm nut	tɛ̃ŋ
1192.	1241	sugar cane	ahwidiɛ
1193.	1242	coffee	kaffi
1194.	1243	rubber	màrì
1195.	1244	cotton	kólóŋ

7.4 PLANT PROCESSES

1196.	1245	grow (of plant)	kóŋ
1197.	1246	sprout	ɛwɛ finna (finna finna)
1198.	1247	(be) ripe	ɛra tárã
1199.	1248	ripen	kàgálóŋ
1200.	1249	(be) unripe	gbéléŋ
1201.	1250	(be) rotten	ɛ tólɛ
1202.	1251	(be) shriveled	ɛ ɲɔfɔtɛ
1203.	1252	wither	ɛra kyésé
1204.	1253	blight (n)	kyókɔrõŋ

8. ENVIRONMENT

8.1 NATURE

8.1.1 Areas, region

1205.	1254	world	dùníyã
1206.	1255	place	lógóŋ
1207.	1256	desert	kpéndéɣérá
1208.	1257	grassland	(kpéndéɣérá) nyãŋgbàgá
1209.	1258	forest	fié

1210.	1259	open place	kpéndéɣérá /bàrá
1211.	1260	bush, rural area	bíŋkɔno/bàɣàkámã

8.1.2 Physical features

1212.	1261	ground, land	dùgu
1213.	1262	mountain	kɔ́lì
1214.	1263	summit	wútùõŋ/ kɔlwúó
1215.	1264	cliff	kɔldámã
1216.	1265	valley	fóŋ
1217.	1266	ditch	gólóŋ
1218.	1267	pit	yéll
1219.	1268	hole	yéll
1220.	1269	crevice	(name) tulàrɛ
1221.	1270	cave	fárìyéll

8.1.3 Natural things

1222.	1271	rock (large)	fárì
1223.	1272	stone	kpíŋ
1224.	1273	gravel	kpãnyì
1225.	1274	sand	nyínyàɣá
1226.	1275	dust	fúnú
1227.	1276	dirt	gbìrí
1228.	1277	clay	bũŋ
1229.	1278	mud	bɛrɪ
1230.	1279	iron	túrú
1231.	1280	gold	dìɛ̀
1232.	1281	silver	jɛ̃lkpìɛ

1233.	1282	copper	dányà
1234.	1283	rust (n)	sóŋ

8.1.4 Water related

1235.	1284	water	yí
1236.	1285	ocean	kùá
1237.	1286	lake	dàlá
1238.	1288	waterhole	dúnŋ
1239.	1289	marsh	sìɛkɔn
1240.	1290	spring	bɛrɛgólóŋ
1241.	1292	brook, stream	wújó
1242.	1293	river	wújó (wújóró=at the river)
1243.	1294	current (river, stream)	jùɔfãgà
1244.	1295	riverbed	wújókɔrá (also upstream)
1245.	1296	river bank	wújódáará/ yídáará
1246.	1297	ford (n)	kóŋkóŋdáa
1247.	1298	bridge	séŋ
1248.	1299	island	yíkóŋkpéndéɣé
1249.	1300	beach	kuádáará
1250.	1301	wave	kuáwúlú
1251.	1303	foam	kǻgá
1252.	1304	slime (organic)	yínɔgɔrɛ

8.1.5 Fire related

1253.	1305	fire	táa
1254.	1306	flame	táadàɣàrɛ
1255.	1307	spark	nyìgì (also= ignite)

1256.	1308	smoke	sìsí
1257.	1309	fireplace	sɨ̀ŋ
1258.	1310	firewood	sɔ̀ɣɔ́rã
1259.	1311	charcoal	súnnyá
1260.	1312	ashes	bù̲ɣù̲
8.1.6	**Sky**		**sãŋgbélé**
1261.	1313	sky	sãŋgbélé
1262.	1314	air	fìá
1263.	1315	cloud	sãŋgbélésìsí
1264.	1316	rainbow	kãkãtókófí
1265.	1317	sun	tɛlì
1266.	1318	moon	kyíé
1267.	1320	new moon	kyíénãŋ
1268.	1321	eclipse (moon)	jéŋkúmákyìésùgùrɛ
1269.	1322	star	lólóŋ
1270.	1323	Pleiades	lólónfììnɛ̃
1271.	1326	shooting star	lólómbɔse (rɛ)
8.1.7	**Other**		
1272.	1327	noise, sound (n)	wólí/ níŋ/maɣaku̲ra
8.2 WEATHER			
1273.	1330	wind (n)	fìá
1274.	1331	harmattan	fɛlgɛ
1275.	1332	storm	kyíífìá
1276.	1333	thunder	kyíífàrɜ̃ãnɛ
1277.	1334	lightning	kyíínyɪgɪ

1278.	1335	rain	kyíí
1279.	1336	drizzle	kyíífúrúfúrú (ra)
1280.	1338	dew	wómbírí
1281.	1339	flood (n)	kyíígbõŋ
1282.	1340	dry up, evaporate	kpɛl
1283.	1341	drought, famine	kùɣu
8.2.1	**Seasons**		sáɣã
1284.	1342	season	sáɣã
1285.	1343	rainy season	fúrúkɔŋ
1286.	1344	dry season	fɛlgɛ
1287.	1345	hot weather	kìnãdìɛwàɣátì
1288.	1346	cold weather	kúmãwàɣátì
8.2.2	**Ambient conditions**		
1289.	1347	light	kìnã
1290.	1348	sunshine	tɛlwìárɛ
1291.	1349	moonlight	kyíéfírɛ
1292.	1350	shadow	síléŋ
1293.	1351	darkness	dìbí
8.3	TIME		wáɣàtì
1294.	1352	time	wáɣàtì
1295.	1353	now	sìsã
1296.	1354	before	suŋkpíényõ
1297.	1355	after	káràmã
1298.	1356	early	kyélí
1299.	1357	late	káná

1300.	1358	once	kpìãdiéŋ
1301.	1359	again	tɔrɔ
1302.	1360	sometimes	wáɣàtìdómã
1303.	1361	often	sáɣãdómã
1304.	1363	always	sáɣãkómã
1305.	1364	never	jírɛrɛ
1306.	1366	wait	làsíé

8.3.1 Time periods

1307.	1367	day	nyí
1308.	1368	month	kyíé
1309.	1369	year	nyìɛ
1310.	1370	today	fí/ bí
1311.	1371	yesterday	wúlóŋ
1312.	1372	day before yesterday	sɔ̀ɣɔ̀rõŋ
1313.	1373	tomorrow	sàmã
1314.	1374	day after tomorrow	sàmãkáanã
1315.	1375	olden times	kpìéŋkpìéŋ

8.3.2 Times of the day

1316.	1376	dawn	fájàrí
1317.	1377	sunrise	tɛlıbɔsaɣã
1318.	1378	morning	súmɔɣɔ
1319.	1379	noon	tɔlgɔ
1320.	1380	afternoon	tɔlgɔ
1321.	1381	sunset	wúlàrá
1322.	1382	dusk	tɛlba

1323.	1383	daytime	tɔlgɔ
1324.	1384	night	kóró
8.4	SPACE AND OBJECTS		
1325.	1385	thing	sĩŋ
1326.	1386	piece	gbúŋ
1327.	1387	top	kãkã
1328.	1388	bottom	kɔ̀rá
1329.	1389	front (of something)	ŋárá
1330.	1390	back	kánã
1331.	1391	side	jĩĩmã
1332.	1392	middle	tùõŋ
1333.	1393	edge (n)	dáará
1334.	1394	point (n)	dáa
1335.	1395	bump (n)	yúɣú
1336.	1396	spot (n)	tótóɣó
9	EVENTS AND ACTIONS		
9.1	MOVEMENT (MOSTLY INTRANSITIVE)		
1337.	1397	move (intr.)	màmàɣá/bɔ̀sí
1338.	1398	movement	màmàɣakɔn
1339.	1399	come	yá
1340.	1400	go	tàgá
1341.	1401	approach (v)	ɛra bɛ̃ŋ
1342.	1402	arrive	ɛra kyí
1343.	1403	remain, stay	ɛra yàgá
1344.	1404	leave (place)	ɛra bɔ /tàgá

1345.	1405	return, go back	ɛra bùlú
1346.	1406	go round, detour	ɛra mínã
1347.	1407	enter, go in	ɛra sɔ
1348.	1408	come (or go) out, exit (v)	ɛra bɔ
1349.	1409	ascend, go up	ɛra slɛ̃
1350.	1410	descend, go down	ɛra jɔɣõ
1351.	1411	fall (intr.)	ɛra báa
1352.	1412	swing (v), go back and forth	ɛrataga ɛraya
1353.	1413	slide	ɛra nɔgɔ
1354.	1414	roll	ɛra minã/ minãminã
1355.	1415	spread (disease, fire)	ɛra jínjã
1356.	1416	burst	ɛra tìé
1357.	1417	disappear	ɛra tína/ŋã
1358.	1418	speed (n)	fìrí
1359.	1419	(be) fast	ɛra fìrì/ ɛma dìɛnrɛ
1360.	1420	(be) slow	ɛmmã / ɛra tàgá yɛrɛtɛtɛ
1361.	1421	hasten, hurry	ɛra kpuɔ kɔrõŋ yɛlì

9.2 ACTIONS, EVENTS AFFECTING MATTER

9.2.1 General

1362.	1422	take	ɛ yɛlì
1363.	1423	snatch	ɛ kyùfá
1364.	1424	catch (object in air)	ɛ suɣu
1365.	1425	pick up	see 1422
1366.	1426	hold	see 1424
1367.	1427	raise, lift	ɛ yɛli kãkã

1368.	1428	lower (tr.)	ɛ jɔɣõ
1369.	1429	drop (tr.)	ɛra báa duɣumã
1370.	1430	throw	ɛgbéŋ
1371.	1431	shoot (v)	ɛtìé
1372.	1432	knock down	ɛbɛribá
1373.	1433	turn over (tr.)	ɛra buláyá
1374.	1434	pull	ɛkyìgí
1375.	1435	drag	ɛkyìgí duɣumã/ ɛgbula
1376.	1436	push	ɛtãŋ
1377.	1437	steer (v)	báakudáará
1378.	1438	overtake, pass (tr.)	ɛra bélirá
1379.	1439	surround	ɛra mínã
1380.	1440	twist	ɛtɔrɔmĩŋ
1381.	1441	fold (v)	ɛkákárì
1382.	1442	coil (rope) (v)	see 1439
1383.	1443	hang up	jùlúgú
1384.	1444	spread out (maize)	ɛgbáa/ jínjã
1385.	1445	stretch	ɛra ɛkɔŋkyìgí

9.2.2 Percussion

1386.	1446	hit, strike	è bɛrì
1387.	1447	beat	1446
1388.	1448	bump (v), knock against	ɛra tígí
1389.	1449	rub	ɛ sãã
1390.	1450	scrape (v)	ɛwórí
1391.	1451	scratch (v)	ɛnyíŋnyã

1392.	1452	pierce	ɛsɔrõŋ
1393.	1453	tear (tr.)	ɛtḯĩ
1394.	1454	strip off (bark)	ɛfunu̲bɔ
1395.	1455	shake (tr.)	ɛmàmàɣá
1396.	1456	squeeze	ɛbɔíŋ
1397.	1457	crush (tr.)	ɛtìé

9.2.3 Creation and destruction

1398.	1458	create, make	ɛmãŋ/ ɛtiéŋ
1399.	1459	alter, change (tr.)	ɛsùgú
1400.	1460	break (tr.)	ɛkàrì/ ɛtìé
1401.	1461	destroy, spoil	ɛkãŋ
1402.	1462	(be) ruined	ɛra kãŋ

9.2.4 Association of things

1403.	1463	join, put together	ɛtúguŋ/ ɛkyàɣá
1404.	1464	accumulate	ɛra kuruŋ/kʊkɛ/ kʊrá láfĩŋ
1405.	1465	gather	wúbɛ̃ŋ
1406.	1466	divide, separate	ɛra túlá/ ɛra bɔnyɔɣɔ̃kõŋ
1407.	1467	scatter (tr.)	see 1415 (jinjã)
1408.	1468	throw away, get rid of	see 1430 (ɛfìlí)

9.2.5 Placement

1409.	1469	put, place, set	ɛ sá
1410.	1470	leave (something somewhere)	ɛtu̲nú
1411.	1471	keep, save	ɛtiénsá (to deposit- ɛsá)
1412.	1472	hide (tr.)	ɛdu̲ɣõ
1413.	1473	lose (tr.)	ɛra ŋǎ

1414.	1474	look for	ɛsìnì
1415.	1475	find	ɛjí

9.2.6 Action of wind

1416.	1476	blow	fiá ra bɛrì
1417.	1477	blow down	ɛbɛribá
1418.	1478	blow away (intr)	fiábɛri (fiátagarɛra)
1419.	1479	fan (v)	ɛfìɛ

9.2.7 Action with liquids

1420.	1480	flow	ɛra juɔ
1421.	1481	drip	ɛra tótógó
1422.	1482	leak (v)	ɛra bɔ
1423.	1483	sprinkle	ɛfàjá
1424.	1484	smear (tr.)	ɛra ɛsã
1425.	1485	dip	ɛdìgí kɔŋ
1426.	1486	soak	nyɔ̀ɣõ
1427.	1487	wring out	ɛra ɛbɔ̀iŋ
1428.	1488	dry out (clothes)	ɛra ɛgbá
1429.	1489	float	sa yímã/ yõnfìá kɔŋ
1430.	1490	sink (v)	tínã yí kɔŋ
1431.	1491	drown (intr.)	yí yɛlɛ

9.2.8 Action of light

1432.	1492	shine	fífí
1433.	1493	fade	kyésé
1434.	1494	(be) bright	ɛŋàrì rádí
1435.	1495	(be) dim	ɛŋàrì rádìéŋ

9.2.9 Action of heat, fire

1436.	1496	light (fire) (v)	ɛfíí
1437.	1497	quench, extinguish	ɛra díéŋ
1438.	1498	burn (intr.), blaze	ɛra dóŋ
1439.	1499	melt (intr.)	ɛra yíé
1440.	1500	singe	ɛra srãŋ

9.3. ASPECT

1441.	1501	begin	ɛra síní
1442.	1502	beginning	ɛ síníkɔ̃ŋ
1443.	1503	continue, resume	tàgá
1444.	1504	end (n)	lákpã
1445.	1505	cease, stop	ɛra fàrã, ɛyõŋ/ɛtɔ
1446.	1506	finish, complete (v)	ɛra nãŋ

10. QUALITY

10.1 DIMENSION, SHAPE

1447.	1507	(be) big	ɛra kónyã
1448.	1508	enlarge	ɛra kónyã
1449.	1509	(be) small	ɛra dɔɣɔyá
1450.	1510	diminish	kù̲béɣé ɛra
1451.	1511	(be) high	ɛwɛ kãkã
1452.	1512	(be) low	ɛwɛ dɔgɔmã
1453.	1513	(be) long	ɛ sõnwɛ
1454.	1514	lengthen	ɛra sõmmãyá
1455.	1515(be)	short	ɛ gbúnnɛ
1456.	1516	shorten	ɛra gbúŋmãyá

1457.	1517	(be) fat, thick	ɛ kɔrõnwɛ
1458.	1518	(be) thin	ɛwɛ pɛrɛɛrɛ/ ɛ yéléwɛ
1459.	1519	(be) wide	ɛ tɛgɛrɛwɛ
1460.	1520	widen	ɛlàjírɛwɛ
1461.	1521	(be) narrow	fóŋ dɔɣɔ
1462.	1522	(be) deep	ɛdúnnɛwɛ
1463.	1523	deepen	ɛra ɛdúŋnàyágá
1464.	1524	(be) shallow	ɛdúnnɛyárɛ
1465.	1525	(be) flat	ɛtɛgɛrɛwɛ
1466.	1526	flatten	ɛtɛgɛráyá
1467.	1527	(be) hollow	wógó
1468.	1528	swell (intr.)	ɛra yúgú
1469.	1529	(be) round	ɛra mínã
1470.	1530	(be) straight	ɛ térénnɛ
1471.	1531	straighten	ɛ téntéréŋ
1472.	1532	(be) crooked	ɛ gɔ̀rõnnɛ
1473.	1533	bend, crook, curve (n)	gɔ́rõŋ
1474.	1534	(be) heavy	ɛ kɔ́rõnwɛ
1475.	1535	weight	kɔ̀rõŋ
1476.	1536	(be) light (not heavy)	ɛ kɔ́rõnfiɛrɛwɛ
10.2	FEEL		
1477.	1537	(be) sharp	ɛdáadí
1478.	1538	sharpen (knife)	ɛdáasá
1479.	1539	sharpen (arrow)	ɛdáasá
1480.	1540	(be) blunt, dull	ɛdáakpãnɛ

1481.	1541	(be) rough	ɛ kánìkánìrɛ
1482.	1542	(be) smooth	ɛnɔɣɔrɛwɛ
1483.	1543	make smooth	ɛnɔɣɔ
1484.	1544	(be) hard	ɛgbáarɛwɛ
1485.	1545	harden	ɛgbàyánɛ
1486.	1546	(be) soft	ɛra kɔnyã
1487.	1547	soften	ɛkɔyánɛ
1488.	1548	(be) dry	ɛgbáarɛ
1489.	1549	(be) wet	ɛra nyɔɣõ
1490.	1550	(be) slippery	ɛra nɔgɔ (ɛnɔgɔrɛwɛ)
1491.	1551	(be) sticky	ɛra nanari
1492.	1552	(be) hot	ɛra diɛ (ɛdiɛrɛ)
1493.	1553	(be) cold	ɛra kùmã (ɛkumarɛ)

10.3 COLOUR

1494.	1554	colour	ŋàresiyá
1495.	1555	(be) white	kpìɛ
1496.	1556	(be) black	gbógó
1497.	1557	(be) red	tárámã
1498.	1558	(be) blue	sãgblésìyá
1499.	1559	(be) green	jãkùmã
1500.	1560	(be) brown	kɔldìŋárá
1501.	1561	(be) yellow	yɛrìfúgù
1502.	1562	(be) dark	ɛdúnnɛ
1503.	1563	(be) light	ɛfiɛrɛwɛ

10.4 TASTE AND SMELL

1504.	1564	taste (n)	nɔɣɔ
1505.	1565	(be) sweet	ɛdí
1506.	1566	(be) sour	ɛŋúnɛ
1507.	1567	(be) bitter	ɛkúnàrɛwɛ
1508.	1568	odour, smell (n)	mííŋ
1509.	1569	stink, smell (bad)	míímmã

10.5 ABILITY

1510.	1570	(be) able to	ɛra kyí
1511.	1571	(be) strong (physically)	fãgámã
1510.	1572	strength	fãgá
1511.	1573	(be) weak	ɛra kɔ̃nyá

10.6 VALUE

1512.	1576	(be) good	nyìɛ
1513.	1577	(be) bad	gbírí/ ɛ nyìɛrɛ
1514.	1578	right, (be) correct	ɛdɔdí
1515.	1579	truth	téɣé
1516.	1580	(be) perfect	nyìãkásì
1517.	1581	(be) wrong	ɛdɔkánɛ
1518.	1582	(be) beautiful	ɛ nyìã
1519.	1583	(be) ugly	ɛgbítɛwɛ
1520.	1584	(be) clean	ɛsãdóyárɛwɛ
1521.	1585	(be) dirty	ɛgbítɛ
1522.	1586	(be) important	ɛdégékɛrɛwɛ

1523.	1587	(be) amusing, funny	ɛjɛlkʊwɛ
10.7	MATURITY		
1524.	1588	(be) new	nãŋ
1525.	1589	(be) old	kùrà
11. QUANTITY			(dì)
11.1	CARDINAL NUMBERS		
1526.	1590	one (1)	dìéŋ
1527.	1591	two (2)	fàlá
1528.	1592	three (3)	sìgbá
1529.	1593	four (4)	náanì
1530.	1594	five (5)	sùlu
1531.	1595	six (6)	mùóró
1532.	1596	seven (7)	máfàlá
1533.	1597	eight (8)	másìgbá
1534.	1598	nine (9)	máráanì
1535.	1599	ten (10)	tãŋ
1536.	1600	eleven (11)	tãndó
1537.	1601	twelve (12)	tãnfàlá
1538.	1602	thirteen (13)	tãnsìgbá
1539.	1603	fourteen (14)	tãnnáanì
1540.	1604	fifteen (15)	tíɣã
1541.	1605	sixteen (16)	tíɣãdó
1542.	1606	seventeen (17)	tíɣãfàlá
1543.	1607	eighteen (18)	tíɣãsìgbá
1544.	1608	nineteen (19)	tíɣãnáanì

1545.	1609	twenty (20)	kyɛlìmu̲
1546.	1610	twenty-one (21)	kyɛlìmu̲dó
1547.	1611	twenty-two (22)	kyɛlìmu̲fàlá
1548.	1612	thirty (30)	tùró
1549.	1613	forty (40)	kyɛlìfàlá
1550.	1614	fifty (50)	kyìmĩtàrã
1551.	1615	sixty (60)	kyɛlìsìgbá
1552.	1616	seventy (70)	kyɛlìsìgba tó dìtã
1553.	1617	eighty (80)	kyɛlìnáani
1554.	1618	ninety (90)	kyɛlìnáani tó dìtã
1555.	1619	hundred (100)	kyìmĩ
1556.	1620	two hundred (200)	kyìmĩfàlá
1557.	1621	five hundred (500)	kyìmĩ súlù̲
1558.	1622	thousand (1000)	wúlúdó

11.2 ORDINAL NUMBERS

1559.	1623	(be) first	sĩŋkpiéŋõ
1560.	1624	(be) second	fálàŋã
1561.	1625	(be) third	sìgbàŋã
1562.	1626	(be) last	lákpã

11.3 ORDER

1563.	1627	add	ɛlàfĩ/ ɛkyàgá
1564.	1628	subtract	ɛbɔkɔn
1565.	1629	increase	kù̲kɛkɔn
1566.	1630	decrease	kù̲bɔkɔn/kù̲bégékɔn
1567.	1631	count (v)	ɛnãŋ

1568.	1632	arrange	ɛsógólóŋ
1569.	1633	(be) equal	era báa

11.4 RELATIVE QUANTITY

1570.	1634	(be) abundant	ɛra finyã
1571.	1635	enough	yuórɛ
1572.	1636	lack (v)	ɛra yàgá
1573.	1637	(be) used up	ɛra kɔnyá

11.5 QUANTIFIERS AND NEGATION

1574.	1638	all	ɛkpó
1575.	1639	many	fĩĩnɛ
1576.	1640	few	dàmãdó
1577.	1641	half	gã́
1578.	1642	whole	wúdiéŋ
1579.	1643	everybody	mɔɣɔkpó
1580.	1644	everything	sĩŋkpó
1581.	1645	everywhere	lógóŋkpó
1582.	1646	nobody	mɔɣɔdó
1583.	1647	nothing	fósí

12. GRAMMATICAL ITEMS

12.1 PRONOUNS

1584.	1648	I	ŋ́
1585.	1649	you (s)	ɛ́ (ɛ́ma)
1586.	1650	he/she	ɛ̀ (ɛ̀ma)
1587.	1651	we	á (ámono)

1588.	1652	you (pl.)	nò (nòmono)
1589.	1653	they	nó (nómono)

12.2 RELATIONALS

1590.	1654	here	níŋ
1591.	1655	there	nõ
1592.	1656	far	ɛfõwɛ
1593.	1657	near	ɛgbunɛwɛ
1594.	1658	north	kpéndéɣérá
1595.	1659	south	kuádáará (see 1300)
1596.	1660	east	tɛlbɔdíra
1597.	1661	west	tɛlbádíra
1598.	1662	up	kãkã
1599.	1663	down	dù̲ɣù̲mã
1600.	1664	forward	ŋárá
1601.	1665	backward	kàanã
1602.	1666	right (direction)	bùlu̲ tu̲kõmã
1603.	1667	left	bùlu̲gàlmã
1604.	1668	over, above	ɛmã
1605.	1669	under, below	ɛkɔrá
1606.	1670	in front of, before	ɛ ŋárá
1607.	1671	behind	ɛ kànã
1608.	1672	beside	ɛ gãdő
1609.	1673	inside	kɔ̀n
1610.	1674	outside	síínã
1611.	1675	between	tuõŋ

1612.	1676	towards	kɔrɔ
1613.	1677	away from	bɔrɛ
1614.	1678	with	wɛ̀

12.3 DEMONSTRATIVES, ARTICLES

1615.	1679	this (man)	màɣá
1616.	1680	that (man)	màɣáwé
1617.	1681	some (men)	dó
1618.	1682	other (men)	kpɛ̀rɛ̀

12.4 QUESTION WORDS

1619.	1683	who?	mǎ
1620.	1684	what?	mìsɛ
1621.	1685	which (one)?	nyúndɔ
1622.	1686	where?	míndrà
1623.	1687	when?	sãɣãnyúndɔ
1624.	1688	why?	mìsɛi/ misɛtɔɣɔrá
1625.	1689	how?	mìnĩ
1626.	1690	how many?	nùwɛ jólí (jólí? ‘how much)

12.5 CONJUNCTIONS, ADVERBIALS, ETC.

1627.	1691	and	tɔrɔ
1628.	1692	if	nìĩ
1629.	1693	because	misɛwuró,
1630.	1694	perhaps	dókɔn
1631.	1695	really, truly	téɣé, téɣéya

1632.	1696	well (adv)	nyìã
1633.	1697	poorly	jàgà
1634.	1698	only	dã
1635.	1699	yes	ɔ̀hɔ́
1636.	1700	no	ɔ́hɔ̀

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