

ASPECTS OF THE MORPHOLOGY OF C'LELA

BY

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DECLARATION

I do hereby declare that this thesis, with exception of references that have been duly acknowledged, is the result of my own research, and that it has not been presented either in whole or in parts for another degree elsewhere. However, I alone, I am responsible for any lapses associated with this work.

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ABSTRACT

The main goal of this study is to describe the morphological properties of C'lela; a Niger-Congo, Western Kainji language spoken in the eastern part of Kebbi State, Nigeria. The study mainly adopted the classic descriptive model of linguistics in particular to explore and highlight the morphological processes and properties of C'lela. The relevant data for the study were sourced mainly from the extant literature on C'lela as well as the field data. By and large, the primary data were corroborated with the secondary sources.

The study established that C'lela has distinctive morphological properties akin to other languages across West Africa. C'lela uses prefixes and suffixes on nominal and verbal categories to provide information about number and tense, and equally undergoes the major morphological processes such as compounding, derivation, affixation, and reduplication. In terms of derivation it was revealed that though derivational processes in C'lela are analyzable mainly on the principles of concatenative morphology where prefixes and suffixes are in concatenative relationship with their host stems, the language also lends itself to non-concatenative morphology, where the internal stem-vowel, instead of affixes, contains the syntactic and semantic information in the derivation. This suggests that C'lela has a derivational system that exploits affixation, as well as internal modification. With regard to compounding, it emerged that C'lela is an endocentric but a left-headed language. It was also realized that the language exhibits both partial and complete reduplications, which in most cases are lexical and semantic in function. It was particularly noted that the complete reduplication of verbs that contain heavy-initial disyllabic stems in C'lela are accompanied by phonological operations such as syllable truncation and imbrication.

The study while illustrating the chief morphological processes inherent in C'lela, endeavored to examine and highlight the various phonological processes that are often triggered when stems come into contact with affixes or when compounding and/or reduplication take place. These morphophonological processes include but are not limited to; vowel copying, vowel lengthening, vowel deletion, metathesis, vowel lowering, complementary distribution, syllable truncation, and imbrication.

DEDICATION

This thesis is dedicated to the C'lela speaking community



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LIST OF ABBREVIATIONS

[+ATR]	Advanced tongue root
[-ATR]	Un-advanced tongue root
3SG	Third person singular
ABS	Absolutive
AGR	Agreement marker
APPL	Applicative marker
CAUS	Causative marker
CM	Class marker
DEF	Definite
DET	Determiner
FUT	Future marker
HAB	Habitual
IMPERF	Imperfective
INF	Infinitive
L.G.A	Local Government Area
Lit	Literary
NEG	Negation, Negative
OBL	Oblique
PERF	Perfective
PL	Plural
PRES	Present
PROG	Progressive
PST	Past tense
SCR	Subject cross reference
SG	Singular
VS	Versus

CHAPTER ONE

GENERAL INTRODUCTION

1.1 Introduction

Nigeria as a country is well-known for its diverse cultures and languages. Whereas major languages such as Hausa, Yoruba, Igbo, Edo, Ibibio, Fulfulde, and Kanuri have been thoroughly studied, there are numerous less popular languages that have been completely glossed over. C'lela, the language which this study seeks to explore, falls in the latter category. The primary focus of the study is to describe the morphological properties of C'lela. This chapter offers a general introduction to the C'lela language, and its people. It will begin with a brief description of morphology, before providing an overview of the phonological structure of C'lela, its classification, dialects, and sociolinguistic profile. This will be followed by an outline of the crucial issues relating to the study, ranging from statement of research problem, research objectives, research sources and methodology, earlier studies on the language, significance of the study, and organization of the study.

1.2 Morphology

Morphology in linguistics deals with the formation of words in reference to natural languages. Morphological studies describe and analyze the morphological patterns of human languages. It derives its inspiration from a wide range of morphological theories that provides a set of tools and concepts needed for adequate descriptions, analysis

and/or explanations of the structures of individual languages. It has been established, for example, that words are formed according to general rules and principles internalized by speakers of a given language. This implies that speakers of a language presumably have an innate capacity to generate and extend the stock of words in that language based on morphological processes peculiar to that language (Marchand 1969 and Katamba and Stonham 2006). Hence, in order to understand how words are formed in a language, one must have some insights into how the words are formed in the first place, in order to be able to break them apart and analyze them appropriately. Aronoff and Fudeman (2011:2) assert that: "a major way in which morphologists investigate words, their internal structure, and how they are formed is through the identification and study of morphemes." Morphemes are the basic units of morphological analysis in any given language and their identification requires some insight into the language. Again, in order to study the morphology of a language, morphologists often attempt to develop a descriptive apparatus for expressing morphological patterns or processes as represented in the mental blueprint of speakers' linguistic knowledge, in the form of morphological descriptions (Haspelmath 2002). The next section highlights the descriptive model adopted for this study.

1.3 Descriptive Morphological Model

The analysis for this morphological study will be purely based on the descriptive morphological model of linguistics, which is borne out of general descriptive linguistics, thus the documentation of all aspects of individual languages, especially their sound structure (phonetics and phonology), word structure (morphology), phrases,

clauses, and sentences (syntax), semantics, discourse patterns and pragmatics of use. This model of linguistic investigation originated from the European philologists, primarily de Saussure (1857-1913), and owes its further development to the structural linguists such as Bloomfield (1888-1949) and subsequently Hockett (1958).

The descriptive framework linked to de Saussure, whose planned “cours de linguistique générale” (1969) was realized after his death in 1915 by his students, is designed to account for the distinctions between abstract linguistic system (la langue) and the actual speech (la parole). It lays emphasis on description rather than prescription. In this era, morphological study has been basically regarded as synchronic; the focus of which is on the study of word structure of a language at a particular point in time as opposed to diachronic study which focuses on the evolution words or the history of language development. For de Saussure, the task of a linguist was to analyze language as a system of units and relations. To study linguistics, therefore, is to attempt to define the units of language, analyze the relationships between these units and their rules of combination.

In the tradition of American structural linguists, under the influenced of Bloomfield (1933), the basic assumption was the descriptive analysis of words structure, that is, language study, is assumed to be descriptive in focus and behaviouristic in nature. Structural linguists felt that, in linguistic study; language units constitute the empirical data, and the linguistic levels must be concrete and non-universalistic.

Following the structuralists approach, Hockett (1958), its most responsive proponent, sought to provide descriptive apparatus for decomposing words into their component

morphemes; the aim of which is to provide a comprehensive, systematic, objective and precise account of language patterns. To achieve this, Hockett, proposes theories such as; the Item-and-Arrangement (IA) theory, the Item-and-Process (IP) theory, and Word-and-Paradigm (WP) theory, which can be used to handle the different affixal and non-affixal morphological phenomena (Spencer 1991). In strict compliance with the descriptive morphology model, the analysis of C'lela in this research has been largely confined to phonological and morphological attributes of the language.

The choice of the descriptive framework for this morphological study is therefore motivated by the fact that it provides a comprehensive, systematic, objective, and meaningful account of morphemic patterns of lesser known languages such as C'lela that are yet to be thoroughly examined and described. Despite the emergence of other linguistic models such as the Principles and Parameters Theory (Chomsky and Lesnik1995), the descriptive approach has remained most effective in the handling of investigations of less studied languages of the world, most of which are found in Africa (Alhassan (1998:13). The Theory of Principles and Parameters put forward by Chomsky and Lenik (1995) argues that certain principles and rules of language are common to all human languages but parameters setting vary from one language to the other; it therefore, proposes the replacement of language-particular rules with parameter settings.

The adoption of this model in this study, enable us to properly examine C'lela's word classes, including the relayed morphological processes such as inflections, derivation, compounding and reduplication. Again, it facilitates the exploration of established

morphophonological traits such as vowel copying, vowel deletion, vowel lengthening, metathesis, syllable truncation, imbrication, and assimilation that are associated with morphological processes. Another reason for choosing this framework for this study is that it allows one to integrate other insights from other schools of thought so as to account for both concatenative and non-concatenative morphological operations. Finally, it paves the way for the description of the word structure rules of the language.

1.4 The Language C'lela

The names C'lela, pronounced as [ʃ^olela] and Lelna, the people, derive from the root word 'Lela'. The term A'lela also comes from Lela. It refers to the name of the land the Lelna people live in. At the same time, Lela is also used to refer to both the people and the language (Smith 2007). C'lela is known among the Hausas by another name, Dakarci. The Hausas also refer to the people as Dakarkari or Dakarawa (which means 'foot-soldiers' or 'infantry-men'); while Lela, Kolela, Cala-cala, Chilela, Chilala, Lalawa, Lilawa, Lila are alternative names to C'lela that are in circulation (Rowlands 1962, Hoffmann 1967 and Grimes 1992). According to Augie and Lawal (1990), the various Hausa names (for Lelna and C'lela) have been used (in many early reference texts) to suggest the three possible origins of the Lelna and their language. However, there is an anecdotal account on the nomenclature of C'Lela. Some of the informants on the field reveal that the name Lela (from which C'lela emanates) has its origin from *Elela*, the name of the founder of the Lelna people. Elela was said to have been later nicknamed *Daka*, suggesting the other Hausa name Dakarkari (Dettweiler 2005).

C'lela is the dominant language spoken by a majority of the inhabitants of Zuru Local Government Area (L.G.A.), Danko-Wasagu L.G.A. and Sakaba L.G.A., all located in the eastern part of Kebbi State and in some parts of Kontagora Emirate in Niger State, Nigeria. Other languages that share geographic area with C'lela are: to the south, Duka and Kambari; to the east, Hausa, Kambari and Acipa; to the north, Gwamhi-Wuri; to the west, Gwamhi-Wuri and Fakai cluster, as could be seen in figures 1 and 2 below:

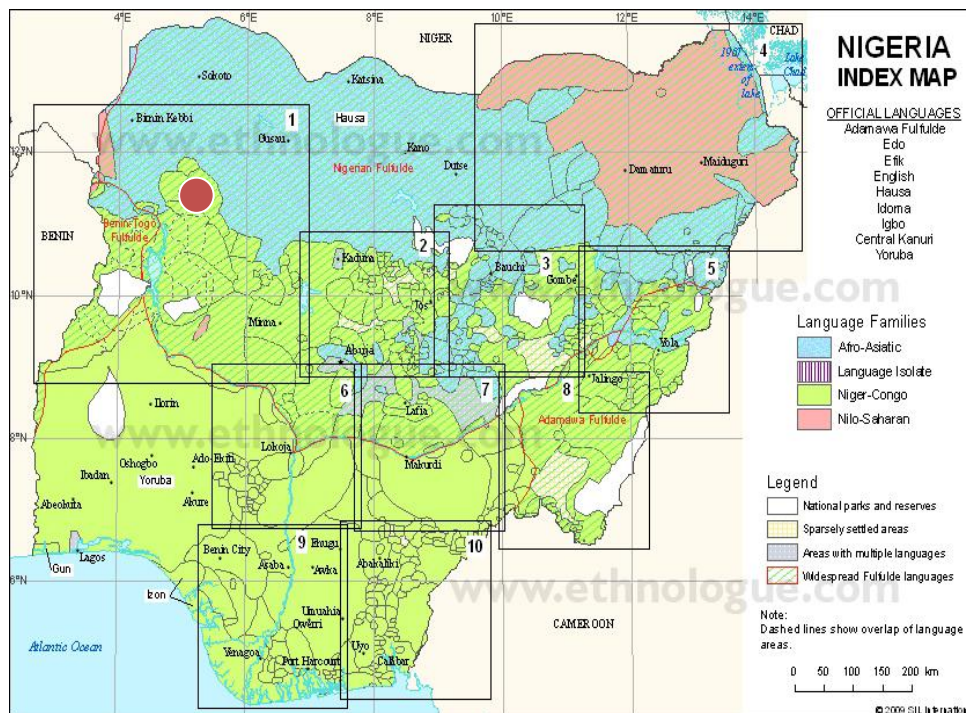


Figure 1: Nigeria Index Map showing C'lela Language Family & area (Lewis 2009a)

The main C'lela language area is dotted red in the upper east left corner of figure 1.

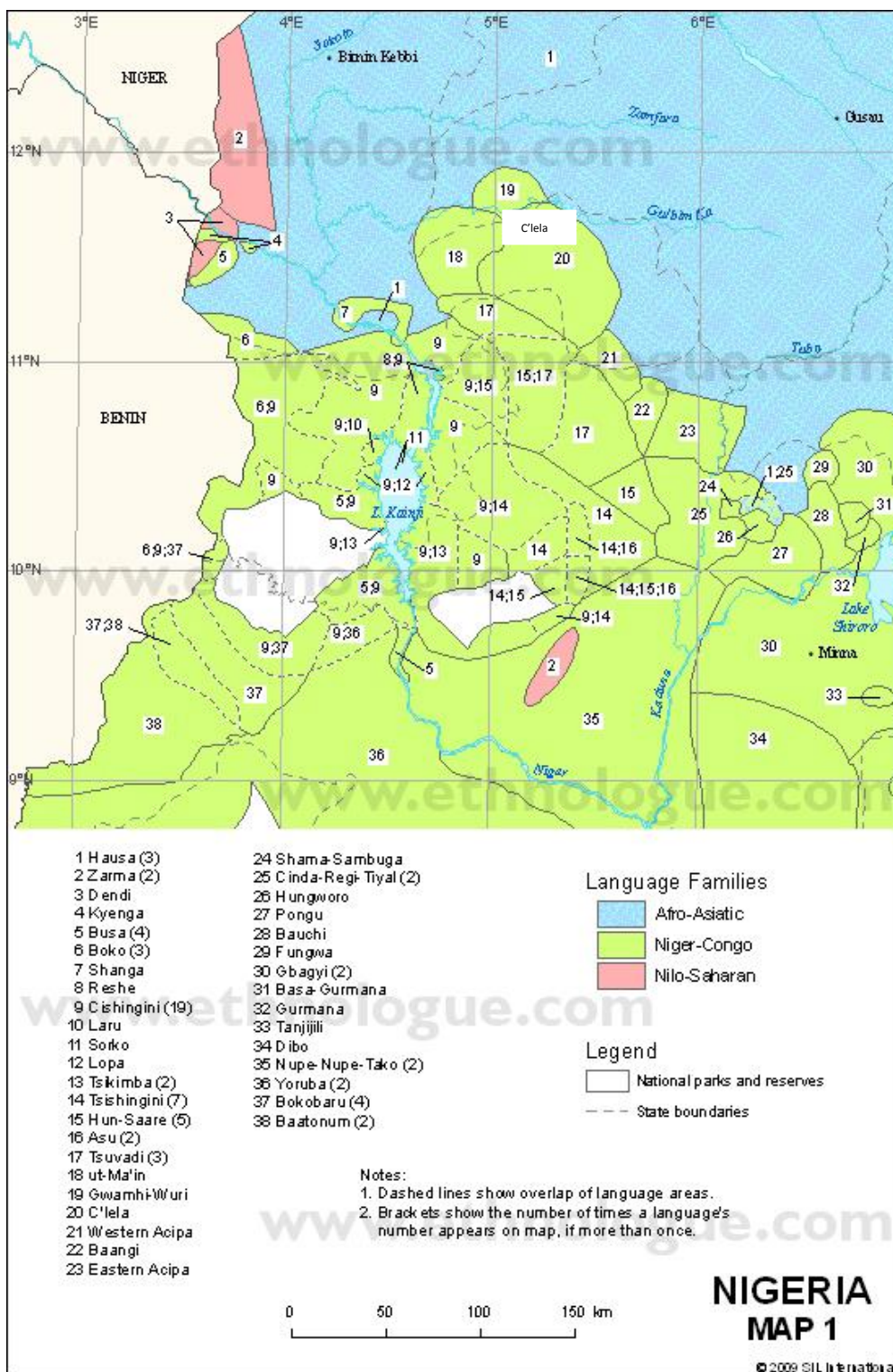
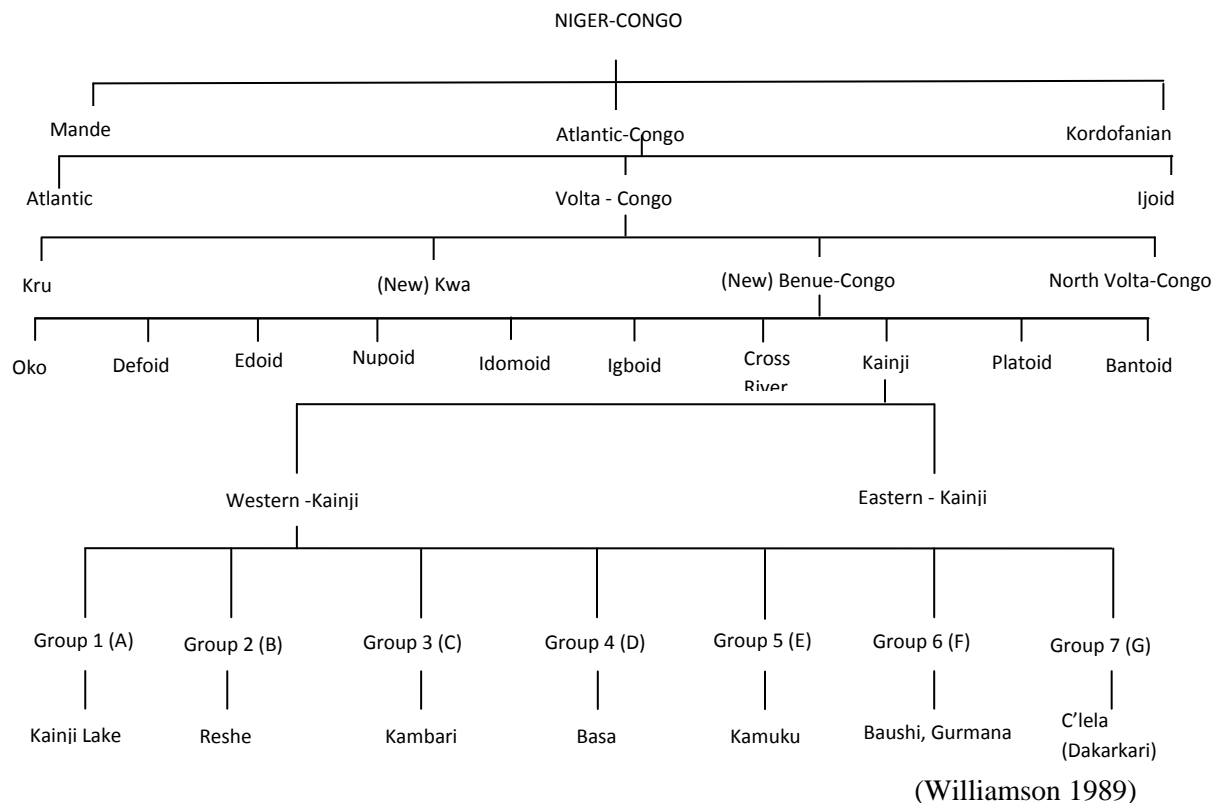


Figure 2: C'lela language area numbered 20 above (Lewis, 2009b).

1.4.1 Genetic Classification and Population

C'lela language is classified as group 7 (G) of Western-Kainji, Benue-Congo, one of the families of the Niger-Congo, along with Reshe, Kamuku, Kambari, Basa, Baushe, Gurmana, Banganci (Lyase or Gwamhi-Wuri cluster), Fakkanci (Peka-Kôri-Wipsi-Geeri Cluster) and Duka (Williamson 1989, Gerhardt 1989). The population of the C'lela speakers is estimated approximately at 100,000 (National Population Commission 2009). Below is the genetic class of C'lela:

Figure 3: (New) Niger-Congo Genetic family showing C'lela



1.4.2 Basic Phonology

C'lela Language has an eight vowel system as shown in figure 5. All vowels in C'lela have contrastive length: long and short (Rikoto and Rumu 1996). The C'lela vowel inventory is represented in the following figure.

1.4.2.1 C'lela Vowel Chart

Figure 4: C'lela Vowel Phonemes

	Front	Central	Back
Close:	i		u
Near close-Mid:		ə	
Close-Mid:	e		o
Open-Mid:	ɛ	ɔ	
Open:		a	

The current C'lela orthography uses sequence of vowels of the same quality to represent vowel length, indicating the relative duration or a longer realization in time within a vowel phoneme. Length usually occurs in the first syllable of the disyllabic root words, and such root word may have phonemic contrast with other disyllabic words that ends in a short vowel as in the following examples: **naama** 'cow' and **nama** 'grind', **peete** 'moon' and **pete** 'to rush in', **poola** 'to redo' and **pola** 'wasp'.

Even though, length is mainly lexical in C'lela, as shall be demonstrated in chapters 3 and 4, it sometimes arises from verb or noun inflection, in which case it only modifies rather than alters the meaning of the word. It must also be emphasized that the application of tone on lexical words is not associated with vowel length in any predictable form (Dettweiler 2012a). The vowel quality may serve to distinguish between several words that ostensibly have identical spelling as below:

- (1) a. yogo ‘crow’ and yogo ‘guinea fowl’
 b. asa ‘breast-feed’ and asa ‘to scatter’
 c. baka ‘husks’ and baka ‘to split/pluck’

Vowels in C’lela occur as in the following examples:

Phonetic symbol	C’lela	Orthography	Gloss
(2) [i]	/i/ as in	ìnù	‘mother’
[e]	/e/ as in	èsá	‘stand’
[u]	/u/ as in	ùvâ	‘to enter’
[o]	/o/ as in	pómà	‘blind person’
[ə]	/a/ as in	/illə/ illà	‘two’
[ɛ]	/e/ as in	/esse/ èssé	‘neighborhood’
[ɔ]	/o/ as in	/omɔ/ ómò	‘dog’
[a]	/a/ as in	bàalá	‘to travel’

1.4.2.2 Diphthongs

Five diphthongs may be identified in Clela. They include the following:

Phonetic symbol	C’lela	orthography	Gloss
(3) [au]	/au/ as in	d’kâu	‘kindness’
[əu]	/au/ as in	u’lâu	‘knowledge’
[ɔu]	/ou/ as in	u’lôu	‘to press down’
[ai]	/ai/ as in	k’bâi	‘bag’
[əi]	/ai/ as in	c’gâi	‘marriage’

1.4.2.3 Internal Vowel Harmony

Vowel harmony is a “process in which all the vowels within a particular domain, often the word, must have the same value for a particular phonological feature” (Ewen and Harry 2001:19). C’lela exhibits some levels of word internal vowel harmony. The harmony system that exists in the language is mainly that of Advanced Tongue Root (ATR), which is specified with feature value [+ATR] or [-ATR].

Advanced Tongue Root (ATR) is a phonological feature used to specify the contrasting state of the root of the tongue during pronunciation of vowels in languages. The feature describes the contrast between sounds with or without ATR in the vowel harmony of many West African languages (Ladefoged 1964, Lindau et al. 1972, Tiede 1996, Casali 2008). It describes vowels of similar height, either as (+ATR) or (-ATR), and it has also been used to distinguish between tense and lax vowels especially in Romance languages (Calabrese 2002).

Investigations have shown that the phonological feature ATR has different phonetic realities within and across languages. While some articulatory studies have found the main correlate of ATR to be pharyngeal expansion; in other instances, the (+ATR) and (-ATR) contrasts, are investigated based on the acoustic characteristics of vowel, often realized on the Formant of frequencies of such vowels (Lindou et al. 1972, Tiede 1996, Casali 2008). The articulatory and acoustic nature of the tongue root contrast in languages is realized using devices such as the Cineradiography (X-ray Tracing/Photography) (Ladefoged 1964), Magnetic Resonance Imaging (MRI) (Tiede 1996), Laryngoscope (Edmondson and Esling 2006), and Ultrasound Imaging (Hudu

2010). Examples (4) and (5) below show the C'lela roots with [+ATR] and [-ATR] internal vowel harmony respectively:

[+ATR] Root	[-ATR] Root
(4) a. /hivi/ 'thief'	(5) a. /t ^h òkó/ 'slave'
b. /húmù/ 'pull'	b. /dasa/ 'dodge'
c. /d'k ^w ìirù/ 'yam-heap'	c. /t ^h étò/ 'father'

Most prefixes in C'lela may not always be in harmony with the vowels of the stem they attach to since the choice of the form of a prefix is usually determined by the morphology of the language; however, Dettweiler (2001:8) reports that "certain pronominal suffixes also take the height specification for their vowels from the roots to which they attach". Consider the following harmonic alternation where the pronominal suffixes (**me/mi**) follow the noun stems **ìnù** 'mother' and **cètò** 'father':

(6) a. I in- mi	b. I cet- me
It mother me	It father me
"It is my mother"	"It is my father"
(7) a. I in- vu	b. I cet- vo
It mother you	It father you
"It is your mother"	"It is your father"

Therefore, two kinds of harmony may be identified in C'lela: First, the [ATR] harmony which operates within the stem. The forms in (4) display harmony process where all the vowels are [+ATR], while the examples in (5), are [-ATR]. The second type shows height harmony which presumably operates within the stem and spreads to suffixes, as shown in (6) and (7) above

1.4.2.4 C'lela Consonant Chart

C'lela Language has forty consonant phonemes. Thirty-eight of these forty consonants are listed with examples of contrast (Rikoto and Rumu 1996). The other two consonant sounds [ŋ] and [ʔ] are restricted to occurring in specific positions. The nasal velar consonant [ŋ] occurs as [n] before a velar stop [k] or [g] in a few environments, while syllables with vowel-initial are considered to begin phonetically with a glottal stop [ʔ]. The following table represents consonant inventory of C'lela.

Table 1: C'lela consonant chart

	Bilabial	Labio-dental	Alveolar	Palato-alveolar	Velar	Glottal
Plosive	p p ^j b b ^j		t t ^w d d ^w		k k ^j k ^w g g ^j g ^w	ʔ
Nasal	m m ^j		n n ^w		ŋ	
Fricative		f f ^j v	s s ^w z z ^w			h h ^j h ^w
Affricate				tʃ tʃ ^w dʒ dʒ ^w		
Trill			r r ^w			
Lateral			l l ^w			
Approximant	w			j		

(Rikoto and Rumu 1996)

In the C'lela orthography, the letter [c] represents phonetic affricate [tʃ]. The letter [j] represents the phonetic affricate [dʒ], while the letter [y] represents the palato-alveolar

phonetic symbol [j]. The language has twenty single letter phonemes, and the other twenty are labialized or palatalized consonants. The following are the orthographic representations of the consonant phonemes in C'lela:

Consonant phonemes		C'lela	gloss
(8)	P as in	hàpá	'jump down'
	P ⁱ as in	pyángás	'empty/vacant'
	b as in	bàncò	'medicine'
	b ^j as in	byàtàtà	'spread'
	t as in	sòotá	'sit, stay'
	t ^w as in	twèré	'tail'
	d as in	kòdòsò	'bend'
	d ^w as in	dwìrì	'hyena'
	k as in	kíndì	'money'
	k ^j as in	kyóomò	'sheep'
	k ^w as in	kwérkwéré	'very small'
	g as in	gìmgìmì	'grey colour'
	g ^j as in	gyóntì	'yellow fever'

g ^w	as in	gwìimì	‘leopard’
m	as in	dàlmà	‘bald head’
m ^j	as in	myá	‘straight’
n	as in	bèenâ	‘dream’
n ^w	as in	s’nwá	‘leave a will’
ŋ	as in	dángà	‘tie up’
f	as in	fém̀tè	‘pull out’
f ^j	as in	fyàf	‘flat’
v	as in	vèsó	‘broom’
s	as in	sàrmà	‘tsetse fly’
s ^w	as in	swèemà	‘bee’
z	as in	zón	‘gold’
z ^w	as in	zwáakà	‘be impossible’
tʃ	as in	kúncù	‘pestle’
tʃ ^w	as in	cwècé	‘scorpion’
dʒ	as in	jùmù	‘house fly’
dʒ ^w	as in	kwékè	‘track of tyre’

h	as in	h óoc'kàlà	'welcome'
h ^j	as in	h yàaká	'recover after illness'
h ^w	as in	h wèrá	'rest'
r	as in	r ógró	'apple'
r ^w	as in	r 'rwín	'knee'
l	as in	l áltà	'boil'
l ^w	as in	l wàtà	'slip away, slide'
w	as in	w à	'child'
j	as in	j ényá	'rice'
ʔ	as in	ʔ u'bu	'house'

From the above examples, one may think that the labialized and palatalized speech sounds are not autonomous phonemes, as is the case with other languages. Indeed, all the speech sounds in question are distinct phonemes in C'lela. It is an established linguistic rule that in order to determine whether the phonetically distinct units of sounds are independent phonemes or allophones of the same phonemes, one must normally look for 'minimal pairs'. Minimal pairs are pairs of words with different meanings that only differ by one phoneme which occurs in the same position in the pair. Minimal pairs are used to facilitate phonological analysis aimed at establishing phoneme contrast (Crystal 2008 and Yule 2006). The following constitute minimal pairs in C'lela:

(9)	paa	‘to hang up’	/	pyaa	‘to trim, to cut’
	potò	‘to give birth/live’	/	pyotò	‘unripe’
	ba	‘ground’	/	bya	‘to balance’
	batata	‘bladder’	/	byatata	‘to spread’
	tere	‘to grow’	/	twèré	‘tail’
	dako	‘necklace’	/	dwako	‘to clear bush’
	da	‘it (pro.)’	/	dwa	‘to burn’
	kòntò	‘cudgel’	/	kyòntò	‘smelly grasshopper’
	kòtò	‘sin, offence’	/	kyòtò	‘to pinch’
	ke	‘to separate’	/	kwe	‘red parrot’
	kaaga	‘reprove’	/	kwaaga	‘to dip out’
	got	‘to gulp’	/	gyot	‘stand still’
	gumu	‘salt’	/	gyumu	‘fly’
	ganta	‘verbosity’	/	gwanta	‘to meet’
	geda	‘to cut up’	/	gweda	‘to close’
	na	‘spoil’	/	nwa	‘you (pro.)’
	s’na	‘legs’	/	s’nwa	‘to write a will’
	saa	‘absent-minded’	/	swaa	‘to disperse’
	sepa	‘to sing’	/	swepa	‘plaster off’
	zaka	‘to grasp’	/	zwaka	‘become impossible’
	zèkè	‘martial eagle’	/	zwekè	‘to give a small amount’

ce	‘tree’	/	cwe	‘shrew’
hala	‘to refuse’	/	hyala	‘to fill up’
haka	‘open (mouth)’	/	hyaka	‘to get better’
hau	‘dogs bark’	/	hwau	‘rough (of skin)’
d’hi	‘head’	/	d’hwi	‘lump of mush food’
ran	‘tsetse fly’	/	rwan	‘black plum tree’
lele	‘to sieve out’	/	lwele	‘to press down’
m’lade	‘potash’	/	m’lwade	‘slippery’

From the above examples as noted earlier, the minimal pairs serve to establish the existence of the labialized and palatalized speech sounds as individual phonemes in C’lela. As pointed out as well, the alveolar nasal sound [n] and the velar nasal sound [ŋ] occur as phonetic variants. The alveolar nasal [n] normally occurs word-initially, as in **naama** “meat”, or word-medially before an alveolar consonant, as in **héntè** “think”, or word-finally, as in **cìhìn** “six”; while the velar nasal [ŋ] occurs before velar plosives [g] or [k], as for instance, **kaŋga** “crab hole” or **meŋke** ‘rain’. All consonants may occur word-initially except [ŋ].

1.4.2.5 Syllable Structure

There are four syllable types in C’lela, these are: CV, CVV, CVC, and CVCC. The CV type consists of a consonant and a vowel. The CVV syllable is made up of a consonant followed by vowels which may either be of the same quality or not. The CVC is built up of a consonant followed by a vowel and another consonant. The CVCC is composed of a consonant, a vowel and two consonants. Dettweiler (2012a) indicates that root

syllables have mandatory onset in C'lela and that those root syllables, which appear to be vowel-initial, may be regarded as beginning with an underlying glottal stop [ʔ].

Below are examples of syllable patterns in roots:

(10) i. CV as in	/bà/	'ground'	(n)
	/kò/	'frog'	(n)
	/zá/	'to sweep'	(v)
ii. CVV as in	/pàa/	'to hang up'	(v)
	/zâu/	'scarlet'	(adj)
	/sòo/	'to drink'	(v)
iii. CVC as in	/gén/	'river'	(n)
	/yòn/	'womb'	(n)
	/zìn/	'narrow valley'	(n)
iv. CVCC as in	/jàmp.râ/	'late millet'	(n)
	/màng.sà/	'repair'	(v)
	/ròmpsò/	'to cook soup'	(v)

1.4.2.6 Tone

Tone is defined as “the musical pitch of the voice on which a syllable is said” (Duthie 1996:21). C'lela, like many other African languages, is a tone language. There are two basic contrastive tones; high tone and low tone, with a third one perceived as falling tone¹. The ‘high tone’ is marked with an acute accent (´); the ‘low tone’, is represented with a grave accent (`); and the third, ‘falling tone’ is indicated with a circumflex

accent (^) respectively. Tones in C’lela are associated with a tone bearing unit, which is realized on syllables and the tone marks are assigned on vowels of such syllables. Tone performs both lexical and grammatical functions in the language². For example, it can be used to distinguish meaning in the following lexical words:

- (11) a. ʔémá ‘grasshopper’ and èmà ‘do’
 b. nàmá ‘grind’ and nàmà ‘when’
 c. ʔómò ‘dog’ and òmó ‘take’
 d. nòkà ‘go’ and nòká ‘come’
 e. dòogá ‘come back’ and dóogà ‘go back’

1.4.3 C’lela Orthography

C’lela orthography was first developed by Ummel (1917) which he used in writing his literature. Later in 1951, the Roman Catholic Mission produced a different orthography. These early orthographies had some limitations. C’lela speakers encountered difficulty reading the old Lelna literature (Boettger and Boettger 1991). There was therefore the need to revise the orthography. Thus, a native speaker, Ango (1996) wrote a manuscript “An Orthography for writing C’lela”, which was largely endorsed by the Lelna people. Subsequently, the C’lela Orthography Committee, after incorporating the previous orthographies, proposed the creation of a Standard Orthography for the language. Perhaps based on the principles of convenience, harmonization and familiarity/acceptability as proposed by experts such as Williamson (1984), Simons (1994) and Barnwell (1998), the Committee for the Standardization of C’lela

Orthography suggests the use of underlined **ɛ**, to represent the phoneme [ɛ], **ɔ** to represent [ɔ] and **ɐ** to represent the near close-mid central vowel [ə] in the current language writing system.

This phenomenon of alternate vowel representation has been adopted by some related Kainji languages like Kambari (Stark 2010, Crozier 2012), Tyap (Katab), and Tsuresha (Harley 2012, Blench and McGill n.d). In these languages, like C'lela, the schwa central phoneme [ə] is orthographically represented as the underlined symbol **ɐ**; while the ut-Ma'in current orthography uses the underlined vowel **ɐ** in place of the near close-mid central vowel [ə] (Smith 2007). This study adapts the current proposed writing system for C'lela.

1.4.4 Dialect Information

A dialect survey of C'lela conducted in 2001 by the Committee for the C'lela Language Development project suggests four dialect groups for the language, i.e. the Central dialect (Zuru); which is considered as the standard variety, the Southern dialect (Senchi), the Northern dialect (Riba) and the Eastern dialect (Roma) respectively. Zuru dialect area includes; Dabai, Peni, Manga, Rikoto, Dambo and Tadura. Senchi dialect is spoken from Senchi to Manga, down to Uganda (in Rijau L.G.A. in the southern area of Zuru). Riba dialect area covers Riba, Dirindaji, Conoko, Rembu, Rade, Kainya and Wasagu. The Roma dialect extends from Roma to Danko in the east. The significant differences between these dialects are lexical and sometimes phonological. Consider the following examples:

	Zuru	Riba	Dabai (Roma)	Senchi	Gloss.
(12) a.	hwa	dəhwe	ədəhwe	əduhwi	‘kill’
b.	d’gyan	dəgyən	ədəgyan	ərigyən	‘egg’
c.	k’so	kəpəko	kəpaku	kəsuwa	‘cave’
d.	koro	gyen	ugyen	k’gyen	‘river’

(Dettweiler 2005:25)

1.4.5 Sociolinguistic Status

C’lela is the language spoken mainly by the Lelna people found across the Zuru Emirate in Kebbi State and parts of Kontagora Emirate in Niger State, Nigeria. The language is related to similar languages of the Benue-Congo family i.e. Kambari, Kamuku, Duka, Ibibio, Tiv etc. The language is used by Lelna as a language of trade and many informal business transactions in the area. It is also used in traditional religious worship, churches, play grounds, and radio broadcasting. But it is not taught in schools. There is a strong perception that oral use of Lelna is much greater in the rural areas than in the larger population centers, which is linguistically mixed and that Hausa is displacing Lelna in these centers as the first language among Lelna (Dettweiler and Dettweiler 2005).

1.5 Statement of Research Problem

There have been several clarion calls from renowned linguists (e.g. Blench, 1988, Boettger and Boettger 1991, Dixon 1997, Crystal 2000) etc for the need to carry out research and further document African languages which have not yet been documented.

This far, the extant studies on C'lela have focused mainly on orthography, phonology and sociolinguistics (e.g. Baba-Waziri (1991), Grimes (1992), Dettweiler (2001, 2005, 2012a, 2012b), Ango (1994, 1996) etc. The morphological aspect of the language has remained largely unexamined. The consequences are that the C'lela distinctive morphological features, and related morphophonological processes are yet to be brought to light. In other words, the question still remains: "To what extent is the morphology of C'lela similar or different from other natural languages and how far does it enhance or enrich our knowledge of morphological operations of African languages?"

1.6 Aim and Objectives of the Study

The aim of the present study is to describe in detail the morphological structure of C'lela. The study seeks to attain the following specific objectives:

- i. To examine the word classes in the language
- ii. To identify and systematically analyse the major morphological processes in the language (i.e. inflection, derivation, compounding and reduplication).
- iii. To investigate other non-concatenative morphological operations used in inflection and word formation which include suppletion and internal modification.
- iv. To establish and describe other specific morphophonological properties identified in the language, such as vowel copying, vowel deletion, vowel lengthening, vowel lowering, metathesis, assimilation, complementary distribution, imbrication, and syllable truncation.

1.7 Outline of Sources and Research Methodology

The data for this work were obtained fundamentally from both primary and secondary sources. The latter comprises library materials such as books, pamphlets from Ango et al. (2003), the dictionary of the language by Rikoto et al. (2002), and Dabai (2010). The former comes from the data gathered on the field: information was sourced from native participants drawn from the rural and urban centers of the four dialect areas. An eight-month field work was carried out in Zuru including the surrounding towns and villages of Zuru, Dabai, Riba and Senchi. The informants were made up of males and females of varying ages. Random sampling was employed since it was virtually impracticable to cover the whole Lelna population. A digital audio tape recorder was used to record naturally-occurring data from unstructured interviews and verbal interactions with native informants. The recorded data include spontaneous text of various folklores, conversation, and local radio programs.

Again, lexical data was elicited using the Ibadan 400-wordlist. Other lexical data was extracted from the dictionary of the language. The data obtained from the primary source were corroborated with that gleaned from the secondary sources. It must be stated that the data used in this study were subjected to typical standard morphological analysis. As well, the analyzed data was further verified by other native speakers, and as practical as possible, utmost care was taken to ensure that the various sources used in the study have been duly acknowledged.

1.8 Earlier Studies on C'lela

Many of the works that have been done on C'lela language were carried out mostly by missionaries, historians, anthropologists and educationists, albeit there are a very few studies in the area of linguistics as well. The first written literary text on C'lela is a hymn book 'Littafi C'cipa' by Ummel in 1917. Later in 1934 Ummel and Ummel who were with the United Missionary Society, Zuru, produced some literature including a book on how to read C'lela. This was succeeded by another reading book which uses a different orthography and which was apparently prepared and printed by the Roman Catholic Mission, which began work in Zuru in 1951 (Dettweiler and Dettweiler 2005). These earlier manuscripts contain translations of portions of scriptures and hymns into C'lela and description of some form of the grammar of the language

Works on anthropology, ethnography and the history of the Lelna people started cropping up during the last quarter of the twentieth century, and include among others; Wente-Lukas (1985), Augie and Lawal (1990), Baba-Waziri (1992), Grimes (1992), Regnier (1992), Ango (1994), Rumu et al. (2001), and Ango et al. (2003). These authors examine the traditions, culture, ethnic and geographical background of the people.

Previous linguistic works on C'lela during the 20th century include Harris (1938), who in his article identified four language groups: the Bangawa, the Fakawa, the Kelawa, and the Lilawa (Lelna). However, Rowlands (1962) uses a brief comparative wordlist to shed some light on the linguistic relationship that exists among these groups. In addition to this, Rowlands (1962), elicited and published a comparative wordlist of 142

items in another set of languages i.e. Lela, Duka, Kambari, and Kamuku. Hoffmann (1967) also harnessed a considerable amount of C'lela wordlists in his article; while a 100-item wordlist was collected by Dancy (1972).

Other previous studies which were carried out on the various areas of C'lela linguistics in the 21st Century include but are not limited to the following: on orthography, Ango (2001), Chonoko (2001), Dudu (2001), Gujiya (2001), Manga (2001), Noma (2001); on phonology, Baba-Waziri (1991), Morgan (1993), Rikoto and Rumu (1996), Dettweiler (2001, 2012a); on dialect study, Amfani (1990), Ango and Dudu (2001); on socio-linguistics, Regnier (1992), Dettweiler and Dettweiler (2005) and a dictionary of the language by Rikoto et al. (2002).

From all the works done on C'lela over the last two decades, the only studies which have shed some light on aspects of the morphology of C'lela are Hoffmann (1967), Dettweiler (2012b) and Rowbory (2009). Hoffman outlined the noun class system of Dakarkari focusing on the relationship between prefix and suffix class systems. Baba-Waziri (1990) and Dettweiler (2012b) wrote on the Grammar of the language. These works provide some sketchy view of the syntax and morphology of C'lela within the basic phrase and clause structure, although they provide some narrow insights into the morphological structure of the language. Rowbory (2009) dealt with the C'lela verbal inflection, focusing on tense, aspect and modality grounding. The present study will undoubtedly benefit from these earlier studies. It differs from the previous studies in the sense that it is the first attempt to provide a thorough morphological description and analysis of the C'lela language.

1.9 Significance of the Study

Following from the previous works highlighted in section 1.8 above, it is utterly clear that there is a lacuna in the literature on C'lela as far as critical insights into morphological structure of the language are concerned. This study is aimed at filling this gap. As the first comprehensive and systemic investigation into the morphological layout of C'lela, it is hoped that it will constitute a ground-work for further studies into the morphology of C'lela and other related languages, and that it will equally serve as a reference material to students and linguists who seek further understanding of C'lela's morphology and grammar. This is in view of the fact that it tackles boldly pertinent morphological issues, including the word classes, various morphological processes such as inflections, derivation, compounding, reduplication, as well as morphophonological process such as vowel copying, vowel deletion, vowel lengthening, metathesis, assimilation, imbrication, syllable truncation, and complementary distribution. By and large, it is envisaged the findings of the study will provoke further questions, views, deliberations and research into this crucial area of linguistic study.

1.10 Organization

The thesis has been organized into seven chapters including the introduction and conclusion. The introductory chapter deals with the basic issues relating to C'lela such as its phonology, dialects, and sociolinguistic significance. It also outlines key issues relating to the research including the statement of research problem, objectives, earlier works on the language, and significance of the study. The second chapter investigates broadly the word class in C'lela, highlighting the distinctive features of six main word

classes: nouns, adjective, verbs, adverbs, pronouns and preposition. The third chapter describes in detail the process of inflection in C'lela, focusing primarily on noun and verbal inflections. It highlights the various phonological processes such as vowel copying, vowel deletion, vowel lengthening, and metathesis associated with inflection. The fourth chapter discusses the process of derivation in the language, focussing on the formation of nouns from other lexical items such as verbs and adjectives, and reversely the derivation of verbs from noun and adjectives. The fifth chapter treats formation of compounds in C'lela, outlining the major forms of compound in the language: Noun-Noun compounds, Noun-Adjective compounds, and Noun-Verb compounds. The sixth chapter concentrates on the phenomenon of reduplication in C'lela. It elaborates how both partial and complete reduplications manifest in the language across the major word classes; nouns, verbs, adverbs, and adjectives. The final chapter summarizes the major findings of the study and provides suggestions for further studies.

End Notes:

¹We do not intend to be exhaustive in explaining the tone patterns in this study. Further researches may give a full account of how tone operates on morphological processes in C'lela.

²For more details on the phonology of C'lela (see Dettweiler 2001, 2012a).

CHAPTER TWO

WORD CLASSES

2.0 Introduction

Word classes play an important role in unearthing the inherent features of languages. A word class is conceived as a set of words that exhibit similar formal properties such as inflection and distribution. They may be described as major or minor depending on whether they make a complete sense on their own or have a functional role. The major class which is also known as lexical or open word class includes nouns, adjectives, verbs, and adverbs. The minor class, otherwise known as functional or closed class includes determinants, intensifiers, pronouns, particles and prepositions. This chapter is devoted to a study of C'lela word classes. The objective is to provide an overview of the morphological characteristics of word classes in the language. The chapter examines four major word classes: nouns, adjectives, verbs and adverbs; and two minor word classes: pronouns and prepositions.

2.1 Noun and Noun Classes

The C'lela noun is made up of stem(s) and affixes. The noun structure exhibits singular and plural pairing. The majority of the nouns have class affixes in both singular and plural, but sometimes, nouns may either have a singular or plural form. The choice of nominal prefixes for the noun stems does not depend on vowel harmony, as it applies to some languages such as Akan (Osam 1993, 2004, Dolphyne 2006), Chichewa (Harris and Lindsey 1995), but rather on the semantics of the nouns in question.

The noun class refers to the individual class of a noun as well as the particular set of morphological concord or agreement markers for noun class that occur on other clause constituents. Noun class can also be used to refer to the pairing of nouns into number sets (Aikhenvald 2000; Corbett 1991; and Schuh 1995). This implies that languages use different criteria in noun classification. For instance, many Indo-European languages, such as German, English, and Italian, use grammatical gender (Corbett 1991, 2006). Others, like the Gurene dialect of the Farefare language, employ concord marking criteria (Nsoh 2002), while several other languages such as Akan (Osam 1993 and Dolphyne 2006); Dagaare (Bodomo 1997, Bodomo and Marfo 2006, Anttila and Bodomo 2007), and Ut.Ma.in Smith (2007) use number categorization, usually marked by affixes.

Studies that were carried out on Benue-Congo have revealed that the Proto-Benue-Congo possesses a functioning noun-class system (with both prefixes and suffixes) that is semantically-based; and that C'lela exhibits noun class systems that are typical of the Proto-Benue-Congo (Gerhardt 1989 and Williamson 1989). Similarly, the Western-Kaniji languages that have close affinity with C'lela, such as Duka, Lyse, Ut-Ma'in etc, display noun class systems that are similar in structure and function, and this may be traceable to their Proto-language. For instance, in Ut-Ma'in, just as in C'lela, noun classes are classified using singular/plural pairing alongside animate and inanimate distinction. For example, C'lela uses the suffix [-nV] in the formation of animate plurals, in the same way Ut-Ma'in uses a similar suffix [nè] to mark animate plurals; however, while C'lela employs the plural suffix [-nV] on all animate beings, Ut-Ma'in, reserves the suffix [-nè] to mark plurals of human animate only. The suffix [-nè]

therefore serves to distinguish between human and non-human animate in the language (Smith 2007), as given in the following examples:

	Singular	Plural	Gloss
(1)	ø-ʃãmpá	ø-ʃãmpá-nè	‘men’
	u-makt	ø makt-nè	‘barren women’
	ū-r ^w ág	ø-r ^w ág	‘elephants’
	ū-no	ø-no	‘birds’

(Smith 2007:41-42)

We shall focus our discussion only on the noun class system in C’lela. When describing noun class system, linguists usually use names or numbers to mark noun classes which are characterized by pairs of matching classes. This system of singular and plural pairing according to Aronoff and Fudemann (2011:59) “is a characteristic feature of the Niger-Congo family”. As indicated earlier, the noun classes in C’lela are marked by both prefixes and suffixes on the nouns. The singulars and plurals of inanimate nouns use prefixes; while for the animate noun, plurality is indicated by suffixation of [-nV] to the nouns.

2.1.2 The C’lela Nominal Prefixes and Suffix

Hoffmann (1967:242-5), later cited in Dettweiler (2012b), noted that there are thirteen (13) distinct noun classes in C’lela. For the 13 noun classes, six are marked by six consonant prefixes [c’-, d’-, k’-, m’-, s’-, v’-]; three classes are marked by three vowel prefixes [a’-, i’-, u’-]; and four classes are marked with null Ø-prefixes. The first nine prefixes occur on the nouns in isolation. Three of the four classes with a null prefix [i) ø/-u, ii) ø/-v, iii) ø/-i] are identified in certain non-isolation contexts, while the fourth

one that has the mandatory suffix [-nV] in all context has \emptyset -/-a null class, as presented below:

The first null suffix, labeled as \emptyset -/-u class, according to Dettweiler (2012b:20), contains singular nouns. The isolation forms of nouns in the \emptyset -/-u class have no affix, but a -u suffix is added to the noun root when it is followed by a possessive or demonstrative qualifier as follows:

i. The \emptyset -/-u null Class

	Singular	Gloss	with qualifier	Plurals		
(2)	a. \emptyset -t _o ro	‘neck’	t _o r-u rovo	‘your neck’	s’t _o ro	‘necks’
	b. \emptyset -seme	‘hill’	sem-u ne	‘the hill’	s’seme	‘hills’

The second null class labeled as \emptyset -/-i- contains plural nouns. The isolation form of a noun for this class has no affix. The /i-/ prefix is added to a demonstrative which qualifies such a noun, providing grounds for the \emptyset -/-i- class. Semantically, nouns of this class normally identify things which are in the plural (Dettweiler 2012b:21-22):

ii. The \emptyset -/-i null class

	Plurals	Gloss	with Demonstratives	Gloss	Singular	Gloss
(3)	a. \emptyset -gwa _a na	‘peanuts’	gwa _a n i-hna	‘these peanuts’	v’gwa _a na	‘peanut’
	b. \emptyset -yala	‘beans’	yal i-nlo	‘those beans’	v’yala	‘bean’

The \emptyset -/-v class contains singular animate nouns. The isolation forms of nouns have no affix. The -v or -av suffix is added to the noun root when it is followed by a possessive qualifier (pronoun or noun) (Dettweiler 2012b:22):

iii. The \emptyset -/-v null class

Singular	Gloss	Possessive qualifier	Gloss
(4) a. \emptyset -gwel _e	‘goat’	gwel-av ri	‘my goat’
b. \emptyset -gom _o	‘chief’	gom-v rovo	‘your chief’

Class \emptyset -/-v also as noted in Dettweiler (2012b:22), is the plural form of the above singular animate which is formed by adding a suffix -nV to the noun, where V is a copy of the final vowel of the isolation form of the root. The vowel that is copied into the suffix is frequently deleted from the root word before the -nV suffix. The -a suffix is added to the noun root when it is followed by a demonstrative qualifier. In this analysis, the \emptyset -/-a class is so named from the null prefix and the suffix -nV; where the V is either the root final vowel or -a used with demonstratives. Examples:

vi. The \emptyset -/-a null class

Plural	Gloss	with Demonstrative	Gloss
(5) a. \emptyset -gwel-ne	‘goats’	gwel-n-a hna	‘these goats’
b. \emptyset -mus nu	‘cats’	mus-n-a hna	‘these cats’

(Dettweiler 2012b:22)

The analysis of the four so called null classes, which results from a process, implies that certain nouns in C’lela have the capacity to be modified by possessive or demonstrative qualifiers. While adopting the 13 noun class affixes, we shall, for empirical reasons, collapse the thirteen (13) noun classes into ten (10) classes which are analyzed below. Thus; counting with the plural noun suffix [nV], in addition to the nine prefixes, we examine ten distinct noun classes that occur with the intrinsically overt affixes which include: three prefixes [c’-, m’-, s’-] identified as noun plural markers, six prefixes [a’-, d’-, i’-, k’-, u’-, v’-,] which mark singular nouns, and the suffix [-nV] that marks plural, as presented in table 1 below:

Table 2: The Singular and Plural Affixes

Noun Class	Singular Prefix	Plural Prefix	Plural suffix
1	a' -	-	
2	-	c' -	
3	u' -	-	
4	d' -	-	
5	k' -	-	
6	v' -	-	
7	-	s' -	
8	i' -	-	
9	m' -	m' -	
10	-	-	-nV

Table 3: The Singular and Plural Pairing

Noun Class	Singular	Plural	Gloss
1/2 (a-/c-) a.	a'kómá	c'koma	'hands'
1/2 (a-/Ø) b.	a'cona	-	'heaven'
1/2 (Ø/c-) c.	Ø-mama	c'mama	'sands'
3/2 (u-/c-)	u'bèlà	c'belà	'farms'
4/2 (d-/c-)	d'kùlé	c'kule	'brains'
5/2 (k-/c-)	k'wècé	c'wece	'clouds'
6/7 (v-/s-) a.	v'dùkù	s'duku	'animal tracks'
6/7 (v-/Ø) b.	v'yala	Ø-yala	'beans'
6/7 (Ø/s-) c.	Ø-ceeta	s'ceeta	'peppers'
8/9 (i-/m-)	i'gwámbá	m'gwamba	'ladles'
9 (m-)	m'yo	m'yon	'milk'
10 (Ø/-nV)	Ø-nàamà	nàam-nà	'cows'

All noun prefixes are marked with the close-mid central (schwa) vowel [ə] as proposed by Dettweiler (2001). The schwa vowel [ə] is post-posed on the noun class markers at phonetic level to distinguish them from pronoun and pronominal affixes. However, the C'lela Language Development Project prefers the use of an apostrophe /' / in place of the raised schwa vowel in citation form. The C'lela Language Community probably selects an apostrophe in place of raised schwa for reasons of familiarity and ease of writing and typing, as the schwa vowel appears to be a special character that is hardly found on an ordinary typewriter or at local printer.

In C'lela, as we shall see in subsection 2.1.3, in addition to singular/plural pairing, the semantic rationale behind the noun classification is based on the meaning/value of some class-markers. For instance: Class 1 (a'-) is a prefix for nouns which may be inanimate objects, towns, ideas, and many others. Class 2 (c'-) is the prefix plural marker for classes 1, 3, 4, and 5. Class 3 singular prefix (u'-) contains nouns relating to home, land and body parts. The class also nominalizes many verbs. Class 4 prefix (d'-), refers to singular nouns that contain objects or plants of medium size and shape. Class 5 prefix (k'-) marks large inanimate concrete objects or plants. Class 6 (v'-) contains nouns objects of small-medium size, usually long and fairly thin, like a stick, finger or pipe. Class 7 (s'-) pluralizes class 6 (v), while Class 8 (i'-) is a singular marker which often indicates objects or plants of very small size and shape. Class 9 (m'-) is the plural form of class 8 (i) and the nouns for class 9 (m'-) may also refer to liquids and other non-countable. While Class 10 (-n) refers to plural for animate nouns. We shall illustrate further the singular/plural pairings, exploring the semantic-based criterion.

2.1.3 The Singular and Plural Nominal Prefixes are illustrated below

Class 1/2 a. [a'-/c'-]:

C'lela class 1 prefix [a'-] is a prefix for singular nouns which may be paired with class 2 [c'-] plural marker. This noun class pairing occurs on a very small group of inanimate noun stems, which include count and abstract nouns. They consist of a few body parts, roof, and floor. Consider the following example:

	Class 1a [a'-] (singular)	Class 2 [c'-] (plural)	Gloss
(6)	a'cú	c'cú	'faces'
	a'bàì	c'bàì	'hips, lower backs'
	a'bè̀mè̀	c'bè̀mè̀	'roofs'
	a'gónó	c'gónó	'floors'
	a'koma	c'koma	'hands'

Class 1/2 b. [a/ Ø]

Class 1/2 b is a subset of class 1 [a']. The class does not have plural counterparts, thus it is unpaired. This may be due partly to their singular nature or to a certain extent for historical reasons. Most nouns in this category relate to religion; God, worship, heaven, land, measurement, life and death. Consider the following examples:

Class 1b [a'-]

(7)	A'silà	'God'
	a'lélà	'Ielna land/kingdom'
	a'wá	'death'
	a'pò̀tò̀	'life'
	a'cònà	'heaven/sky'
	a'tè̀kè̀	'island'
	a'yú	'length'

Class 1/2 c. [Ø-/c'-]

Class 1/2 c as the examples show below, has null Ø- prefix on a very small group of singular nouns. The nouns have their plurals in class 2 [c'-]. Most nouns in this category are inanimate, count or mass nouns. They contain terms for a few body parts and liquid/mass object. This is illustrated below:

Class 1/2 c. Ø-prefix (singular)	Class 2 c'- (plural)	Gloss
(8) dàlmà	c' dàlmà	'bald heads'
màmà	c' màmà	'sands'
mó	c' mó	'dew'
zágá	c' zágá	'canine teeth'

Class 3/2 [u'-/c'-]

Class 3 [u'-] singular prefix is also paired with class 2 [c'-] plural prefix. Noun class 3 (u'-) / 2 (c'-) contains nonanimate entities that include body parts that naturally come in pairs such as ears, legs, cheeks, jaws, horns, shoulders; household names, farm/ land and a variety of other things. They include:

Class 3 [u'-] singular	Class 2 [c'-] plural	Gloss
(9) u'cón	c'cón	'ears'
u'ná	c'ná	'legs'
u'gàtà	c'gàtà	'cheeks'
u'wèdé	c'wèdé	'bodies'
u'yámá	c'yámá	'jaws'
u'kàpó	c'kàpó	'shoulders, wings'

u'kàarè	c'kàarè	'horns'
u'bù	c'bù	'houses, homes'
u'bèlà	c'bèlà	'farms'
u'kàatá	c'kàatá	'shoes'
u'sèpà	c'sèpà	'songs'
u'láná	c'láná	'sores, ulcers'
u'còpó	c'còpó	'grounds/earths/lands'
u'sòká	c'sòká	'upper chest'

Class 4/2 [d'-/c'-]

Class 4 [d'-] singular prefix, which is paired with class 2 [c'-] plural counterpart, covers inanimate objects or plants of medium size and shape. Most nouns that fall under this class are body parts; which include, neck, eye, noses, chest and stomach. Other nouns in this class also include names of objects that are hollow, round or spherical in nature, such as egg, hole/well/pit, drum, pumpkin, basket etc. For example:

Class 4 d'- (singular)	Class 2 c'- (plural)	Gloss
(10) d'kùlé	c'kùlé	'brains'
d'làklákù	c'làklákù	'chins'
d'isá	c'isá	'eyes'
d'wén	c'wén	'noses'
d'dèbè	c'dèbè	'livers'
d'dón	c'dón	'breasts'
d'góndó	c'góndó	'navels'
d'gèn	c'gèn	'chests'
d'háblá	c'háblá	'abdomens'

d'gòntò	c' gòntò	'throats'
d'bà	c'bà	'places'
d'wà	c'wà	'holes, pits, wells'
d'diná	c'diná	'names'
d'gyàn	c'gyàn	'eggs'
d'gòngò	c' gòngò	'drums'
d'òbò	c' òbò	'pumpkins'
d'gómá	c'gómá	'words, speeches'
d'gòybó	c'gyòybó	'baskets'

Class 5/2 [k'-/c'-]

Class 5 prefix [k'-] also takes class 2 prefix [c'-] as its plural marker. The [k'-] prefix is used to mark huge/ large/big inanimate objects in contrast to objects that are small in shape, scale or size, for instance, between that of a knife [i'vàná] and a sword or saw [k'vàná]. Such words include names for weapons (e.g. sword, bow); containers (e.g. large basket, beehive, plate, pot, granary, stomach, and sack); space (e.g. room, cave); river, cloud, and body parts. We take the following examples:

	Class 5 k'- (singular)	Class 2 c'- (plural)	Gloss
(11)	k'tákàllá	c'tákàllá	'books'
	k'vàná	c'vàná	'swords, saws'
	k'táu	c'táu	'bows'
	k'kòmò	c'kòmò	'metal rods/irons'
	k'wècé	c'wècé	'clouds'
	k'àdùdù	c'àdùdù	'large grass baskets'
	k'gùusù	c'gùusù	'beehives'
	k'sáanè	c' sáanè	'ladders'

k'téllé	c'téllé	'plates'
k'kùrú	c'k ùrú	'rooms'
k'kòrò	c'kòrò	'rivers'
k'só	c'só	'caves'
k'són	c'són	'large pots'
k'kimksà	c'kimksà	'outdoor granaries'
k'yòomò	c'yòomò	'unbaked pots'
k'kùntú	c' kùntú	'blankets'
k'kènè	c'kènè	'feathers'
k'bàtà	c'bàtà	'stomachs, sacks'
k'gòntò	c'gòntò	'goiters'
k'wèdé	c'wèdé	'skins, hides, leathers'
k'tèlè	c'tèlè	'bones'
k'nwá	c'nwá	'mouths'
k'mènà	c'mènà	'large intestine'
k'fòkò	c'fòkò	'lungs'

Class 6/7 a. [v'-/s'-]

Class 6/7 has singular prefix class 6 /v'-/ which is paired with consonant plural prefix class 7 [s'-]. This class mainly represents inanimate count objects of small-medium size, usually characterized by items with relative length or things that are fairly slim/thin/slender, such as string, screw , arrow, rope, stick, track, tools, pole, drum, and amulet. The following are examples of such nominals that occur in class 6/7 pairing.

Class 6 v'- (singular)	Class 7 s'-(plural)	Gloss
(12) v'dàlà	s'dàlà	'quivers/arrow sheaths'
v'dèlà	s'dèlà	'screws/tools'

v'dágá	s'dágá	'waist amulets'
v'bàzgnà	s'bàzgnà	'indian hemp'
v'dùkù	s'dùkù	'animal tracks'
v'gwé	s'gwé	'calabash drum'
v'hwèn	s'hwèn	'ropes'
v'kènbè	s'kènbè	'poles'

Class 6/7 b. [v'-/Ø]

Words in this category contain a limited set of nouns for vegetation, and are inherently collectives. They are unmarked in the plural. The Class marks its singular form with [v'-] prefix. These nouns that describe the entities which come in collection include beans, groundnuts, guinea corns and fingers.

Class 6 v'- (singular)	Null Ø (plural)	Gloss
(13) v'yàlà	Ø- yàlà	'beans'
v'gwàà̀nà	Ø- gwàà̀nà	'groundnuts'
v'hì	Ø- hì	'guinea corns'
v'gyú	Ø- gyú	'fingers'

Class 6/7c [Ø-/s'-]

In Class 6/7c [Ø-/s'-] group, the singular forms are unmarked, and the plurals take class 7 [s'-]. This is not surprising as the nouns in this category are terms that mainly come in collection. These collectives include names of agricultural produce such as pepper, pawpaw, millet, cereal, and other tree and plant species. There are some nouns that have count and abstract referents. The count entities include mountain, year and month,

and a few body parts, (viz. tail, collarbone, and throat). The abstract terms are rumours and illness. Examples are given below:

Class 6 Ø-prefix (singular)	Class 7 s'- (plural)	Gloss
(14) cé	s'cé'	'trees'
bàró	s'bàró	'desert date trees'
cèetá	s'cèetá	'peppers'
làalé	s'làalé	'tamarind trees'
bàsnémà	s'bàsnémà	'fig trees'
gwándà	s'gwándà	'papaw'
máyàná	s' máyàná	'banana'
nàatà	s'nàatà	'bulrush millet'
pòòcò	s'pòòcò	'cereals'
hìlágòngò	s'hìlágòngò	'thorny grasses'
sèmè	s'sèmè	'hills/mountains'
bàńàńkà	s' b àńàńkà	'rumours/gossip'
màlsè	s'màlsè	'illness/sicknesses'
wè	s'wè	'years'
péetè	s'péetè	'moons/months'
twèré	s'twèré	'tails'
dàklà	s'dàklà	'collarbones'
tòró	s'tòró	'necks'

Class 8/9 [i'-/m'-]

Class 8 [i'-] vowel singular prefix occurs with the only nasal plural prefix 9 [m'-].

Class 8 /i'-/ serves to form diminutives of concrete nouns, and class 9 /m'-/ is assigned to form plural of this class. This class often contains inanimate objects or plants of very

small size and round shape. Nouns in this category include household utensils, farm implements and tools:

Class 8 i'-(singular)	Class 9 m'-(plural)	Gloss
(15) i'hònò	m'hònò	'small calabashes'
i'bàró	m'bàró	'small chisels'
i'dòrò	m'dòrò	'small pots'
i'bímá	m'bímá	'small pitchers'
i'tágú	m'tágú	'small shirts'
i'vàná	m'vàná	'small knives'
i'bìrgà	m'bìrgà	'small corn bins'
i'càgnà	m'càgnà	'small woven bags'
i'gwéntlé	m'gwéntlé	'small fried groundnut cakes'
i'gyùrù	m'gyùrù	'small axes'
i'kè	m'kè	'small outlets'
i'kòmò	m'kòmò	'small piece of iron rods'
i'gwámbá	m'gwámbá	'small ladles'

Class 9 [m'-]

Class 9 [m'-] prefix, which is the only nasal prefix for the inanimate entity (used elsewhere to mark plurals of the /i'-/ singular class that form diminutives of concrete nouns), is used to mark liquids and other non-count objects. This set is an unpaired class as it occurs with only one class prefix, which does not make distinction between singular and plural nouns. Consider the following examples:

	Class 9 m'-	Gloss
(16)	m'hò	'water'
	m'nèvé	'oil/petrol'
	m'semá	'fat/oily meat'
	m'hìbà	'blood'
	m'gùmù	'salt'
	m'làbá	'poison'
	m'làdé	'potash'
	m'kyá	'locally-brewed beer'
	m'tón	'ashes'
	m'rwà	'diarrhoea'
	m'bàsá	'urine'
	m'sá	'sea, ocean'
	m'gàncò	'scrap of news'
	m'hòsò	'generosity'
	m'hwèené	'secrecy'
	m'wèsè	'strength/power'

It must be noted that apart from class 10, /nV/ which is the only suffix used to form plurals for animate nouns; there is correspondence between singular nouns and their plurals in each of classes 1-9 prefixes. Classes 1, 3, 4 and 5 singular prefixes form their plurals from Class 2. Class 6 prefix takes class 7 as its plural marker. Class 8 singular prefix is paired with Class 9 prefix; while class 9 nasal prefix may represent both singular and plural to mark liquids and other non-count.

2.1.4 The C'lela nominal suffix [-nV]

In C'lela, the nasal [-n], as stated earlier, is the common noun plural suffix that occurs on animate nouns. To create plurals for these animate entities; the suffix **-n(V)** attaches to the noun stems to which is added a single but variant suffix vowel, whose quality is observably influenced by the stem-final vowel. Nouns in this group generally refer to concrete objects. The singular form of this class is unmarked. As regards to the tone in plural formation, Dettweiler (2012a:23), reports that the tone pattern of the inanimate singular nouns is generally maintained in the plural forms, because the vowel prefixes carry low tone in the lexical form of the noun. Whereas the process of plural formation of the animate nouns sometimes triggers tonal modification of the input stem; the plural suffix, on the other hand, as confirmed by Dettweiler (2012a:23-24), “has low tone lexically assigned to it”¹ with a few occurring with a falling tone. So, we may assume that in pluralization in C'lela, the plural suffix, (which applies to animate entities) motivates tonal changes, while plural prefixes (that marked inanimate nouns) do not. Consider the following examples:

Ø-prefix (Singular)	Class 10 –nV (plural)	Gloss
	<i>/nal</i>	
(17) nòcò	nètná ²	‘persons’
cètò	cètònò	‘fathers’
ìnù	ìnùnù	‘mothers’
nètà	nètànâ	‘women/wives’
kèmpá	kèmpánà	‘boys’
mànkà	mànkànà	‘old men’

nàamá	nàamnà	‘cows’
nèmà	nèmnà	‘birds’
dàptà	dàptnà	‘monkeys’
émà	émnà	‘grasshoppers’
	<i>/ne/</i>	
mágàzé	mágáz.nè	‘elder brothers’
cwècé	cwècnè	‘scorpions’
géné	gènnè	‘fish’
gwèlè	gwèlnè	‘goats’
gwèbè	gwèbènè	‘he-goats’
zòrè	zòrnè	‘antelopes’
	<i>/ni/</i>	
kwìbí	kwìbnì	‘orphans’
bìmbì	bìmbìnì	‘beetle’
bíngí	bíngínì	‘male donkeys’
dwìrì	dwìrìnì	‘hyenas’
kàcì	kàcnì	‘chicken’
	<i>/no/</i>	
bòn	bònnò	‘bush cats’
còkó	còknò	‘slaves’
kyóòmò	kyóòm̀nò	‘sheep’
dókò	dóknò	‘horses’
ómò	óm̀nò	‘dogs’
gòngò	gòng̀nò	‘lizards’
zòmò	zòm̀nò	‘rabbits/hares’
làagò	làagnò	‘mad persons’
mádàmbólò	mádàmból̀nò	‘leech’

	<i>/nu/</i>	
zùrù	zùrnù	‘lions’
músú	músnù	‘cats’
lâgù	lâgnù	‘rats’
gyúmù	gyúmnù	‘house-flies’
lântù	lântnù	‘mosquitoes’

It is worth noting that the suffixation of the plural morpheme */-nV/* on the noun stem is characterised by frequent deletion of the final vowel of such noun stem. Aside from the stem-final vowel deletion resulting from the process of suffixation, one could also notice that there are other sets of nouns whose final-vowel shows resistance to the deletion phenomenon. However, a close appraisal of the C’lela data shows appreciable cases of vowel retention in those dialects spoken at the periphery. This is to say, that stem-final vowel deletion is prevalent in the C’lela central dialect.³

Discussion on other morphophonological domain, such as vowel lengthening, metathesis, covered by the pluralization process follows in section 3.1.2.2.3.

2.1.5 Prefixless Noun Class

There is another set of nouns in C’lela which is marked by null prefixes both in the singular and plural. It may not be surprising to see this class of nouns being marked by null prefixes, because most nouns in this category designate mass or abstract objects. They include nouns that denote diseases, poison, other fungal infections, names of plants and other non-count nominals. Both singular and plural forms carry the same tones. Some borrowings from Hausa and English also fall under this class, as can be seen in (19) and (20) below. The following are the C’lela examples:

	Ø-prefix (Singular)	Ø-prefix (Plural)	Gloss
(18)	òglò	òglò	‘gravel’
	tàndè	tàndè	‘snow, ice’
	yòoyò	yòoyò	‘harmattan’
	gyóntì	gyóntì	‘yellow fever’
	rénó	rénó	‘poison’
	sàbgù	sàbgù	‘witchcraft’
	háccì	háccì	‘sneeze’
	hàgámà	hàgámà	‘greed’
	bèenâ	bèenâ	‘dream’
	hébó	hébó	‘doubt’
	pèrmò	pèrmò	‘contemplation’
	bényá	bényá	‘rice’
	káabòodó	káabòodó	‘water lettuce’
	tòhó	tòhó	‘ingredients for soup’
	pérmá	pérmá	‘kind of sorghum’
	pèplé	pèplé	‘kind of scented grass’
	gwèmbè	gwèmbè	‘chaff of guinea corn’
	zàmtà	zàmtà	‘kind of guinea corn’

2.1.5.1 Loanwords

It is a widely held view among linguists that linguistic borrowing is a global phenomenon (Barber et al. 2009, Fennell 1998, Hudson 1996, Yingyin 2009, Tal 2002, Algeo 2010, Ireba 2013). C’lela, as is the case with other world languages borrowed words from other languages so as to describe certain unfamiliar traditional, scientific, and technological concepts; in order to fill the lexical and grammatical gaps in its

vocabulary. Most C'lela loanwords are from Hausa and English. It is significant and common with languages that borrowed words are not marked with affixes as compared to native words. Nevertheless, these borrowed words into C'lela sometimes undergo few sound changes. Consider the following instances of such loanwords from Hausa and English below: significant

2.1.5.2 Loanwords from Hausa

The borrowed words from Hausa into C'lela that are not marked by affixes contain both count and non-count objects. These words include Hausa names relating to law, history, instruments, and products made from flowers or plants. However, borrowed nominals in this class do not undergo any significant morphological processes, as can be seen in (19) below:

	Clela	Hausa	Gloss
(19)	gáadò	gaado	'inheritance'
	hánkàlí	hankali	'prudence'
	kûrkúkù	kurkuku	'prison'
	tàríhì	tarihi	'history'
	kàkàkí	kakaki	'long trumpet'
	gùugá	guuga	'well bucket'
	táabà	taaba	'tobacco, cigarette'
	tùràré	turare	'perfume/eucalyptus'
	kánwá	kanwa	'potash (for animals)'
	kàràmbàanè	karambaani	'meddlesomeness'
	sáasà	tsáatsà	'rust'

2.1.6.2 Loanwords from English

Loanwords from English into C'lela contain both count and non-count objects, which include names for colour, electronics, and business/ educational institutions. These borrowed words from English are not subjected to undergoing any significant morpho-phonemic processes. Consider the following examples in (20):

	C'lela	English
(20)	kámpàní	'company'
	kálà	'colour'
	rédí'ò	'radio'
	tèp	'tape recorder'
	kwélejì	'college'
	káptìn	'captain'

2.2 The Pronouns

C'lela, like English, uses a pronoun system of 1st person, 2nd person and 3rd person. Similarly, the pronouns are marked for number (singular and plural). However, these personal pronouns are not amenable to masculine and feminine differentiation, but the language distinguishes animate and inanimate pronoun objects. The singular and plural of the lifeless objects take pronouns based on their noun-class marker. Depending on the phonological environment, the pronouns **v** and **m** occur as prefixes or suffixes on words. Table 4 below shows the object and subject pronouns, while table 5 is showing the possessive pronouns in C'lela:

Table 4: C'lela Object and Subject Pronouns

Singular					Plural			
Person	Subject	Gloss	Object	Gloss	Subject	Gloss	Object	Gloss
1 st	<i>m, am, -m, m-</i>	I	<i>me, mi, -m, m-</i>	me	(<i>spec.</i>) <i>c, ca</i> (<i>gen.</i>) <i>na</i>	we	<i>co</i>	us
						we	<i>na, cinna</i>	we
2 nd	<i>v, av, -v, v-</i>	you	<i>vo, vu, -v, v-</i>	you	<i>an, -n</i>	you	<i>no</i>	you
3 rd (anim.)	<i>u</i>	he/ she	<i>o</i>	him/ her	<i>a</i>	they	<i>a</i>	them
3 rd (inanim.)	<i>a, d, i, k, m, u, v</i>	It	<i>e, o, na, da, ka, va, ma</i>	It	<i>a, c, i, m, s</i>	they	<i>ca, e, ma, sa</i>	them

Table 5: Possessive Pronouns

Singular			Plural	
Person		Gloss		Gloss
1 st	<i>ri</i>	my, mine	(specific) <i>co</i> (general) <i>cinna</i>	our, ours our, ours
2 nd	<i>Rovo</i>	your, yours	<i>no</i>	your, yours
3 rd (animate)	<i>ru</i>	his, hers	<i>na</i>	their, theirs
3 rd (inanimate)	<i>an, dan, in, kan, man, un, van</i>	Its	<i>an, can, in, man</i>	their, theirs

(Adopted from Rikoto et al. 2002:403)

The following examples show the distribution of pronouns in the language.

Here are examples of Subject Pronouns in sentences

- (21) a. ná hén-kè hyòmsó
 we see-PST hippopotamus
 “We saw the hippopotamus”
- b. a nòk-kà tánnà dèèdè
 they come-PST here yesterday
 “They came here yesterday”

Examples of Object Pronoun in a clause

- (22) a. val **co**
 wait **us**
 “Wait for us”
- b. u kwèsèy **mi**
she friend **me**
 “She is a friend to me”

Other types of pronoun can also be identified which include interrogative pronouns, demonstrative pronouns, and indefinite future pronouns:

2.2.1 Interrogative Pronouns

C’lela has interrogative pronouns which are used to ask questions. These pronouns, like in other languages, ask questions about a place, time, name or identity, and degree or

manner in which something happens. The C'lela interrogative pronouns are **pèhá**; **pèná**; **ípè** 'where', **nàmà** 'when', **nán** 'who', **yè**, 'what', and **cán**; **kàn**; or **yà** 'which'.

Examples of Interrogative Pronoun in sentences are presented below

- (23) a. **pèhán** buu **nà**?
 where house their?
 "Where is their house?"
- b. **pèn** báa **nò**?
 where place you?
 "Where are you?"
- c. **nàmàn** t-áv **tó**?
 when FUT-you leave?
 "When will you leave?"
- d. **yè** om vo **mi**?
 what bring you me?
 "What did you bring for me?"

2.2.2 Demonstrative Pronouns

Demonstrative pronouns refer to "a class of items whose function is to point to an entity in the situation or elsewhere in a sentence" (Crystal 2008:135). C'lela has two groups of demonstrative pronouns: The proximal (near) and the distal (far) demonstrative pronouns. The proximal pronouns are **ópúhà**, **táwà** 'this one', and **tánà** 'these ones', while the distal demonstratives are **táwànlú**, **ópúnló**, **ópínnó** 'that one', and **tàwànlú**, **tàwànnó** 'those ones'. Here are examples of Demonstrative Pronouns in a sentence

- (24) a. **óm** kíndì **ópúhà**
 take money **this**
 "Take this money"
- b. u **óm-kò** **ópínnó**
 he take-PST that one
 "He took that one"

Examples of the Indefinite future Pronouns in sentences.

- (25) a. **kówè** el táanzó b. **t-ám** nòkà
 everyone is there **will-I** come
 “Everyone is there” “I will come”

2.3 Verbs

The verbs in C’lela, like nouns, are minimally monosyllabic and maximally tri-syllabic. C’lela verbs may be classified into four morphological forms: the verb stem, the present form, the perfective and the simple future. In contrast to English language, the language does not make a difference between the simple past and the perfective. The progressive and the perfective are formed from the verb stems. All the noun class prefixes [a, i, u, d, k, v, m, c, and s] may be used on verbs to mark present/progressive action in the language. The perfective is represented by a [-k(V)] suffix which attaches to the verb root; while the formation of future tense involves prefixing a [t-] morpheme on an overt subject pronoun that usually precedes a verb. The occurrence of the t- prefix on the pronoun, changes the usual low tone of the affected pronoun to a high tone.

Verbs in C’lela take subjects as well as direct or indirect objects appropriate to the verb. Similarly, the habitual and progressive aspects may be expressed by means of auxiliary construction in the language. The copula (*èlló*); which normally undergoes truncation to (*el*), is the gender-free and number-free auxiliary form, that can be used with nominalized verbs to help mark habitual aspect as well as progressive aspect in the language (Rowbory 2009 and Dettweiler 2002). The following sentences in table 6 illustrate verb forms in C’lela:

Table 6: Verb Forms in C'lela

Verb Stem	Present Form c, s, m, a, v, u prefix	Perfective Form -kV suffix	Simple Future t-prefix	Habitual Form cop + t- prefix
gùzú 'to wash'	am el c'-guzu I cop PRES-wash "I am washing"	am guz-ku I wash-PST "I washed"	t-ám gùzú FUT-I wash "I will wash"	am el tám guzu kóye daava I cop always wash all time "I always wash"
gèné " 'to write'	av el s'-g eno you cop PRES-write "you are writing"	av gen-ke you write-PST "you wrote"	t-áv gèné FUT-you write "you will write"	av el tám gene kóye dàv you cop always write all time "you always write"
zòlá 'to take a bath'	u el u'-zolo he cop PRES-bath "he is bathing"	u zol-ka he bath-PST "he bathed"	t-ú zòlá FUT-he bath "he will bath"	u el tú zola kóye daava he cop always bath all time "he always bath"
Dùmú 'to fight'	a el v'-dumu they cop PRES-fight "they are fighting"	a dùm-kù they fight-PST "they fought"	t-á dùmú FUT-they fight "they will fight"	a el tá dùmú kóye daava they cop always fight all time "they always fight"
sọọ 'to drink'	ca el m'-sọọ we cop PRES-drink "we are drinking"	ca sọọ-ka we drink-PST "we drank"	cá-n sọọ we-FUT drink "we will drink"	ca el cán sọọ kóye daava we cop always drink all time "we always drink"

It is observable that the prefixes **t-** and **el-** function only as grammatical morphemes; that modify the tense and aspect of a verb phrase, however, when in isolation, they lack identifiable meaning. The adverbial phrase **koye dàv** 'all time/always' helps in providing a plausible context for eliciting a habitual inflection (Rowbory 2009). In his attempt to find a potential lexical source from which the grammatical morpheme **t-** evolved, Rowbory (2009) combed the C'lela Dictionary (Rikoto, 2003) and came up

with a list of monosyllabic/disyllabic words beginning with **t-** viz: **táa** ‘finish’, **tà** ‘not’, **táhà/ táhnà** ‘here’, **tàkà** ‘start’, **támà** ‘again’, **táa** ‘chew/snack on’, **tó/tóo** ‘go/pass/leave’, **tònò** ‘want/like’, **tóló** ‘swallow’ etc. After assessing this group of words, he considers the high tone variant lexemes **tóo** “go” or **táa** “finish” to be the seeming lexical source for the **t-**prefix.

It must be mentioned as well that that there is a close correlation between the class marking affixes and the pronoun systems, and also the future inflectional prefix. Note that where the noun class prefixes and the subject pronoun are consonants; such consonants replace the **t-** prefix future marker. The following summary in table (7) shows the complementary relationships that exist among these forms, as adopted and adapted from (Rowbory 2009:20 and Dettweiler 2012b:4-6):

Table 7: The Class Marker, the Pronouns, and the Future affix

Person/ Number	Class marker	Subject pronoun	Gloss	Object Pronoun	Possessive pronoun	Future marker t-	Gloss
1 st sg	-nV	am	‘I’	me/mi	Ri	tám	‘I will’
2 nd sg	-nV	av	‘you’	vo/vu	rovo	táv	‘you will’
3 rd sg animate	-nV	u	‘he’	o	Ru	tú	‘he will’
3 rd sg inanimate	a-	a	‘it’	ṅa	ṅa	tá	‘it will’
	d-	d	‘it’	ḍa	ḍan	ḍan	‘it will’
1 st pl	c-	ca	‘we’	co	cṅn	cṅn	‘we will’
2 nd Pl	a-	a	‘you’	na	Na	Tá	‘you will’
3 rd pl	s-	s	‘they’	sṅ	sṅn	sṅn	‘they will’

2.4. Adjectives

Discussion on adjectives across languages is well-known (Dixon 1982, 2006; Dixon and Aikhenvald 2006; Drayer 2008, and Post 2008) etc. In one of his recent studies on adjectives, Dixon (2006) opines that depending on the size of the number of adjectives, most languages may have distinguishable adjective class. Other previous studies (Osam 1999, 2003; Ameka 2002, 2003; Adjei 2007; Amfo et al 2007; Dzameshie 2007; Naden 2007; Atintono and Adjei 2010; Saah and Osam 2010; Nsoah 2010, and Schwarz 2010) etc have shown that adjective class has gained the attention of various scholars, especially those working on Niger-Congo languages. It also follows from this earlier literature, that many languages of the Niger-Congo possess a relatively small number of underived adjectives (Ameka 2002; Osam 2003, and Schwarz 2010).

Following (Dixon 1982, 2006), adjectives may typically be classified into semantic types such as: **dimension** (small, big, fat), **age** (new, old, young), **value** (good, bad) **colour** (white, black, red), **human propensity** (happy, sad), **speed** (slow, fast) and **physical property** (soft, hard). Adjectives can also be identified, morphosyntactically, as ‘words for description’ (Naden 2007). They can as well be exploited for morphological purposes (Osam 2003; Amfo et al. 2007; and Dzameshie 2007), and syntactically, adjectives may be described in terms of their attributive and predicative uses (Saah and Osam 2010).

C’lela, like Akan (Osam 2003), has both underived as well as derived adjectives. Dettweiler (2012a:11) identifies underived adjectives in C’lela as those adjectives that have attributes of colour, (i.e. **gyozo** ‘red’, **pùsi** ‘white’, **rimu** ‘black’), size, and

quality (i.e. **i'kasi** 'good', **i'naake** 'bad']). With respect to their syntax, particularly their position relative to the head noun, adjectives in the language may be used both attributably and predicatively. Adjectives are used attributably when “they follow the nouns they modify...” (Saah and Osam 2010:109), as opposed to adjectives used predicatively; for example, **noco d-koba** and **kob-d noco** “a poor person”. However, as in most Gur languages and other related languages (Schwarz 2010:135), adjectives in the language typically occur in attributive positions. The lexical items that can be described as adjectives in the language are distinguishable from other word classes. Most of these adjectives are vowel-initial. The following C'lela adjectives may be classified into semantic types:

2.4.1 Colour Adjectives

- (26) a. i'pùsí 'white'
 b. i'rimù 'black'
 c. i'gyòzó 'red'
 d. i'yòoró 'green'

Examples of colour adjectives in a clause:

- (27) a. kus-k **pusi-ni**
 Cloth-SG **white-DET**
 “A white cloth”
- b. cwece **rimu-ne**
 scorpion **black-DET**
 “The black scorpion”

2.4.2 Age Adjectives

- (28) a. i'pooyā 'new'
 b. i'ùtù 'old (of things)'

Examples of age adjectives in a clause:

- (29) a. bu-c **pooyā**
 house-PL **new**
 “New houses”
 b. dor-i **utu**
 pot-SG **old**
 “An old pot”

2.4.3 Value Adjectives

- (30) a. i'kàsí 'good, nice'
 b. i'nàaké 'bad'

Examples of value adjective in a clause:

- (31) a. u wa-ka van-i **kasi**
 he buy-PST knife-SG **good**
 “He bought a good knife”
 b. dota-k **naake**
 chair-SG **spoiled**
 “A bad chair”

2.4.4 Dimension Adjective (of size and shape)

(32)	a. i' r̀èké/esune	'small'
	b. d́ámrá	'big'
	c. i'gyùndú	'short'
	d. i'zìsí/nayu	'long'
	e. d̀ògròt	'round'
	f. r̀órkà	'large'
	g. swàayá	'huge'
	h. s̀àngàm	'tall'

Examples of dimension adjectives in a clause:

- (33) a. ce-k **damra**
 tree-SG **big**
 "A big tree"
- b. wa **reká** ne
 child **small** DEF
 "The small child"

2.4.5 Morphological Properties of Adjectives

2.4.5.1 Noun-Adjective Agreement.

The noun class system of many Niger-Congo languages, especially the Bantu sub-family, is noted to have a concordial system. The term "concord" which is another word for "agreement" occurs when one element in a phrase or a sentence takes on the morphosyntactic properties of another element (Baker 2010, Aronoff and Fudemann 2011). For the phenomenon of noun-adjective concordial system, adjective usually takes on the number of the noun that they modify; thus in Swahili, and Cicipu, a

Western-Kainji language, it is possible to have adjectives agree with nouns they modify in terms of number, as presented in the following examples:

Swahili:

	Singular		Plural		Gloss
(34) a.	m-toto m-zuri	‘good child’	wa-toto wa-zuri	‘good children	
b.	m-lango m-zuri	‘good door	mi-lango mi-zuri	‘good doors’	

(Osam 1993:87)

Cicipu:

	Singular		Plural		Gloss
(35) a.	ma-diya me- peneu	‘big hare’	n-diya m- penue	‘big hares’	
b.	ke-tere ke-penue	‘big bone’	e-tere e-penue	‘big bones’	

(McGill 2009:252)

C’lela, unlike other Niger-Congo languages, does not display noun-adjective agreement in terms of number. While both the noun and the adjective carry the same number affix in Swahili and Cicipu; in C’lela, it is the adjective which follows **animate** nouns in the noun phrase that bears the overt noun plural marker [-nV]. This lack of number agreement between the head nouns and the adjectives that modify them appears to be unique to C’lela among Western-Kainji language family. Consider the following examples in (36) and (37).

- (36) a. òbál gyózó
 snake red
 “A red snake”
- b. òbál gyóz-**no**
 snake red-PL
 “Red snakes”

- (37) a. d̀apt ŕmú
monkey black
“A black monkey”
- b. dapt rim-**nu**
monkey black-PL
“Black monkeys”

But where an adjective follows **inanimate** noun; it is rather the nouns that inflect for number, instead of the adjectives that modify them, given that the number markers were originally noun prefixes but transpose to noun final position before the adjective.

Consider the following examples in (38) and (39):

- (38) a. bu-**u** damra
house-SG big
“A big house”
- b. bu-**c** damra
house-PL big
“Big houses”
- (39) a. l̥ev-**k** kasi
road-SG good
“A good road”
- b. l̥ev-**c** kasi
good-PL road
“Good roads”

Though Dettweiler (2012b) indicates that some adjectives have concordial agreement with the nouns they modify; but with adjectives bearing a suffix as the noun class marker as in examples (40a, b, c), it is not clear how such agreement is established:

- (40) a. taar-k swaa-ka “a huge rock
 rock-CM huge-CM
- b. cop-u gyoz-o “red earth”
 earth-CM red-CM
- c. van-i zis-i “a long knife”
 knife-CM long-CM
- (Dettweiler, 2012b:11)

Adjectives in C’lela may also be inflected for definiteness in the noun phrase. The definite suffix [-ne] or [-ni] may attach to the adjectives to indicate the definiteness of the entire noun phrase; in which case, the noun phrase selects the definite marker identical to the final vowel of the adjective. Here are some examples:

- (41) a. gwɛl pusu-**ni**
 goat white-DEF
 “The white goat”
- b. bu-u powo-**ne**
 house-SG new-DEF
 “The new house”

2.5 C'lela Numerals

C'lela has cardinal numerals which are used to indicate or represent number. The syllable structure of the basic numerals is either monosyllabic or disyllabic. Moreover, these numerals, except for numbers two (2) and ten (10), are consonant-initial. The following are examples of the numerals:

Table 8: C'lela Numerals

dán/cín	'one'	d'kwèzè	'twenty'
ílà	'two'	d'kwèz nàv dán (20 + 1)	'twenty one'
táacù	'three'	d'kwèzàn óopá	'thirty'
nássé	'four'	d'kwèzàn óopá nì ílàn	'thirty two'
tán	'five'	kwèc ílà (20 x 2)	'forty'
cíhìn	'six'	kwèc ílàn táacù	'forty three'
tànílà	'seven'	kwèc ílàn óopá	'fifty'
yáarù	'eight'	kwèc ílàn óopá nì tán	'fifty five'
dórè	'nine'	kwèc táacù (20 x 3)	'sixty'
óopá	'ten'	kwèc táac nì cíhìn	'sixty six'
óopá nàv dán (10 + 1)	'eleven'	kwèc táacàn óopá	'seventy'
óopá nì ílà	'twelve'	kwèc náasè	'eighty'
óopá nì táacù	'thirteen'	kwèc náas nì dórè	'eighty nine'
óopá nì nássé	'fourteen'	kwèc' náasán óopá	'ninety'
óopá nì tán	'fifteen'	kwèc tán (20 x 10)	'one hundred'
óopá nì cíhìn	'sixteen'	kwèc tán óopá	'one hundred & ten'
óopá nì tàn ílà	'seventeen'	kwèc yáarù	'one hundred & sixty'
óopá nì yáarù	'eighteen'	c'kwèz óopá	'two hundred'
óopán nì dórè	'nineteen'	zámbàr	'one thousand'

(Data from Rikoto et al. 2002)

C'lela has number system consisting of ten (10) basic cardinals. The numbers are: 1, 2, 3, 4, 5, 6, 8, 9, 10, and 20. All other numbers are derived either by addition or multiplication of the few decimal numbers in the language. The word *tànilà* “seven” consists of the word for “five” plus the word for “two”. Numerals eleven through nineteen take the conjunction *na/ni* “and” to conjoin the root *ópá* with other numerals to produce forms such as *ópán ni dórè* i.e., “nineteen” (19) which means 10+9 (or ten and nine). Also the root *d'kwèzè* “twenty”, after slight modification, becomes the head noun, for numerals “twenty one” through “two hundred”. For instance, *kwèc ilà* i.e., “forty” (40) means 20×2 (or two twenties) and *kwèc tán ni tագù* i.e., “one hundred and three” (103) means $20 \times 5 + 3$ (or five twenties and three) respectively. With exception of the word *zambar* “one thousand” which is a borrowing from Hausa, all numerals in the language are native vocabularies. Take the following examples:

- (42) a. hwe-c *tագù*
 day-PLU three
 “Three days”
- b. kyoom-no *tán*
 sheep-PLU five
 “Five rams”
- c. gyan-c *kwèc tán*
 egg-PL one hundred
 “One hundred eggs”

2.6 Adverbs

Trask (1993:9), cited in Saah (2004:47), defines the term *adverb* as “a lexical category, or a member of this category whose members are usually grammatical adjuncts of a verb and most typically express such semantic notions as time, manner, place, instrument or circumstance” and *adverbial* as “any category with a distribution and function similar to a lexical adverb”. Saah (2004:47) uses the term *adverb* to refer to “single lexical items that belong to the category of words we call ‘adverbs’ and *adverbial* to refer to any category such as a word, phrase or clause which functions as an adverb”. Traditionally, adverbs are lexical items that can function as modifier of a verb, an adjective or another adverb (Saah 2004).

Additionally, Maienborn and Schafer (2010:2) define the term adverb as “specific word class or lexical category and therefore contrasts with other word classes, such as nouns, adjectives, verbs, or prepositions...in that they often do not possess clear markers for category membership and can only be defined via their syntactic function of being prototypically used as adverbials”.

On the other hand, the authors refer to *adverbials* as “those elements that serve to specify further the circumstances of the verbal or sentential referent” which “are restricted to a set of semantically limited usages, prototypically specifying *time*, *place*, or *manner*” (Maienborn and Schafer, 2010:2). Adverbials are usually realized by different types of phrasal units and clauses. They may be used in response to the questions such as, when/for how long, how and where, and constitute specific

inferential and distributional semantic or syntactic properties that supply additional information to the verb or sentence.

2.6.1 Semantic Classification of Adverbs

Adverbs can typically be classified based on semantic or syntactic criteria. In the literature (Saah 2004; Maienborn and Schaefer 2010; McNally and Kennedy 2008) present different semantic types of adverbs as, *manner, time/temporal, place/locative, frequency, epistemic, aspectual, reason* adverbs and so on. Following the discourse on adverbs in Saah (2004) and Saah and Agbedor (2004), we discuss four semantic types of adverbs in C’lela, namely: manner adverbs, place/location adverbs and time/temporal adverbs and frequency adverbs.

2.6 1.1 Manner Adverbs

Manner adverbials are those elements used to specify how an eventuality or an action unfolds, that is, they usually indicate the way in which an action or event was carried out (Maienborn and Schaefer 2010). Manner adverbs often come after the verb they describe. The following are examples of manner adverbs in C’lela:

- | | | | |
|------|----|-----------|------------------|
| (43) | a. | hòdò | ‘tight, tightly’ |
| | b. | hwèdí | ‘greatly, much’ |
| | c. | bòró | ‘usually’ |
| | d. | kósá, bok | ‘almost, nearly, |
| | e. | báadé | ‘well’ |

Examples of manner adverbs in clauses:

- (44) a. nàam ryà-k *à* **hwedi** tente
 cow eat-PST **much** today
 “The cow ate much today”

- b. a'yomko m'kosam taa-ka
 work almost finish-PST
 "The work is almost finished"

Manner adverbs in C'lela are similar to the Nupe, a Benue-Congo language adverbs; **saji** 'quietly', **karaji** 'carefully', **kaji** 'separately'. However, unlike in C'lela, the Nupe adverbial final syllable **-ji** may attach to adjectives to express adverbial meaning, as in the following examples in (45):

Nupe:

	Adjectives		Adverbs	Gloss
(45) a.	woro	'new'	woroji	'in new manner'
b.	dzuru	'red'	dzuruji	'in red manner'
c.	kuru	'round'	kuruji	'in round manner'

(Kawu 2002:212)

2.6.1.2 Time or Temporal Adverbs

Time/Temporal adverbs express relations of time. These types of adverbs specify the time or length of action or event which has taken place. They can occur in sentence initial or sentence final positions. Though some of these words, like, **deede** "yesterday", **tente** "today", **buku** "tomorrow", **a'rima** "evening", are basically nouns, however they may also function as manner adverbs in clauses. Examples of adverbs in C'lela are given below:

- (46) a. dèèdè 'yesterday'
 b. tètè 'today'

c. b̀̀kú	‘tomorrow’
d. a’rímá	‘evening’
e. b̀̀eb̀̀	‘earlier, just now’
f. b̀̀ezó	‘since, a while ago’
h. dàhè	‘next year’
j. hòró	‘later’
k. àntámà	‘now’

Examples of temporal adverbs in clauses:

- (47) a. **deede** Musa nok-ka **tahna**
yesterday Musa come-PST **here**
 “Yesterday Musa came here”
- b. t-am dooga **na’rima**
 FUT-I return **evening**
 “I will be back in the evening”

Temporal adverbs in C’lela, akin to Cicipu (McGill 2009), and Akan (Saah 2004) may combine with nouns, numerals and other elements to form phrases. The following are the examples from C’lela in (48), Cicipu in (49) and Akan in (50):

- (48) a. b̀̀kúm zà̀̀nà ‘tomorrow morning’
 b. zà̀̀nám hò̀̀m̀̀né ‘late morning’
 c. cà̀̀m zà̀̀nà ‘in the future’
 d. zà̀̀nám nà̀̀cú ‘on the fourth day ahead’
 e. hwe-c ilà ‘two days’
 f. zà̀̀nám né ‘day-after-tomorrow’

Cicipu

- (49) a. kwaa'a kulle 'that day'
 b. kuna kwaa'a 'one day'
 c. kwaa'a kuna 'the next day'
 d. wɔ ɔtɔ wuyyapu 'the second month'
 (McGill 2009:230-235)

Akan

- (50) a. ɔkyena anɔpa 'tomorrow morning'
 b. nnɛ ne nnansa 'three days ago'
 c. seesei ara 'right now'
 d. awia yi 'this afternoon'
 (Saah 2004:56)

2.6.1.3 Frequency/Repetitive Adverbs

Frequency or repetitive adverbs are forms that “modify the meaning of the verb by indicating the number of times the action took place or will take place or has taken place” (Saah 2004:61). Frequentative adverbs/adverbials in C’lela sometimes comprise single-word adverbs or noun phrases, and they include; **málé** “always”, **kóyè hwédà** “everyday”, **kóyè dàvà** “anytime, always”. Frequency adverbials take their semantic scope over the sentence. These adverbs, as found in Akan and Ewe (Saah and Agbedor 2004:207-209) may occur in sentence-initial position as well as in post-VP position. Consider the following sentence structures from C’lela (51), Akan (52) and Ewe (53):

(51) a. Umar **ryà** mayana **koyɛ hweda**
 Umar eat-PRES banana **everyday**
 “Umar eats banana everyday”

b. **koyɛ hweda** t-u rya mayana
everyday FUT-he eat banana
 “Everyday he eats banana”

Akan

(52) a. Kwame di fufu **daa**
 K. eat-PRES fufu **everyday**
 “Kwame eats fufu everyday”

b. **daa** Kwame di fufu
everyday K. eat-PRES fufu
 “Everyday Kwame eats fufu”
 (Saah and Agbedor 2004:207)

Ewe

(53) a. Kofi **ɔu-a** fufu gbesiagbe
 K. eat-HAB fufu everyday
 “Kofi eats fufu everyday”

b. **Gbesiagbe** Kofi **ɔu-a** fufu
everyday k. eat-HAB fufu
 “everyday Kofi eats fufu”
 (Saah and Agbedor 2004:209)

2.6.1.4 Locative/Place Adverbs

An adverb is locative, if it can be used in response to the questions as to *where* an event or action has occurred. These kinds of adverbs may occur either before or after a verb in a clause or a sentence. Consider the following examples:

- | | | |
|------|-----------------|------------------------|
| (54) | a. táhà, tánnà | ‘here’ |
| | b. táanzó, ánzú | ‘there’ |
| | c. táanló | ‘that way’ |
| | d. ànmí | ‘inside’ |
| | e. kópè | ‘everywhere, anywhere’ |

Examples in sentences:

- (55) a. vo k’hàmcè **tánnà**
 you stranger **here**
 “You are a stranger here”
- b. **táanzó Musa** nok-ke-ne
there Musa go-PST-DEF
 “It was there that Musa went”

2.6.2 Morphological Properties of Adverbs

In languages, there are different techniques for deriving adverbs from other word classes. English, for instance, attaches the derivational suffix **-ly** to adjectives to create adverbs; for example, nice → nicely, slow → slowly, and wide → widely. In Ewe, adverbs may be derived by adding a derivational suffix **-tɔɛ** to certain nouns and adjectives; for example, **nunya** ‘wise’ → **nunya-tɔɛ** ‘wisely’, **kuvia** ‘lazy’ **kuvia-tɔɛ** ‘lazily’, **kale** ‘brave’ → **kale-tɔɛ** ‘bravely’ (Saah and Agbedor 2004).

C'lela, unlike English and Ewe, does not employ such derivational mechanism for deriving adverbs from other parts of speech; however, certain locative or temporal adverbs may undergo reduplication to express the degree or intensity denoted by the adverb. For instance, **táhà** 'here' → **táhàtáhà** 'right here', **námzàà** 'early morning' → **námzàn námzàà** 'very early morning'.

Adverbs in C'lela also have both attributive and predicative uses. Attributively, adverbs follow the noun they describe, while in their predicative function, they may occur at the beginning of the sentence. Here are the examples adverbs in sentences:

(56) a. na hɛn-kɛ wanta **dɛɛdɛ**

we see-PST girl **yesterday**

"We saw the girl yesterday"

b. **tɛntɛ** Musa ho-ka naamav ru

today Musa kill-PST cow his

"Today Musa killed his cow"

It is pertinent to point out that there are a considerable number of manner adverbs which occur in reduplicative forms. They include: **bòdbòdò** 'silently', **gàaz gàaz** 'hurriedly', **cíp-cíp** 'exactly/precisely', **sògsògò** 'loosely', **dégdéyé** 'precisely', **távtává** 'vertically', **hyànyàà** 'transparently', **hyódhyódó** 'eagerly'. These adverbs appear similar to the Hausa reduplicated adverbs such as **kirii-kirii**, 'openly', **dumuu-dumuu** 'messily' that cannot be separated into meaningful constituents (Abubakar 2009:82).

C'lela adverbs may also recur in the same sentence in a specific order; either in the same position or in different position. For instance, *place* and *temporal* adverbs can appear in the same construction in attributive position; in which case, the *place* adverb occurs first before the *temporal* adverb. Consider the following examples:

- (57) a. Musa nok-ka **tahan deede**
 Musa come-PST here yesterday
 “Musa came here yesterday”
- b. t-u hav **taanzó bükúm zàrà**
 will-he go there tomorrow morning
 “He will go there tomorrow morning”

It is also possible to find recurrence of temporal and manner adverbs in the same sentence; and when this happens, the temporal adverbs normally occur at the beginning of the sentence, while manner adverbs appear after the verb in a construction. Consider the following examples taken from (Baba-Waziri 1990):

- (58) a. deede u walg-ka hidru a'd'kemnenne
 yesterday she make-PST self attractively
 “Yesterday she dressed herself attractively”
- b. tente u ya honhono
 today he eat-PRESS all right
 “Today he eats well”
 (Baba-Waziri 1990:18, interlinear glosses ours)

2.7 Prepositions

“Prepositions are a part-of-speech, or syntactic category, that introduces a Prepositional Phrase (PP) and serves the purpose of telling the audience how the Prepositional Phrase

should be interpreted in the context of the sentence” (Dailey 2008:3). Some languages, such as Spanish (Payne 1997), Logba (Dorvlo 2008), have both prepositions and postpositions, while others have one or the other. Prepositions are often used to specify the set of location of a point in place, frames of reference, Topological/Projective distinctions, variances in Ground, and other sets of geometric axes (Dailey 2008). There are a few commonly used prepositions in C’lela as given table 4:

Table 9: Prepositions

Preposition	Gloss
à	at, with, in, to
àn	at, in, on, by, from, to
nù	on, towards

Prepositions in C’lela may combine with nouns to form prepositional phrase. For examples **á cònà** (prep + sky) “above, over, up, on top”, **a’teke** (prep + centre) “at the centre, in the middle of”, **an mi** (prep + I, me) “inside”. The prepositions in C’lela are used as in the following examples:

- (59) a. a hav-k **an** k-dwà
 they go-PST **to** big-lake
 “They have gone to the large lake”
- b. u hav-k **ànmi** nu’bu
 she go-PST **inside** house
 “he went into the house”

- c. **nù** còpó
on ground
“On the ground”

Detailed discussion on inflections and derivations that occur on word classes is shown in chapters three, four, five and six.

2.8 Conclusion

The vast majority of noun, pronoun, adjective, verb and adverb stems in C’lela are either monosyllabic or disyllabic. Both noun and verb stems may be preceded or followed by various single-consonant and single-vowel affixes. Generally, the syllables can be vowel-initial or consonant-initial. In noun classification, we have explored the conventional numeric labeling system that has been used in counting the noun classes across languages. In this chapter, it has been shown that nouns are classified into ten different classes, and most nouns in each of the classes seem to share some semantic characteristics. Essentially, categorization of nouns on the basis of animate and non-animate classes played a key role in the semantic classification of nouns in C’lela. In addition, nouns are further assigned to different classes; depending on whether they have abstract or non-abstract meaning or possess a characteristic of liquid or non-liquid, or are classified on the basis of other semantic property that has to do with shape and size of the entity referred to by a noun.

Most singular nouns in classes 1, 3, 4, 5, 6, 8 and 10 are nouns of concrete objects and therefore have their plural counterparts. However, nouns in class 9 uses nasal prefix to mark mass liquids or abstract entities; and thus have neither singular nor plural

distinction, and this is a shared semantic feature among Niger-Congo. Classes 1/2b and 6/7c mainly contain collective and uncountable nouns, and hence are marked in the plurals only; however, there are a very few exceptional words of concrete but collective nouns (for vegetation) that are unmarked in the plural, and they are placed in class 6/7b. Following Osam (1993), nouns which have null markings in both singular and plural in C'lela are unclassified; and indeed most loanwords fall under this group. For the present purpose, however, the area of investigation is the interaction of the C'lela word classes with inflectional and derivational affixes. This shall be dealt with in the subsequent chapters.

End Notes

¹ For detailed discussion on tone in C'lela, see Dettweiler (2001, 2012a).

² This example indicates that the final stem affricate phoneme /c/ in the singular depalatalizes to alveolar /t/ in the plural form, thus, **noco** 'person' becomes **net.na** 'persons', and the irregularity equally affects the vowels, with /e/ in the plural compensating for the first vowel /o/ in the singular.

³ Further researches, using a formal phonological / morphological theory, may account for the vowel deletion and retention phenomena in C'lela.

CHAPTER THREE

INFLECTION

3.0 Introduction

Inflection is a common attribute of synthetic languages. It involves addition of affixes to the base form of a word to express grammatical meaning, including tense, person, number, gender, mood, voice, and case. Aronoff and Fudeman (2011:45) report that “inflection involves the formation of grammatical forms – past, present, future, singular, plural, masculine, feminine, neuter, and so on- of a single lexeme”. It has been unanimously acknowledged in the linguistic literature that there are two functional classes of affixes: inflectional and derivational (Matthews 1982, Bauer 1983, Yule 1996, Payne 1997, Katamba and Stonham 2006, and Crystal 2008). C’lela language has both classes of affixes. This chapter presents the C’lela prototypical inflectional categories of nouns and verbs. The chapter is divided into four sections: section one discusses the noun inflectional systems in the language. Section two presents the verbal inflectional categories. Section three looks at suppletion; while Section four examines inflection in loanwords in C’lela.

3.1 Inflectional Morphology

Inflection is a morphological process which involves the formation of grammatical forms that neither change word class nor create new lexeme. While inflectional operation produces different word forms of the same lexeme; derivation is seen as a

morphological process which typically creates new lexemes out of the existing ones (Spencer (1991; Carstairs-McCarthy (1994); Haspelmath (2002); Booij (2007); Aronoff and Fudeman (2011), and Lieber 2010), In line with this, we describe the two concepts as they occur in C'lela. The present chapter examines inflection; while derivation is explored in chapter four.

3.1.1 Inflectional affixes

Inflectional affixes, like the lexical categories discussed in chapter two, also have semantic content. But while the lexical categories occur as free roots or stems, inflectional affixes on the other hand, occur as bound morphemes added to the roots to produce lexemes of the same grammatical class. The notion of free and bound morphemes may differ from one language to the other. While in some languages such as English, it is easier to see the distinction between free and bound morphemes; in others, it is less conspicuous. For instance, Thakur (2008) notes that in Sanskrit the root morphemes *bhavami* "I am" and *abhavami* "I was" are inflected forms of the root *bhu*, but which is considered a bound morpheme rather than free morpheme in the language. In C'lela, a sharp distinction can be drawn between the free and bound morphemes as will be shown in succeeding sections of this chapter.

The most common inflectional categories found in C'lela are the nominal and verbal categories. This chapter therefore discusses the domains of inflection which are the nouns and verbs. As pointed out earlier, adjectives and adverbs in C'lela, unlike nouns and verbs, are not inflected to indicate number or tense. However, adjectives can be reduplicated to denote attenuative meaning while adverbs are reduplicated to indicate

intensity or to express the degree or manner in which event happens, and this will be treated in chapter 6.

3.1.2 Nouns

There are two basic inflectional affixes that occur on nouns in C'lela, namely; prefixes and suffixes. We take each of these in turn.

3.1.2.1 Prefixes

As noted in chapter 2, and in section 3.1.2.1 above, the noun class markers serve as inflectional prefixes that mark, singular and plural of inanimate nouns in C'lela.

The plural prefixes include both consonants and vowels, which combine with their host noun stems mainly based on semantic classes. Nouns with singular prefixes [**a-**, **u-**, **d-**, **k-**] have [**c-**] in the plural; singular nouns that have prefix [**v-**] take [**s-**] as the prefix in the plural, and nouns with prefix [**i-**] in the singular, always take the prefix [**m-**] as the plural marker. The prefix [**m-**], which is the plural marker for nouns that have [**i-**] as the singular prefix, is also used to mark liquids and other mass nouns without number distinction. Examples of nouns with singular/plural prefixes and those without number distinction are shown as in (1) and (2) respectively. The vowel prefixes occur with low tone pattern.

3.1.2.1.1 *Singular and Plural Noun Prefixes*

	Singular	Plural	Gloss
(1)	a. à'gónó	c'gónó	'mud-made floors'
	b. ù'sòkà	c' sòkà	'chests'
	c. d'hákò	c'hákò	'traps'

d. k 'vá	c 'vá	'papers/leaves'
e. v 'gòlò	s 'gòlò	'fishing hooks'
f. ì 'tágù	m 'tágù	'shirts'
(2) a. m 'hò	:	'water'
b. m 'nèvé	:	'oil'
c. m 'gùmù	:	'salt'
d. m 'hibà	:	'blood'

The nominal prefixes in Cicipu (McGill 2009:249), and Lopa, a Kainji languages) (Blench 2006), behave somehow similar to that of C'lela. The nominal prefixes in these languages, like in C'lela, comprise vowels and a syllabic nasal consonant that are often produced on low tone. These languages also have nasal consonants that marks liquid without a singular or plural, as characteristically found throughout Niger-Congo (Williamson 1989, Dakubu 2010); however, the case of Lopa which marks liquids in both singular and plural as in (6) below is one of the few exceptions.

The only distinction between C'lela and these languages are that in Cicipu in example (3) below, the consonant prefix is determined by the stem initial-consonant, and the plural vowel prefix is often in harmony with stem initial-vowel, while in Lopa in (5), there is harmonization between the vowel of the singular prefix and the first vowel of the noun stem, and the syllabic nasal consonant applies to noun stem whose initial consonant has the same place of articulation as the nasal as in (6); C'lela, on the other hand, deploys nominal prefixes during nominal inflection on the semantic basis. Although prefixes may correspond with segments in the following words in terms of homorganicity or vowel harmony; nevertheless, the extents of these harmony

correlations do not merit classifying nouns by these criteria as may be found in Akan and many other languages. Compare the C'lela examples in (1) and (2) and the following examples from Cicipu in (3) and (4), and Lopa in (5) and (6) respectively:

Cicipu

	Singular	Plural	Gloss
(3) a.	k-kaa	à-kaa	'women'
b.	z-zaa	à-za	'people'
c.	w-wɔmɔ	ɔ-wɔmɔ	'chiefs'
d.	và-ari	à-ari	'men'
(4) a.	mò-ni	:	'water'
b.	mò-yo	:	'beer'
c.	mà-huu	:	'truth'
d.	mò-hii	:	'blood'

(McGill 2009:249-251)

Lopa

	Singular	Plural	Gloss
(5) a.	rà-hai	à-hai	'fields'
b.	rè-kero	a-kero	'seeds/stones'
c.	ri-hinə	a-hinə	'names'
d.	ru-uə	a-uə	'deaths'
(6) a.	m-mi	a-mi	'water;
b.	ŋ-kwa	a-kwa	'sorghum beer'
c.	ŋ-kwahu	a-kwahu	'palm wine'

(Blench 2006:4)

3.1.2.2 Suffixes

As already indicated in chapter 2, the plural suffix [-nV] is the commonly occurring affix that marks plurals for animate nouns in C’lela.

3.1.2.2.1 Plural Suffix /-nV/

Plural formation for animate noun in the language involves addition of the suffix marker /-nV/ to animate noun stem.¹ Consider the following examples.

Singular	Plural	Gloss
(7) a. kò	kòo-nò	‘frogs’
b. hànù	hànù-nù	‘siblings’
c. kwèsè	kwèsè-nè	‘friends’
d. hìvì	hìv-ní	‘thieves’
e. zìmíná	zìmíná-nà	‘ostriches’

This process; however, sometimes triggers some morphophonological processes such as i) *vowel copying*, ii) *vowel lengthening*, iii) *final-vowel deletion*, at some point in the inflection and in some cases, iv) *metathesis*, each of which we discuss below:

3.1.2.2.2 Vowel Copying in Plural Formation

A process where certain affixes have vowels that derive their pronunciation from nearby vowels is identified as “vowel copying” (Stark 2010). Vowel copying is an archetypical feature of C’lela morphology. The vowel copying process in the language most frequently occurs with the plural and perfective suffixes. In this process, for example in (8a), the plural suffix /ni / combines with the singular noun **bíngí** ‘male

donkey’ to have the plural form **bíngí-nì** ‘male donkeys’. It can be observed that the vowel of the nominal suffix /**n-i**/ is formed by copying the quality of the final vowel of the noun stem to which it is attached. This applies to all other examples in (8):

	Singular	Plural	Gloss
(8)	a. bíngí	bíngí-nì	‘male donkeys’
	b. mànkà	mànkà-nà	‘old men’
	c. kóngómá	kóngómá-nà	‘old women’
	d. bánkàlá	bánkàlá-nà	‘wolves’
	e. cóntò	cóntò-nò	‘kinds of birds’
	f. mùkú	mùk.nù	‘midges’

The copying occurrence in (8) from C’lela is in many respects similar to the vowel copying mechanism in Kambari, a Western-Kainji language. Stark (2010) observes that, in Kambari, when the verbal iterative marker /-sV/ is suffixed to the verb root, the vowel of the suffix copies the features of the vowel that immediately precedes it. The following examples from Auna Kambari show the phonetic outcome of the addition of the suffix to the verb root, as given in (9) below:

Kambari

- (9) a. dàná ‘say’ [dàni-sá] /dàná + sV/ ‘say repeatedly’
 b. cipà ‘come down’ [cipu-sà] /cipu + sV/ ‘come repeatedly’
 c. kece ‘count’ [keci-se] /kece + sV/ ‘count repeatedly’
 d. soro ‘pound’ [soru-so] /soro + sV/ ‘pound repeatedly’
 e. suku ‘send’ [suku-su] /suku + sV/ ‘send repeatedly’

(Stark, 2010:53)

Equally, the vowel copying process, as observed from the above examples in C'lela and Kambari above, appears to be a common phenomenon in Niger-Congo as evident in the various isolated languages in the family. For instance, in the Igbo language, an Igboid (Benue-Congo), vowel copying occurs when a benefactive suffix /-rV/ attaches to some verb roots (Onukawa 1999); and in another example from Basa, a Proto-Bantu language, vowel copying applies when a reversive suffix combines with certain verb stems (Hyman 2007). And for Cicipu, it occurs when a causative suffix /sA/ combines with certain verb stems, as shown in following examples:

Igbo

	Verb		Benefactive	Gloss
(10)	a. zú	‘buy’	zú-ru	‘buy for’
	b. bè	‘cut’	bè-re	‘cut for’
	c. zà	‘sweep’	zà-ra	‘sweep for’

(Onukawa 1999:115-120)

Basa

	Verb		Reversive Form	Gloss
(11)	a. teŋ	‘attach’	tiŋ-il	‘detach’
	b. kɔb	‘fix a hook’	kɔb-ɔl	‘unhook’
	c. at	‘unit’	ad-al	‘divide’

(Hyman 2007:152)

Cicipu

	Verb		Causative	Gloss
(12)	a. yuwo	‘fall’	yuwo-so	‘cause to fall’
	b. sukulu	‘move’	sukulu-su	‘cause to move’
	c. hina	‘ripen’	hini-sa	‘cause to ripen’

(McGill 2009:221)

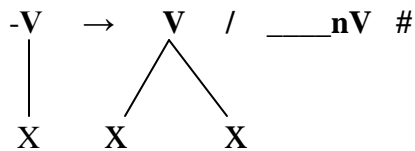
3.1.2.2.3 Vowel Lengthening

There is a situation in C'lela where noun inflection triggers vowel lengthening. In the formation of plurals for animate nouns, the short vowel of monosyllabic nominals usually undergoes lengthening when the plural suffix /-nV/ attaches to the noun stem.

	Singular	Plural	Gloss
(13) a.	cwè	cwèè-nè	'musk shrews'
b.	gò	gòo-nò	'white oryxes'
c.	kò	kòo-nò	'frogs'
d.	pà	pàa-nà	'hawks'
e.	pí	píi-nì	'weevils (grain eating insects)'

We can formulate the vowel lengthening rule in C'lela as in (14) below:

(14) Vowel Lengthening



This rule (11) specifies that the short vowel of monosyllabic noun stem undergoes lengthening when followed by a suffix plural marker.

The processes in (13) and (14) above are analogous to the way in which addition of the plural suffix /-ri/ to the noun stem in Dagaare is accompanied by high vowel lengthening. Another similar example to the one in C'lela also comes from Cicipu; where in the nominal derivation, the addition of the nominal suffix /-ni/ to verb stem, results in the lengthening of short vowel of the final syllable of the verb. This vowel

lengthening process, however, seems to occur only in isolated languages in the Niger-Congo. Compare the following examples of vowel lengthening from C'lela in (13) and those of Dagaare in (15), and Cicipu in (16):

Dagaare

	Singular	Plural	Gloss
(15) a.	bì	bíí-rí	'child'
b.	tì	tìì-rí	'tree'
c.	kù	kúú-rí	'wild rat'

(Anttila and Bodomo 2007:5)

Cicipu

	Verb		Noun	Gloss
(16) a.	kó	'to die'	u-koo-ni	'death'
b.	ungo	'to rise'	nu-ungoo-ni	'resurrection'

(McGill: 2009-204)

3.1.2.2.4 Vowel Deletion in the Plural Formation

The plural formation in C'lela, as already mentioned above often triggers a phonological process which deletes noun stem final-vowel in front of the plural suffix. This would imply that suffixation of the plural marker /-nV/ to the noun stem in most cases results in the deletion of the final-vowel of such noun stem; provided that the first syllable of the singular noun is not a (C)VC structure, and that its final syllable does not end in a liquid/nasal-vowel sequence, in which case, a process of metathesis occurs. Effectively, we can assume that metathesis applies to block the final-vowel deletion.² Consider the following examples of final-vowel in (17):

	Singular	Plural	Gloss
(17)	a. jánká	jánk- nà	‘donkeys’
	b. bùrù	bùr- nù	‘tilapias’
	c. cìckî	cìck- nî	‘pimples/rashes’
	d. kòrkòtò	kòrkòt- nò	‘lice’
	e. máagè	máag- nè	‘bricklayers, potters’

The final vowel deletion rule can be formulated as in (18).

(18) Final Vowel Deletion

$$-V \rightarrow \emptyset / \text{ ____ } nV \#$$

The rule in (11), which appears unique to C’lela; states that delete the vowel before a plural suffix at noun stem final position. This vowel deletion phenomenon seems to be restricted to a few languages in the Niger-Congo family. Some of the occurrences of vowel deletion process somehow similar to C’lela in (17) obtain in Kambari (Stark 2010), and Lobala, a Bantu language of Zaïre (Morgan 1993).

In Kambari, when two vowels come together across morpheme boundaries, the first vowel is deleted, and the second one is realized as in (19). While for Lobala, Morgan (1993) shows that addition of the stative verbal extension suffix to the verb, for the derivation of the stative verbal forms, results in the deletion of the verb stem final-vowel as in (20). The motivation for the vowel deletion from Kambari and Labola differ from that of C’lela, in that, the deletion occurs in these languages only when two vowels merge together in a boundary, which is not the case in C’lela. Consider the following examples:

Kambari

(19)	a. /ikebe i le/	money NCM their	[ikeb-ile]	‘their money’
	b. /urana u və/	day NCM my	[uran-uvə]	‘my day’
	c. /ucira u və/	power NCM my	[ucir-ovə]	‘my power’
	d. /ulinga u le/	work NCM their	[uling-ule]	‘their work’

Lobala

	Stem	Stative form	Gloss
(20)	a. bul-a	bul-uŋgana	‘be mixed up’
	b. cil-a	cil-iŋgana	‘hurry’
	c. zol-a	zol-oŋgana	‘be stirred’
	d. wal-a	wal-aŋgana	‘fall from a height’

(Morgan 1993:51)

3.1.2.2.5 Metathesis in the Plural Formation

In C’lela, the process that adds the plural suffix /-nV/ to noun stems sometimes goes with a phenomenon known as *metathesis*. Metathesis is a Greek term for ‘transposition’ which refers to re-arranging or re-ordering of segments mainly of sounds or syllables in a word. Sometimes it involves re-ordering of words in a sentence (Crystal 2008 and Buckley 2011). Metathesis, according to (Chomsky and Halle 1968:36) “is a perfect common phonological process”; by which the linear ordering of segments switches (Hume 1997).

Although metathesis is perceived as one of the phonological processes, where the specific change is expressed in terms of phonological categories, some types of metathesis require reference to morphological context (Buckley 2011). Metathesis is of

two types: i) adjacent metathesis (or local metathesis) which involves the exchange of two or more contiguous sounds and ii) the non-adjacent metathesis (long-distance metathesis) where the exchange involves non-contiguous sounds.³

3.1.2.2.6 Adjacent (CV) Metathesis in C'lela

Buckley (2011) notes that CV metathesis often appears to occur in the presence of a particular morphological trigger even if the reordering that occurs can be defined phonologically. A robust case of adjacent metathesis is found in Fur, a Nilo-Saharan language where an underlying CV changes to VC. In Fur, when a mono-consonantal prefix such as /k-/ is affixed to certain consonant-initial verbs, metathesis occurs. Consider the Fur CV metathesis under prefixation in (21):

Fur			
Prefixation		Metathesis	Gloss
(21) a. k-ba-	→	kab-	'we drink'
b. k-teer-	→	keter-	'we forge'
c. k-saar-	→	kasar-	'we expose for sale'
d. k-neen	→	kenen	'we bewitch'

(Hume and Mielke 2001:141)

We find in C'lela a parallel occurrence of this type of metathesis, where final CV transposes to VC in a morphological context. From the data below, we may rightly observe that the process of plural formation which attaches the /-nV/ suffix to noun stems creates the environment for reversal of stem-final, nasal/liquid-vowel sequence in the output. The rule for this consonant-vowel metathesis in pluralization process is that

it occurs only on a noun stem that begins with a (C)VC syllable type, and ends in a nasal/liquid-vowel sequence; in order to generate or form a permissible word-final cluster, characterized by the Sonority Sequencing Principle. This case of metathesis in C’lela and the rules that motivate the process are quiet unique to C’lela in Niger-Congo family. Here are some examples:

	Singular	Plural	Gloss
(22) a. ma > am:	sàrmà àrmá	sàrạ̀m.nà àrạ̀m-nà	‘tsetse flies’ ‘men/males’
b. mu > um:	bùlmù rùgmù kyùrmù rùsmù	bùlùm.nù rùgùm.nù kyùrùm.nù rùsùm.nù	‘midges (type of insects)’ ‘rams’ ‘deaf persons’ ‘black stinging ants’
c. na > an:	kwèc-nà	kwècàn.nà	‘carpet vipers’
d. la > al:	òblá	òbál-nà	‘snakes’
e. ri > ir:	màcìrì	màcìr.nì	‘grandchildren’
f. mo > om:	lògmó	lògóm-nò	‘elephants’

Consider the following examples:

(23) a. nok-kan uraganco àrmá
go-PST market man
“The man went to the market”

b. grām-nà nok-kan uraganco
men-PL go-PST market
“The men went to the market”

(24) a. laga-m com kyurmu
let-me send deaf person
“Let me send the deaf person”

- b. laga-m com kyurum-nu
 let-me send deaf person-PL
 “Let me send the deaf persons”

The metathesis for the nasal/liquid-vowel sequences [ma] and [am], [mu] and [um], [la] and [al] in (14) above show the pattern in the sonority hierarchy that is most preferred in C’lela since metathesis occurs on these forms. We could also assume here that the vowels [a and u] precede the liquid/nasal [m and l] sounds in the metathesis because vowels are inherently more sonorous than the nasal/liquid sounds.

However, Dettweiler (2012b:22) treats this metathesis phenomenon as “epenthesis” of the vowel /a/, which according to him “occurs when necessary to avoid a two-consonant coda that violates the sonority Sequencing Principle”. This study argues for metathesis rather than as vowel epenthesis since the data above does not show insertion of an additional sound into such words, but a swap of two sonorous segments on the same segmental tier, which is an important feature of metathesis. After all, there exists a catalogue of several non-sonorous two-consonant coda segments that do not undergo metathesis, as is evident in the following examples:

- | | | |
|--------------|----------|----------------------|
| (25) a. órgò | órg.nò | ‘termites’ |
| b. rùktù | rùkt.nù | ‘kinds of locust’ |
| c. pèntà | pènt.nà | ‘songbirds (bulbul)’ |
| d. zúgdá | zúgdà.nà | ‘large buttocks’ |

3.1 2. 2. 7 Formation of Plural in the Derived Forms

In C'lela morphology, some derived nominals may be inflected for number. This category of derived nouns as expected, however, deviates from the general patterns of singular-plural marking as they do not follow the trend for semantic generalization. There are three categories of nouns formed by derivational processes that can undergo pluralization. They are; derived agentive nouns, derived diminutive nouns and the derived person nouns.

3.1.2.2.8 Plural Formation in the derived agentive Nouns

Number marking pattern on nouns formed by derivation is associated with the first morpheme of the derived forms. The source of the agentive noun comes from the combination of agentive prefix and a noun stem. For instance, the agentive noun *kan-sepa* 'singer' results from the combination of the prefix *kan-* 'person who' and the verb stem *sepa* 'sing'. From the data below, one may observe that the plural of these words is formed by deleting the agentive prefix /**kan**/ in the singular and prefixing the plural morpheme /**an**/ to it. Differently put, if the singular agentive nouns are formed by prefixing the agentive prefix /**kan**/ to the noun stems, the plural form of these derived nouns simply results from eliding the agentive suffix initial-consonant /**k**-/. The singular/plural pairing patterns for the derived agentives can be presented as follows:

	Singular	Plural	Gloss	Derivational Source
(26)	a. kán ù'bù	án-ù'bù	'landlords'	[kan 'SG agentive prefix' + u'bu 'house' (n)]
	b. kán u'gòvó	án-u'gòvó	'farmers'	[kan 'SG agentive prefix' + u'gòvó 'farm' (n)]
	c. kán.sèpà	án-sèpà	'singers'	[kan 'SG agentive prefix'

d. kán.lààsà	án-lààsà	‘teachers	+ sepa ‘to sing’ (v) [kan ‘SG agentive prefix’ + laasa ‘to teach’ (v)]
e. kán.làasi	án-làasi	‘students’	[kan ‘SG agentive prefix’ + laasi ‘to learn’ (v)]
f. kán.kónà	án-kónà	‘beggars’	[kan ‘SG agentive prefix’ + kona ‘to beg’ (v)]
g. kán.pàatè	án-pàatè	‘traders’	[kan SG agentive prefix + paate ‘to trade’ (v)]

Ut-Ma’in is one language in the Western-Kainji family that exhibits the system of plural formation in the derived nouns similar to Clela. In ut.Ma’in, when a derivational prefix /**wa-**/ is added to a verbal noun, it results in the formation of nominals, and such singular derived nouns are marked by prefix /**a-**/ in the plural. Like in C’lela, the plural of these words is formed by deleting the singular prefix /**wa-**/ and attaching the plural prefix /**a-**/ to the singular form, thus; [**wá** SG prefix + **əs-kɔn** ‘begging’ → ‘beggar’] and the plural form is realized as /**á-s-kɔn**/, ‘beggars’. Compare the C’lela examples in (26) and following examples from ut.Ma’in in (27):

ut.Ma’in

Singular	Plural	Gloss	Derivational Source
(27) a. wá-s-kɔn	á-s-kɔn	‘beggars’	[wá SG prefix + əs-kɔn ‘begging’]
b. wá-gjèr	á-gjèr	‘cowards’	[wá SG prefix + u-gjèr ‘fearing’]
c. wá-m-hján	á-m-hján	‘fortune-tellers’	[wá SG prefix + m-hján ‘seeing’]
d. wá-m-ha	á-m-ha-nɛ	‘travelers’	[wá SG + əm-ha ‘going’]

(Smith 2007:50)

3.1.2.2.9 Plural Formation from the Derived Diminutive Forms

The singular diminutive forms for animate human nouns have corresponding plurals in C'lela. The diminutive nouns form their plural by deleting the singular diminutive prefix which is the derivative morpheme *wa-* and prefixing the diminutive plural morpheme *ya-*, accompanied by suffixation of the animate plural suffix *-nV*. Note that in example (28c), the process of metathesis (discussed in subsection 3.1.2.2.6) applies, so also the stem-final vowel deletion (discussed in subsection 3.1.2.2.4) occurs in examples (28d and e). Additionally, looking at the data in (28a); we can assume that where the stem-initial consonant is a voiceless approximant *w-*, it undergoes assimilation to the preceding homorganic sound *y-* in the plural. Consider the following examples of plurals formed from the derived diminutives in (28):

	Singular	Plural	Gloss
(28)	a. wà-wántá	yà-yántá-nà	'young women'
	b. wà-kémpà	yà-kémpá-nà	'young boys/teenagers'
	c. wà- <u>ármà</u>	yà- <u>áram</u> -nà	young men'
	d. wà-rúsù	yà-rús-nù	'little twins'
	e. wà-gyòzò	yà-gyóz-nò	'little babies'
	f. wàntá	yántá-nà	'girls/females'
	g. wà-kóróró	yà-kóróró-nò	'nile perches'

3.1.2.2.10 Plural Formation in the Person-type Nouns

The second process for the formation of plural for the derived nouns is realized through a three-way process. The formation of the plural for the derived person-type noun involves deleting the consonantal person prefix which is the derivative morpheme /k-/ and the stem-final vowel and suffixing the plural suffix /-nV/ to the singular stem.

Consider the following examples in (29):

	Singular	Plural	Gloss	
(29) a.	k'lélà	Lél-nà	'Lelna people'	from <i>Lelna</i> land
b.	k'rébá	Réb-nà	'Riba people'	from <i>Riba</i> town
c.	k'gèèlè	Gèèl-nè	'Geele person'	from <i>Geele</i> clan
d.	k'sèncé	Sènc-nè	'Senchi people'	from <i>Senchi</i> town
e.	k'páni	Pán-nì	'Pani people'	from <i>Pani</i> village
f.	k'wípsì	Wíps-nì	'Wipsi people'	from <i>Wipsi</i> town
g.	k'rògò	Ròg-nò	'Dukawa people'	from u' <i>Rogo</i> land
h.	k'zúgrù	Zúgúr-nù	'Zuru people'	from <i>Zuru</i> clan

3.2 Verbs

As indicated in chapter 2, suffixes or prefixes are used on the verb to designate tense in C'lela. The various prefixes (a'-, d', c'-, s'-, m'-, v'-, i'-, u'-,) attach to verb stems to indicate progressive/present tense; the future action is marked also using a prefix /t-/, on the subject pronoun which appears before the verb; whereas the past tense marker [kV], which is a suffix, is used to indicate a terminative or completed action in the language. Therefore the perfective, the progressive/present and the future tenses are morphologically realized from a simple verb stem in C'lela.

3.2.1 Verbal Suffixes

3.2.1.1 The Perfective Suffix /-kV/

Past tense in C'lela is formed by adding the perfective suffix /-kV/ in a regular manner to the end of the verb stems. This implies that the perfect morpheme /-k/ occurs with any nuclei, the choice of which is probably licensed by the penultimate vowel of the verb stem that precedes it. This also means that perfective formation in the language involves a vowel process, which has been explained as *vowel copying*.

3.2.1.2 Vowel copying in Perfect Formation

Vowel copying in this instance, as already indicated, describes the way in which the verbal suffix copies its features from the right-most vowel of the preceding verb stem.

This is conspicuously evident from the examples that follow:

	Verb	Vowel Copying	Gloss
(30)	a. bək _é	bək _é -k _è	'jumped over'
	b. hwèrá	hwèrá-kà	'rested/relaxed'
	c. mègà	mègà-kà	'stored away'
	d. kwìdí	kwìdí-kì	'bent down'
	e. kyòró	kyòró-kò	'pierced, bored'

The vowel copying in verb inflection, as observed from the above examples in C'lela, appears to be a common feature in the various sub-branches of Niger-Congo. For instance, in Igbo, vowel copying results from the addition of the past tense marker /-rV/ to certain verb roots in the language (Iloene 2007, Mbah and Mbah 2012), and in

another instance, in Banda-Linda, a Ubangi language, vowel copying occurs when a reversive suffix attaches to certain verbs stems. Equally, in Lobala, when the verb extension suffix is added to the verb root, the final vowel of the stative suffix copies the quality of the root-final vowel. In relation to this process, Morgan (1993:51) argues that such a vowel is an underlying empty nucleus, which is often a copy of the root-final vowel, added to the end of the verbal complex. Let us have a look at the following set of examples taken from Igbo in (31), Banda-Linda in (32), and Labola in (33):

Igbo

	Verb		Perfective	Gloss
(31)	a. d àny è	‘fall’	d àny è-r è	‘fell’
	b. kw áp ù	‘push’	kw áp ù-r ù	‘pushed’
	c. k ós à	‘spread’	k ós à-r à	‘spread’
	d. b ùz ì	‘carry’	b ùz ì-r ì	‘carried’

(Iloene 2007:188, Mbah and Mbah 2012:110).

Banda-Linda

	Verb	Reversive Form		Gloss
(32)	a. vis	‘brood, warm’	v ɪr-i	‘open, spread (wings)’
	b. ʒe	‘bubble, overflow’	ʒer-e	‘deflate, sink’

(Hyman 2007:149)

Lobala

	Verb	Stative Form	Gloss
(33)	a. wal-a	wal-aŋgan-a	‘fall from a height’
	b. wəl-ɔ	wəl-ɔŋgan-ɔ	‘be squashed’
	c. cəl-ε	cəl-εŋjɛn-ε	‘crumble’

(Morgan 1993:51)

This process of verb inflection often motivates other phonological adjustments in the resulting morphological word. Some of these adjustments include: i) *vowel lengthening*, ii) *vowel deletion*, iii) *metathesis*, and iv) *assimilation*. We present each of the four morphophonological alterations below:

3.2.1.3 Vowel Lengthening in Perfective Form

As mentioned earlier, the past tense inflection in C'lela is sometimes accompanied by vowel lengthening effect, that is, when perfective is formed, the short vowel of monosyllabic verbs is realized as long. One may not be wrong in positing that the process of vowel lengthening as given in (34), as well as in similar environments, may be construed as a process which is motivated by the integrity of the output slots whose syllables' weight is expected to be the same (as containing CVV CV or CVC CV) in the syllable template. Compare the following set of examples in (34) and (35) below:

	Verb root	Perfective	Gloss
(34)	a. hyà	hyàa-ká	'had denied (statement)'
	b. pú	púu-kù	'boiled'
	c. tá	táa-kà	'finished/be over'
	d. tó	tóo-kò	'left/gone'
	e. wà	wàa-kà	'bought'
	f. kyù	kyúu-kù	'pressed down'
	g. kwà	kwáa-kà	'scraped, hoed up'
(35)	a. dàa	dáa-kà	'touched lightly'
	b. zóo	zóo-kà	'forged'
	c. pyàa	pyaa-kà	'trimmed/cut away'
	d. zòlá	zòl-ká	'bathed'

Examples are given in the following sentences:

(36) a. u'-too.ko
 he go-PST
 "he has gone"

b. u waa-ka gwele dede
 she buy-PST goat yesterday
 "she bought a goat yesterday"

3.2.1.4 Final-Vowel Deletion in Perfective Form

The use of the perfect suffix **-k(V)**, in combination with verb stems in C'lela, results into frequent deletion of the stem final vowel in the word they build up. Given the data below, we can describe the perfective formation in the language, as a process that deletes the final vowel of the verb stem, adds the perfect suffix **/-k/** to the end of verb stem, together with the variant but mandatory inflectional suffix vowel **/-V/**. However, we have observed that this vowel-deletion process applies only on condition that the verb stem is not of CVC-CV syllable structure that ends in a liquid/nasal-sequence. In this situation, **metathesis** occurs probably to block the final-vowel deletion.⁵ Here are examples of final-vowel deletion in perfective:

	Verb root	Perfective	Gloss
(37)	a. g <u>a</u> g <u>a</u>	g <u>a</u> g-k <u>a</u>	'tied'
	b. h <u>e</u> n <u>e</u>	h <u>e</u> n-k <u>e</u>	'saw'
	c. n <u>a</u> m <u>a</u>	n <u>a</u> m-k <u>a</u>	'ground'
	d. b <u>a</u> l <u>t</u> <u>a</u>	b <u>a</u> l <u>t</u> -k <u>a</u>	'boiled'

e. pàná	pán-kà	‘threw (a stick)’
f. sáptà	sápt-kà	‘washed (parts of the body)’
g. d̀̀ogá	d̀̀og-kâ	‘came back/returned’
h. wàktá	wàkt-kà	‘turned (immediately)’

Examples are shown in sentence structure in (38) below.

- (38) a. na **gag-k** o a'koma
 we tie-PST his hand
 “We have tied his hand with a rope”
- b. a-u **hen-ke** me u **wakt-ka**
 when-he see-PST me he turn-PST
 “Then he saw me, he immediately turned back”
- c. neta **nam-ka** hi gyozi-ne
 woman grind-PST guinea corn red-DET
 “The woman ground the red guinea corn”

The vowel deletion in C'lela in (37) is identical to the pattern found in Kambari. This feature of vowel deletion is shared by a few languages in the Benue-Congo family. For instance, in the Auna dialect of Kambari, vowel deletion process occurs across morpheme boundaries; when the consonant before the final vowel of the stem morpheme is a sonorant /l, r, n, w, y, s/ and the suffix morpheme begins with a non-sonorant consonant, which usually has the same place of articulation. So adding the perfect suffix /-tã/ to the following verb stems results in the deletion of the final vowel of the stem morpheme, with the final consonant of the stem morpheme becoming the coda of the preceding syllable, thus:

Kambari

- | | |
|-----------------|-----------------|
| (39) a. ù bàn-à | b. ù bàn-tà |
| he go | he go-PERF |
| ‘he goes | ‘he had gone’ |
| | |
| b. ù wàl-à | b. ù wàl-tà |
| he walk | he walk-PERF |
| “he walk” | “he had walked” |

(Stark 2010:56).

Whereas stem final-vowels are particularly prone to deletion in C’lela and Kambari as demonstrated in (37) and (39), in Turkish, it is “the stem-final /k/ that is often deleted in polysyllabic words when followed by a vowel-initial genitive case suffix, for example; **çocuk-un** ‘child-GEN’ realized as /**çucu:n**/” (Bickel and Nichols 2007:181).

3.2.1.5 Metathesis

Within the verbal composite, the phonological operations resulting from morphological processes in word inflection is yet another case of *metathesis*. It is generally maintained that metathesis occurs in languages so as to have in some way a better formed sequence in the output ordering, usually in the sense of ‘ease of articulation’ or satisfying a language’s phonotactic constraints (Bukley, 2011). This applies to C’lela in Verb inflection.

3.2.1.5.1 Metathesis in Verbal Inflection

There are two conditions under which metathesis occur within the verbal inflection in C'lela. The two conditions are purely driven by phonological requirements: The first is motivated by the occurrence of liquid/nasal-vowel sequence at the end of verb stem following a perfective suffix, and the second is motivated by the requirement that all perfective verbs that undergo the phrase-medial CV metathesis are those with underlying CVC-CV typical stem shape. This study holds that metathesis applies on verbs of this pattern to satisfy sonority principle and syllable structure conditions in C'lela. This type of metathesis appears to be a unique property to C'lela in the Niger-Congo. Consider these examples in (40):

	Verb	Perfective	Gloss
(40)	a. bàglá	báǵá-l-kà	'locked (gate/door)'
	b. wáklà	wàkál-kà	'rot completely'
	c. kèklé	kèkál-kè	'laughed'
	d. kwírmà	kwírám-kà	'subsided/extinguished'
	e. gónmà	gónám-kà	'slapped'
	f. mácma	mácám-kà	'improved (in health)'
	g. tórmò	tórá-m-kò	'gulped/swallowed'
	h. róbnà	ròbán-kà	'played'
	i. róknà	ròkán-kà	'became matured'
	j. bákrà	bákár-kà	'split (into pieces)'
	k. pátrà	pátár-kà	'twisted together'

The following are the examples in sentences

- (41) a. u bakla d'gweda
 he lock-PRESS door/gate
 "He locks the door/gate"

- b. u bakal-ka d'gweda
 he lock-PST door/gate
 "He locked the door"

This said, Dettweiler (2012b) in his analysis of this phenomenon claims that the vowel /a/ is indeed an imported vowel inserted into the verbal complex to avoid root final cluster but this does not seem to be observationally and formally accurate as far as the above data is concerned. The observation made here is that there is mass data set that has root final complex cluster which, however, does not attract metathesis because such data as in (42) below do not satisfy the metathesis requirements outlined above. Here are the examples:

(42)	a. kùkàbs-á	kùkàbs.kà	'trimmed'
	b. kwéd̥t-è	kwéd̥t.kè	'scooped/dip out.'
	c. màmg-á	màmg.kà	'reconciled'
	d. hwèpks-á	hwépks.kà	'fitted/suited'
	e. hèrgs-á	hérgs.kà	'verified'
	f. nàrgs-á	nàrgs.kâ	'spread out'
	g. màzgs-é	màzgs.ké	'hurry up'
	h. wàkt-á	wàkt.kà	'turned (immediately)'

3.2.1.6 Assimilation in Verb Inflection

Lord (1974), cited in Abakah (2012:50), refers to assimilation as "a change of sound of a consonant or a vowel brought about by the influence of a neighbouring, usually adjacent, consonant or vowel." Additionally, Bickel and Nichols (2007) observe that

the assimilatory process is a frequent feature in concatenative morphology, which involves the spreading of phonological features across formative boundaries.

In C'lela, voicing assimilation occurs, when the perfective suffix **/-kV/** attaches to the verb stem, whose final syllable contains a velar sound **/-gV/**. In other words, we can posit that, if the verb stem ends in a voiced velar consonant **/gV-/** before a perfective marker, two morphophonological processes apply: vowel deletion and assimilation. In example (43), the perfective formation triggers the deletion of the stem-final vowel, and the subsequent assimilation of the stem-final velar sound to the following homorganic sound which is the perfective suffix **/k-/**. This assimilatory process is often common with disyllabic words, as shown in the following examples:

	Verb Stem	Perfective	Assimilation	Gloss
(43)	a. b̀̀g-̀̀	b̀̀g-k̀̀	→ b̀̀kk̀̀	'flew'
	b. h̀̀g-é	h̀̀g-ké	→ h̀̀kké	'gave way'
	c. k̀̀g-ú	k̀̀g-kú	→ k̀̀kkú	'bent down'
	d. m̀̀g-ò	m̀̀g-kò	→ m̀̀kkò	'borrowed'
	e. s̀̀g-ó	s̀̀g-kó	→ s̀̀kkó	'inserted'
	f. v̀̀g-̀̀	v̀̀g-k̀̀	→ v̀̀kk̀̀	'uprooted'
	g. m̀̀g-à	m̀̀g-kà	→ m̀̀kkà	'offered'
	h. z̀̀g-à	z̀̀g-kà	→ z̀̀kkà	'packed'

A similar assimilatory process, where a segment takes on features from adjacent segments is found in a related language, Kambari, and also Turkish. For instance, in Auna Kambari inflectional morphology, just as in C'lela, when the benefactive suffix **/-**

kV/ is added to the verb /ròngó + -kV/ ‘pass time’, it is realized as /ròŋkó/. In this process, the final /o/ of /rongo/ is elided between the two velar stops, when the velar /g/ of the root verb assimilates to the homorganic /k/ (Stark 2010:57). Similarly, in Turkish, when suffixing the past tense marker *-ti* to the verb stem, the suffix consonant may assimilate in voicing to the preceding consonant, thus, *git-ti* “go-PST” is realized as *gel-di* “come-PST” (Bickel and Nichols 2007:181).

3.2.2 Verbal Prefixes

3.2.2.1 The Progressive Aspect Prefixes

As noted earlier in chapter 2, all the C’lela nominal prefixes may be used to mark progressive/present continuous tense in the language. Just like the English *-ing* which is used to indicate present continuous tense as in *drink* to *drinking*, the prefixes [a-, u-, i-, d-, k-, c-, v-, s-, or m-] may be added to the verb stems to indicate actions that are in progress. As can be observed, the progressive marker, in addition to its gerundive function, sometimes changes the final vowel of the verb stem. Compare the sentence structures in C’lela (44 and 45):

- (44) a. am guzu
 I wash-PRES
 ‘I wash’
- b. am c-guzu
 I PRES-wash
 ‘I am washing’

- (45) a. Akān t-ám hev da
 children FUT-I dance NEG
 ‘The children will not dance’
- b. Akān elán d-hevo
 children are PRES-dance
 ‘The children are dancing’

3.2.3 The Future tense prefix /t-/

The future tense category in C’lela refers to events that will occur after the time of utterance. In the discussion of future tense in chapter 2; we noted that, in the expression of future tense, C’lela uses periphrastically a phonologically bound prefix /t-/ on the subject pronoun that typically precedes imperfective verb. This means that, though such a following verb does not bear any future marking, yet the /t-/ prefix combines synthetically with the neighbouring subject pronouns to convey the future inflection. Dumi, a Tibeto-Burman language, displays this type of process in which person and tense-indicating formatives combine in the expression of inflectional categories. For instance, in a word like *bus-tə* ‘I shout’, the *-t* marks non-past tense separately from *-ə* which marks first person singular (Bickel and Nichols 2007:189). Compare the following contrasting examples in (46a and b) and also (47a and b) from C’lela:

- (46) a. am s’-géné
 I PRES-write
 ‘I am writing’
- b. t-ám gèné
 FUT-I write
 ‘I will write’

- (47) a. av gyá nu'bu
 you go home
 “you go home”
- b. t-áv gyá nu'bu?
 FUT-you go home'
 “will you go home”?

Still, it is worth noting that, where the subject pronoun is consonant-initial, the suffix **-n** attaches to the subject pronoun to assume the role of the **t-** prefix as the future marker, and this brings us to the idea of complementary distribution.

3.2.3.1 Complementary Distribution of the Future Morphemes [t-] and [-n].

This refers to a technique used in the identification of allomorphs based on the notion of distribution. Going by the “Inflectional Parsimony Principle”, two inflections are in complementary distribution when they are functionally identical; where one form selects a given formative to realise a certain morphosyntactic property and that selection prevents the selection of other formatives which realise the same morpheme (Carstairs 1987). Thus, pairs of forms that represent the same meaning or serve the same grammatical function, and which never occur in the same environment in a word are said to be allomorphs of the same morpheme and that they are in complementary distribution (Katamba and Stonham 2006).

This distributional technique may apply to C'lela with the allomorphs /t-/ and /-n/.

What this means is that, where a subject pronoun to which the future morpheme is

attached begins with a vowel, it selects the future marking prefix **t-**, but where the subject pronoun is consonant-initial, the future marking suffix **/-n/** applies. Therefore, the future suffix **/-n/** may represent the future morpheme **/-t/** in a different environment; in which case the two morphemes are allomorphs in complementary distribution.

Compare the examples in (48a and b):

(48) a. t-ú d̀òogá ̀án d'kade bukú
 FUT-he return to bush tomorrow
 “he will return to the bush tomorrow”

b. cá-n d̀òogá ̀án d'kade bukú
 we-FUT return to bush tomorrow
 “we will return to the bush tomorrow”

The same analysis applies to Luganda, where the morphs, **tu-** and **tw-** occur in complementary distribution because both represent the first person plural morpheme ‘we’, but in different contexts in the language. While the prefix **tu-** is used before a form beginning with a consonant, the prefix **tw-** is selected if the next morpheme is realised by a form that begins with a vowel, as given in the following examples taken from (Katamba and Stonham 2006):

(49) a. tu-li-laba “we will see”
 tu-li-gula “we will buy”

b. tw-aa-laba “we saw”
 tw-aa-gula “we bought”

(Katamba and Stonham 2006:25-27)

3.3 Suppletion

Inflectional systems are typically categorized into paradigms of various sizes, for instance, the two-member paradigms of singular vs. plural, the English subject-verb agreement (goes vs. go), etc. The organization of these Inflectional forms into paradigms creates other properties, such as suppletion, defectivity etc, that are not usually covered by other components of morphology. The lack of paradigmatic forms is sometimes compensated for by different words which may have historical explanation, and when such words become regular in use, the result is known as suppletion. Thus, suppletion in morphology is concerned with a situation where the morphological relationship or similarity between two forms of a word is hardly established in terms of a general rule of affixation because the two forms of that word are from two different roots (Bickel and Nichols 2007, Thakur 2008). This phenomenon is clearly attested in C'lela as shown in a few examples in (50):

	Singular	Gloss	Plural	Gloss
(50) a.	wà	‘boy’	àknâ	‘children’
	Present	Gloss	Past	Gloss
b.	wá	‘die’	úkù	‘died’

Also similar examples where the past or perfect stems are in paradigmatic opposition to infinitive stems comes from Russian: **govorit'** IMPERF vs. **skazat'** PERF ‘say’; Latin: **lat-** PST vs. **fer** INF ‘carry’, analogous to the English verbs ‘go’ vs. ‘went’, **good** vs. ‘better’ (Bickel and Nichols 2007:171-208), just as the Hausa masculine/feminine

examples; **bunsuruu** ‘billy-goat’ vs. **akuyaa** ‘nanny-goat’ and also between **raagoo** ‘ram’ and **tunk iyaa** ‘ewe’ (Abubakar 2001:6). Similar suppletive plurals as in (40a) are common in Kainji languages, as attested in Tyap (51) and Izere (52), and Mada (53):

Tyap

	Singular		Plural	Gloss
(51) a.	ŋgwon	‘child’	mman	‘children’,
b.	ŋgwoseam	‘boy’	zam	‘children’

(Blench 2006:11)

Izere

(52) a.	abuko	‘old woman’	apako	‘old women’,
b.	igon	‘child’	inoon	‘children’

(Blench 2006:11)

Mada

(53) a.	vɛn	‘child’	nywɛn	‘children’
b.	mbɛ	‘day’	vɛ	‘days’

(Blench 2006:14)

The examples from C’lela and these languages show that the formatives which are the outcome of suppletion are hence not describable in terms of the regular affix inflection, but the aspect is coded only by a stem difference.

3.4 Inflection and Loanwords in C’lela

Words are borrowed into C’lela from Hausa and English. These words are loaned into C’lela in order to describe unfamiliar terms or objects coming from these languages. Most C’lela loanwords are marked for noun classes and are assigned to appropriate

classes by semantic rules in the language (see chapter 2.1). Inanimate nouns are assigned to three classes. Those loanwords that refer to human and animal automatically employ class10 [-n] plural suffix.

Words borrowed into C'lela language were largely nouns. C'lela assigns affixes to the loanwords, such that they will conform to the morphological structure of the language. For instance, Hausa language does not use prefixes, but diverse suffixes to derive plurals (Abubakar 2001), yet C'lela employs both prefixes and suffixes to mark singular and plural for Hausa loanwords. Also C'lela distinguishes between animate and inanimate genders on Hausa loanwords, even when Hausa does not.

In addition to class marking; some of these loanwords undergo sound alternations or phonetic changes so as to accommodate them into the phonological structure of C'lela. Possibly, some of these morphophonological changes are sometimes employed in order to satisfy the vowel harmony rule operative in C'lela (Dettweiler 2001). We first consider the following loans from Hausa:

3.4.1 Loanwords from Hausa

Loanwords referring to vegetables and pieces of clothes are assigned to class 4 [d'-] in the singular and class 2 [c'-] in the plural. The borrowed nouns so marked with these singular/plural prefixes have semantic domains similar to nouns in class 4/2 in C'lela.

Examples are given below:

(54)	<i>Hausa</i>	<i>C'lela</i>		Gloss
		Singular	Plural	
		class 4 /d'-/	class 2 /c'-/	
a.	albasa	d'àlbísà	c'àlbísà	'onion'

b. tumatur (via English)	d'tùmátù-	c'tùmátù	'tomato'
c. burodi (via English)'	d'bèrédì	c'bèrédì	'bread'
d. gwaaza	d'gwáazá	c'gwáazá	'coco-yam'
e. bante	d'bènté	c'bènté	'loincloth'
f. kamfai	d'kémpe	c'kémpe	'underpants'
g. diiko	d'díikò	c'díikò	'head-kerchief'
h. <u>ɗ</u> ankwali	d'dánkwalí	c'dánkwalí	'head-tie'
i. soso	d'sòsò	c'sòsò	'sponge'
j. ganga	d'gàngá	c'gàngá	'kind of drum'

Loanwords from Hausa that mainly refer to large/big containers and stools inflect for number with C'lela class 5 prefix [k'-] in the singular form and class 2 prefix [c'-] used in the plural. This class of words exhibits the same semantic features as those assigned class 5/2 prefixes in C'lela.

(55)	<i>Hausa</i>	<i>C'lela</i>		Gloss
		Singular	Plural	
		/k'-/	/c'-/	
	àdùdù	k'àdùdù	c'àdùdù	'large grass basket'
	bùhú	k'bùhú	c'bùhú	'sack'
	màlfá	k'màlhá	c'màlhá	'wide-brimmed straw hat'
	kwánò	k'kwánò	c'kwánò	'pan'
	àddá	k'àddá	c'àddá	'cutlass'

Loanwords from Hausa that fall under class 6/7 b [\emptyset/s^{\prime} -] contains a few nouns for trees/plants. The nouns therefore inflect in the plural, so as to have a parallel semantic behavior with similar inanimate nouns in C'lela. Consider the following examples:

(56)	<i>Hausa</i>	<i>C'lela</i>		Gloss
		Singular	Plural	
		<i>/\emptyset/ affix</i>	<i>/s^{\prime}-/ prefix</i>	
	baaba	báabá	s'báabá	'indigo plant'
	gwanda	gwándà	s'gwándà	'pawpaw'
	goro	góorò	s'góorò	'colanut'

Words borrowed from Hausa into C'lela that have human and animal referent automatically employ class 10 [-nV] plural suffix to conform to the general number marking patterns for animate nouns. As it happens with animate nouns in C'lela, the singular form of these loanwords is also unmarked: Consider the following examples:

(57)	<i>Hausa</i>	<i>C'lela</i>		Gloss
		Singular	Plural	
			<i>/-nV/</i>	
	agwagwa	àgwàgwá	àgwàgwánà	'duck'
	malam	málàm	máalàm ^{nà}	'teacher'
	jaaki	jánká	jánknà	'donkey'
	alade	áládè	áládénè	'pig'
	zomo	zòmò	zòm ^{nò}	'rabbit'
	aku	àkú	àkúnù	'parrot'

3.4.2 Loanwords from English

Words loaned from English into C'lela are not marked for singular/plurals, but are assigned to appropriate semantic classes. Noun stems borrowed from English generally designate nonanimate count entities. These nouns are unmarked in the plural. They are assigned class 4 [d'-] prefix to mark their singular form. C'lela does not follow the English patterns of marking plural for English loaned words, since it lacks suffix as a plural marker for non-animate nouns as does English. The few noun stems in this class contain electronics/equipments. Here are few examples:

(58)	<i>English</i>	<i>C'lela</i>
		Singular
		<i>/d-/ prefix</i>
	camera	d' kémérà
	television	d' télèvíjì
	computer	d' kómpótà

The other set of loanwords from English are nouns that refer to huge/large round containers that include furniture, vehicles, rooms, stationery, book, cage and tools. These nouns take class 5 prefix [k'-] to mark their singular form. Examples include the following:

(59)	<i>English</i>	<i>C'lela</i>
		<i>/k-/ prefix</i>
	cupboard	k' kábòòd
	table	k' tébùd

prefix future marker **t-** is restricted to occurring on the subject pronouns for the realization of future action. The study has also pointed out the existence of the alternative future marker **-n** which can equally be suffixed to the subject pronoun to represent the future tense as **t-** prefix, a morphophonologically conditioned process identified as complementary distribution.

With respect to nominal and verbal inflectional processes, it was shown that C'lela shares some commonalities with major languages within Niger-Congo and beyond. It agrees with Kambari, Igbo, Basa, Cicipu, Labola, and Banda-Linda in vowel copying, with Kambari and Labola in final-vowel deletion or in assimilation, Dagaare and Cicipu in vowel lengthening, with Fur in adjacent metathesis, with Lobala in final-vowel deletion and copying, with Turkish in stem-final segment deletion, Dumi in the formation of future tense, with Luganda in complementary distribution, and with Russian, Latin, English, Hausa, Tyap, Izere and Mada in cases of suppletion.

Also, it was shown that Clela has a distinctive inflectional feature. This is evident in a few requirements or conditions that must be met for inflectional processes to occur, as in the case of metathesis in noun inflection as outlined in subsection **3.1.2.2.6** and verbal inflection as shown in subsection **3.2.1.5.1**. Another distinguishing inflectional feature has to do with the way in which C'lela formed plurals from the derived diminutives and the derived agentive forms, as well as a few rules established and illustrated throughout the chapter such as Rule 8 which stipulates that the short vowels of monosyllables encounter lengthening when succeeded by a suffix plural marker.

End Notes

¹ See detailed examples in section 2.1.3

² See section 3.1.22.5 below.

³ Examples of non-adjacent metathesis in Clela are given in chapter 5, section 5.1.3.3.

⁴ See the source of this data in 4.1.6.1

⁵ See section 3.2.1.3.1 below

CHAPTER FOUR

DERIVATIONAL MORPHOLOGY

4.0 Introduction

Derivational morphology is a linguistic process which involves creation of new lexemes from other lexemes. O’Grady et al. (2011:122) describe derivation as “an affixal process that forms a word with a meaning and / or category distinct from that of its base”. Accordingly, derivational affixes may be used to create new lexemes, either by changing a word-class of morphemes that a base belongs to, or by changing the meaning of the base to which those affixes are attached (Crystal 2008; Bauer 2005; 2008; Haspelmath 2002; Fromkin et al. 2003; Katamba and Stonham 2006; Yule 2006; Booij 2007; and Aronoff and Fudeman 2011). The derivational process in C’lela involves a simple concatenation of free and bound morphemes. The language employs both prefixal and suffixal derivatives in its derivational morphology; that is to say, derivation in C’lela is marked by both prefixes and suffixes.

We have at least two lexical categories involved in the formation of new words in C’lela. These are nouns, and verbs. This chapter specifies the morphological properties and the meaning of the main lexical categories together with their various derivational affixes that constitute the means by which new words are formed in the language. In effect, this chapter is divided into two sections: Section one explores nominal derivation in C’lela. Section two addresses verbal derivation.

4.1 Derivation of Nouns

It has been shown that languages, cross-linguistically, have more numerous and diverse patterns of deriving nouns from the other various lexemes (Bauer 2002). The process of noun derivation in C'lela involves the creation of nouns from other noun stems, verbal stems, and adjectival stems through affixal and non-affixal derivation. The category of nouns formed from various noun-stems in this process includes abstract nouns, person nouns, identity names, language names, fruit nouns, diminutive, and augmentative forms. The second part deals with realization of noun-forms from verbal stems. The third sub-section deals with the formation of nouns from adjectives.

4.1.1 Abstract Nouns Derived from Noun Stem

In C'lela, certain nouns may be utilized for the derivation of abstract nouns. The set of noun stems to which this word-formation rule could apply is the animate noun group. To carry out this derivational operation therefore, the prefix morpheme /c'-/, which signifies 'state of being', combines with noun stems to indicate properties of human beings. For instance, in example (1a), the morpheme *c-* attaches to the noun stem, **wanta** 'female/girl', to form **c'wanta** 'beauty', denoting the state of having an impressive human quality. Consider the following examples:

	Noun stem		Abstract Noun	Gloss
(1)	a. wántà	'female/girl'	c'wántà	'beauty/girlhood'
	b. àrmá	'man'	c'àrmá	'bravery/courage'
	c. kímpà	'boy'	c'kímpà	'handsomeness'
	d. wà	'child'	c'wà	'youthfulness/childhood'

e. gòmò	‘chief/king’	c’gòmò	‘reign/kingdom’
f. mànkà	‘old man’	c’mànkà	‘old-age’
g. kòbnòcò	‘poor person’	c’kòbnòcò	‘poverty’

This is illustrated in sentences in (2):

(2) a. wa kempa únlo cì c’kempa
 young boy that have handsome
 “that young boy is handsome”

b. wa wanta caa u’yàatà c’wanta
 young girl reach time girlhood
 “the young girl reaches the last stage of girlhood”
 (Rikoto et. al 2002, interlinear glosses ours)

4.1.2 Person Nouns Derived from Noun Stems

In C’lela, a noun can undergo prefixation to create a new noun. The formation of this category of nouns requires attaching a person-forming prefix **ká-** signifying ‘one who’ to the host noun stem. For example, when the prefix **ká-** combines with the noun stem **s’gaba** ‘believing/Christianity’, in (3a), the resultant noun is **ká s’gaba**, which means ‘one who believes’. The prefix **ká-** carries high tone, while the tone pattern of the noun stem is maintained in the derived form. Examples:

	Noun Stem		Person Noun	Gloss
(3)	a. s’gàbà	‘believing’	ká s’gàbà	‘believer/Christian’
	b. s’vèrè	‘intelligence’	ká s’vèrè	‘intelligent person’
	c. s’nàpà	‘knowledge’	ká s’nàpà	‘learned person’
	d. d’hìnà	‘drum’	ká d’hìnà	‘drummer’
	e. d’bàté	‘animals care	ká d’bàté	‘herdsman’

This derivation pattern looks similar to the Ewe derivation process where the nominalising suffix **-la** which when suffixed to the noun **àdè** ‘hunting’ produces the noun **adelá** ‘hunter’ (Ofori 2002:184-185).

4.1.3 Identity/Personal Names Derived from Place Names

There is a class of nouns derived from the names of individuals as a people of an area, a clan, town or village. These derived nouns indicate the place where a person referred to originated from. For this type of derivation, C’lela attaches the prefix **k’**- “one who comes from”, to name of places to describe a person coming from a particular geographical location, thereby indicating his nationality, ethnic identity or group membership. For example in (4a), prefixing the **k-** morpheme to the word **Dabai** derives an ethnicity noun **K’dabai**, referring to a native of Dabai area. The process retains the original tonal patterns of the input nouns. Examples:

Town/Area	Identity Name	Gloss
(4) a. Dábái	K’dábái	‘person from Dabai area’
b. Rébá	K’rébá	‘person from Riba town’
c. Lélà	K’lélà	‘person from C’lela speaking area’
d. Sènc̄hì	K’sènc̄hì	‘person from Sènc̄hì village’
e. Gèèlè	K’gèèlè	‘person from Gèèlè village’
f. Rámbó	K’rámbó	‘person from Rambo village’
g. Zùgrù (zùrù)	K’zùgrù	‘person of the Zuru clan’

Some Niger-Congo languages, like C’lela, albeit not with a prefix for this type of derivation, employ the same mechanism for the derivation of identity/nationality names. For example, Ewe, adds a suffix morpheme **/-tɔ/** to “language name” for instance **Ewe** (to have **Ewe-tɔ**) to describe ‘Ewe person’ (Ofori 2002:183), in the same

way the Nupe language, uses the place of origin suffix **-tʃi** to describe ‘a person who comes from’ a named place, as in the following examples:

Nupe

Place Name	Identity Name	Gloss
(5) a. Pátígi	Pátígi-tʃi	‘one who comes from Patigi’,
b. Láfiagi	Láfiagi-tʃi	‘one from Láfiagi’
c. Nigeria	Nigeria-tʃi	‘Nigerian’
d. Ghana	Ghana-tʃi	‘Ghanaian’

(Kawu 2002:223).

4.1.4 Language Names Derived from Ethnic-based Names

Deriving language names in C’lela usually involves combining an ethnic-based name and a prefix. To achieve this derivational process, the derivative prefix /c’-/ which denotes ‘language of’ or ‘speech of’ a people, will attach to the ethnic-based noun stem. For instance, in (6a), attaching the prefix /c’/ to the noun root **Lela** derives the language name **C’lela** spoken by the lelma people. This applies to all other ethnic-based names, as given in the following examples:

Ethnic-based Name	Language Name	Gloss	
(6) a. Lélà	‘Lela person’	C’Lélà	‘C’Lela language’
b. kógò	‘Hausa person’	C’Kógò	‘Hausa language’
c. Bóròjì	‘Fulani person’	C’Bóròjì	‘Fulfulde language’
d. Yámrí	‘Igbo person’	C’Yámrí	‘Igbo language’
e. Yórùbà	‘Yoruba man’	C’Yórùbà	‘Yoruba language’
f. Annàsàrà	‘English man’	C’Annàsàrà	‘English language’

4.1.5 Fruit Nouns Derived from Plants Name

In C'lela, words for fruits are derivable from plant names. This kind of derivation, as noted in Haspelmath (2002), is confined to few languages such as French. Whilst French uses the suffix *-ier* to derive words for fruit trees from the corresponding fruit nouns; C'lela, on the other hand, adds the prefix morpheme /d'-/, which represents 'fruits of' to the corresponding tree names to derive fruit nouns. For instance, in (7a), the fruit morpheme /d'-/ combines with **gwanda** 'pawpaw tree' to derive the name **d'gwanda** for its fruit. The tone on the noun stem is maintained on the derived form. Compare the following examples from C'lela in (7) and French in (8):

	Names for trees		Fruit Noun	Gloss
(7)	a. gwándà	'pawpaw tree'	d'gwándà	'pawpaw fruit'
	b. kwànbá	'okra stalk'	d'kwànbá	'okra fruit'
	c. kòblò	'ebony tree'	d'kòblò	'fruit of ebony tree'
	d. làalé	'tamarind tree'	d'làalé	'tamarind fruit'
	e. ríǵà	'shea nut tree'	d'ríǵà	'shea nut (fruit)'
	f. wàrwàrà	'spondias tree'	d'wàrwàrà	'spondias fruit'

French

	Names for Trees		Fruits Noun
(8)	a. pomme	'apple tree'	pomm-ier 'apple tree'
	b. poire	'pear tree'	poir-ier 'pear tree'

(Haspelmath 2002:68)

4.1.6 Diminutive Forms Derived from Nouns

Diminutive is a term used in morphology which refers to “an affix with general meaning of ‘little’, used literally or metaphorically (as a term of endearment)” (Crystal 2008:145). Writers on diminutive system in languages (Jurafsky 1996; Booij 2007; Heine and Kutewa 2009; Appah and Amfo 2011) have a common ground that diminutive construction is far beyond expressing ‘smallness’, but also encompasses other wide range of meanings evoked by its various uses. For example, (Booij 2007) points out that a diminutive morpheme is a category-neutral evaluative affix, used primarily to create nouns with a positive or negative evaluative meaning. For instance, the Portuguese diminutive noun **avôzinho** means ‘dear grand-father’; while in Dutch the diminutive form **baantje** refers to a ‘job without prestige’.

Appah and Amfo (2011, 2012) elaborate on the diminutive system for Akan, based upon two semantic groups of words: Diminutive forms of concrete concepts, and diminutive forms with evaluative meanings. In Akan, the addition of the diminutive suffix **-ba/ -wa** on concrete nouns conveys diminutive meanings such as *small* (e.g. **asekamba** ‘a pen knife’); *child/offspring* (e.g. **abarimawa** ‘boy, lad’); *female* (e.g. **abaayewa** ‘young woman’) etc.; while affixing the same diminutive suffix to non concrete nouns produces nouns with evaluative meanings such as *insignificance/non-seriousness* (e.g. **adewa** ‘a little thing, trifle’); *affection* (e.g. **ɔɔba** ‘dearly beloved child’); *admiration* (e.g. **aniedemba** ‘a stubborn person’); *disdain* (e.g. **abomfiawa** ‘a despicable person’) etc (Appah and Amfo 2011:89-93).

A number of cross-linguistic studies show that the term for diminutive originates from the lexical word for ‘*child/offspring/son*’, for instance, **-vi**; ‘child’ in Ewe (Heine and

Kutewa, 2009); **-ba**; ‘child/offspring’ in Akan (Dolphyne 2006, Appah and Amfo 2011); **-lee**; ‘child’ in Dagaare (Grimm 2012); (Jurafsky 1996:562, cited in Appah and Amfo 2011). The application of these diminutive markers results in the basic meaning ‘small/young’. The diminutive domain for C’lela is in some respects parallel to those in Akan, Ewe and Dagaare. The language essentially makes use of two separate diminutive prefixes; **wa-** associated with meaning ‘young/little’ and **i-** which also highlights an associative meaning ‘small’.

4.1.6.1 Diminutives Derived through /wa-/ Prefixation

The C’lela diminutive prefix **wa-** has its source from the word for ‘child’. Diminutive derivation is an operation that attaches the prefix **wa-**, which has a diminutive referent ‘young/little’, to a noun stem. It is worth pointing out that the **wa-** diminutive marker in C’lela is gender-free, and it is as well associated with the singular nouns which has corresponding plural marker **ya-**.¹ It normally serves to create diminutives for animate human entities, except in very few cases (e. g. **wakaci** ‘chicken’). For example, in (7a), the diminutive **wa-** combines with the noun **kempa** ‘boy’ and the resulting diminutive word is **wakempa** ‘young boy’. The diminutive **wà-** basically has a low tone. One may well assert that the presence of this diminutive prefix in the diminutive form triggers tone rising in the initial syllable and the subsequent tone lowering of the final syllable of most noun stems. Consider the following examples as given in (9):

	Noun Stem		Diminutive Form	Gloss
(9)	a. kèmpá	‘boy’	wà-kémpà	‘young boy’
	b. wàntá	‘girl/female’	wà-wántà	‘young woman’
	c. àrmá	‘man’	wà- àrmà	‘young man’

d. rùsù	‘twins’	wà-rùsù	‘little twins’
d. gyòzò	‘baby’	wà-gyózá	‘little baby’
e. màcrì	‘grandchild’	wà màcrì	‘little grandchild’
f. kácì	‘chicken’	wà- kácì	‘little chicken’

Here are examples in sentences in (10):

(10) a. wa kempa hèn-ko wawanta
 young boy see-PST young girl
 “The young man saw the young girl”

b. wà ármà el kwěsev ri
 young man is friend my
 “The young man is a friend to me”

4.1.6.2 Diminutives Derived through /i-/ Prefixation

The diminutive *i-* is a class 8 nominal prefix used predominantly for describing inanimate singular objects which come in small sizes. The diminutive morpheme /i-/ denoting ‘small’ may apply to other vertebrate (non-human) animates specifically mammals, birds, reptiles and amphibians to derive their diminutive form. For example in (11a) the prefix diminutive *i-* is added to the noun **zuru** ‘lion’ and the process yields **i’zuru** ‘baby lion’. Consider these examples:

	Noun Stem		Diminutive Noun	Gloss
(11) a.	zùrù	‘lion’	i’ zùrù	‘baby lion’
b.	lògmó	‘elephant’	i’lògmó	‘small elephant’
c.	músú	‘cat’	i’ músú	‘small cat’

d. d̀ók̀ò	‘horse’	i’ d̀ók̀ò	‘small horse’
e. làgù	‘rat’	i’ làgù	‘small rat’
f. s̀òb̀ò	‘tiger’	i’ s̀òb̀ò	‘small tiger’
g. z̀òm̀ò	‘rabbit’	i’ z̀òm̀ò	‘small rabbit’

This process is remarkably similar to the one in Dothraki whose diminutive is equally formed by suffixing the morpheme /-i/ or /-ish/ to nouns that end with a consonant, as in the following examples:

Dothraki			
Noun Stem		Diminutive Noun	Gloss
(12) a. lajak	‘warrior’	lajak-i	‘little warrior’
b. hrazef	‘horse’	hrazef-ish	‘tiny horse’

(Peterson 2011:3).

4.1.7 Augmented Forms Derived through /k-/ Prefixation

The diminutive class with the prefix *i-* for non-human animates (unlike the ones in the human animate) exemplified above, does not have corresponding plurals, but usually contrasts with a generic augmentative class 5 singular prefix **k-** to instantiate a larger version of the input nouns in the language. So assigning the prefix **k-** ‘big/large’ on a noun, for example, **zuru** ‘lion’ in (13a), results in the derivation of augmentative form **k’zuru** ‘big lion’. The following are examples of augmented forms in C’lela:

Noun		Augmentative Form	Gloss
(13) a. z̀ur̀ù	‘lion’	k’z̀ur̀ù	‘big lion’
b. l̀ògm̀ó	‘elephant’	k’l̀ògm̀ó	‘big elephant’
c. mú sú	‘cat’	k’ mú sú	‘big cat’
d. d̀ók̀ò	‘horse’	k’ d̀ók̀ò	‘large horse’

e. sòbò	‘tiger	k’sòbò	‘large tiger’
f. zòmò	‘rabbit	k’zòmò	‘big rabbit’
g. zòrè	‘antelope’	k’zòrè	‘big antelope’

This we can compare with the Nupe augmentative suffix **-ko** used to create larger version of the noun, as in the following words:

Nupe			
Noun		Augmentative Form	Gloss
(14) a. ndá	‘father’	ndá-ko	‘grandfather’
b. ebi	‘knife	ebi-ko	‘sword’
c. ewa	‘snake’	ewan-kó	‘python’,
d. bifebá	‘cockerel’	bifebá-kó	‘cock’

(Kawu 2002:208)

4.1.8 Agentive Nouns

Some of the possible strategies which linguists use to account for agentive nouns is by looking at ‘prototypes’ or through zero derivation to which semantic rules apply. An agent noun is “someone or something connected with what the base denotes” or alternatively, “somebody or something whose function or characteristic is to perform a particular act” (Aronoff and Fudeman 2011:146). A prototypical agentive, on the other hand, “is a person who habitually performs a particular type of action”, so that words such as baker, dancer or driver are prototypical agentives, in the habitual sense (Aronoff and Fudeman 2011:146). The derivation of agentive nouns in C’lela involves using agentive affixes on verb stems, as reflected in the prototypical method.

4.1.9 Agentive Nouns Derived from Verbs

In C'lela, the agentive noun may be formed by simply adding the agentive prefix **kán** 'someone who' to certain action verbs. For example, in (15a) the verb **sèpà** 'to sing' combines with person prefix **kán-** to form the agent noun **kánsèpà**, meaning 'someone who sings' or 'a singer'. The tone of the morpheme **kan-** is consistently high and all the syllables after the prefix have the same tone as the verb stems. Here are the examples:

	Verb		Agentive Noun	Gloss
(15)	a. sèpà	'to sing'	kán sèpà	'singer'
	b. lààsà	'to teach'	kán lààsà	'teacher'
	c. lààsì	'to learn'	kán lààsì	'learner/student'
	d. kónà	'to beg'	kán kónà	'beggar'
	e. pàatè	'to trade'	kán pàatè	'itinerant trader'
	f. báblá	'to hunt (animals)'	kán báblá	'hunter'
	g. òmá	'be behind'	kán òmá	'junior'

Many languages have similar devices of creating agentive nouns from action verbs. For instance, In English, the suffix **-er** turns verbs into agentive nouns, as in 'sing' to 'singer'. In Dothraki, an agentive suffix **-k** designating 'one who does' combines with verbs to form agentive nouns thus; **dothralat** 'to ride' becomes **dothra-k** 'rider', **lajat** 'to fight' becoming **laja-k** 'warrior' (Peterson 2011:4). In Zulu, an action verb can be made into agentive noun by prefixing **um-** to a verb root, while replacing the verbal suffix **-a** by **-i**, as in **cula** 'sing' to **um-cul-i** 'singer', **lima** 'cultivate' to **um-lim-i** 'cultivator', **diala** 'play' to **um-dial-i** 'player'. In Hungarian, an agentive suffix **-ó** may be used on action verb to form agentive noun, as in **ír** 'write' to **író** 'writer'. So also in Diola, an Atlantic language of the Niger-Congo, the suffix **-a**, is used to derive similar agentive noun, as in **tɛp** 'build' to **atɛb-a** 'builder' (Comrie and Thompson 2007:342).

4.1.10 Other Agentive Nouns Derived from Verbs

The derivation of agentive nouns in this class involves suffixing the agentive morpheme /-ge/ ‘someone who does’ to the corresponding verbal stem. For example in (16a), the agentive suffix -ge occurs with the verb **ca** ‘to weave’ to form the noun **caage** ‘weaver’. It may interest one to note that this process is mostly applicable to monosyllabic verbs, and where the verb is disyllabic, as in (16g and h); the vowel of the second syllable is elided before suffixation applies. It must be emphasized as well that the short vowel of monosyllabic words undergoes “**vowel lengthening**” before a suffix and this lexically conditioned vowel lengthening is required in order to make up a bimoraic foot of equal weight. In this agentive formation, high tone replaces the initial low tone of the verb stem, and those with high tone retain their tone pattern. While the tone pattern of the agentive suffix /-ge/ is generally low. This is presented below:

	Verb		Agentive Noun	Gloss
(16)	a. cà	‘to weave’	cáagè	‘weaver’
	b. má	‘to build’	máagè	‘builder’
	c. sèè	‘to wrestle’	séegè	‘wrestler’
	d. sòò	‘to drink’	sóogè	‘drunkard’
	e. tàa	‘to shoot’	táagè	‘shooter/archer’
	f. zóò	‘to forge/fry/roast’	zóogè	‘blacksmith’
	g. gòvó	‘to weed/farm’	góvgè	‘farmer’
	h. sèbè	‘to carve/shape’	sébgè	‘carpenter’

The process of agentive formation in C'lela is parallel to agentive derivation in Cicipu (McGill 2009), Buli (Akanlig-Pare 2005) and Lama (Ourso 1989). The agentive nouns, formed by the affixation process as found in many Niger-Congo languages, produces nominals that connote 'someone who does what the verb indicates', and they normally share the semantic feature [+ animate] (Akanlig-Pare 2005). Consider the following examples from Cicipu in (17), Buli in (18) and Lama in (19):

Cicipu

	Verb		Derived Noun	Gloss
(17)	a. bɔwɔ	'steal'	bɔwɔm	'thief'
	b. paɖa	'slaughter'	páɖám	'butcher'
	c. pina	'shave'	pínám	'barber'

(McGill 2009:263)

(18) Buli

	Verb		Suffix	Derived Noun	Gloss
a.	tōmū	'work'	-doa	tōmdōa	'worker'
b.	kpā	'weed'	-roa	kparoa	'farmer'
c.	sē	'build'	-roa	seroa	'builder'

(Akanlig-Pare 2005:74-75)

(19) Lama

	Verb		Suffix	Derived Noun	Gloss
a.	hár	'cultivate'	-ɖɜ	há-ɖɜ	'a farmer',
b.	sɜ	'die'	-ɖɜ	sɜ-ɖɜ	'a corpse'
c.	há	'give'	-r	háa-r̥	'someone who gives'

(Ourso 1989:167)

4.1.11 Abstract Nouns derived from stative Verbs

C'lela has a derivative device whereby stative verbs can be made into state nouns. The nasal prefix /m-/ which is a noun class 9 affix that marks liquid nouns in C'lela; here designates 'state of' or 'fact', and combining it with some stative verbs produces state nominals. For example, the addition of the morpheme /m-/ to the verb **dàngà** 'to heat' generates **m'dàngà** 'warmth/heat' meaning the state of being warm. The tone pattern of the derived forms remains the same as that of the base form. Consider the following examples in (20):

	Verb		Abstract Noun	Gloss
(20)	a. dàngà	'to heat'	m'dàngà	'warmth/heat'
	b. lǎa	'to know'	m'lǎa	'knowledge'
	c. lávà	'to sleep'	m'lávà	'a sleep'
	d. zìsá	'to lengthen'	m'zìsá	'length'

The derivation in (16) above is comparable to the way Yoruba form abstract nouns from verb stems. This type of derivation is achieved by attaching the vowel prefix /i-/ or /a-/ to verb base. Consider the following examples taken from Pulleyblank (1990):

	Yoruba			
	Verb		Abstract Noun	Gloss
(21)	a. mo	'know'	imo	'knowledge'
	b. lo	'go'	alo	'going'
	c. binu	'annoy'	ibinu	'anger'

(Pulleyblank 1990:273)

4.1.12 Other Abstract Nouns Derived from Verbs

Deriving nouns out of verbs, like in many other languages, is another straight forward nominalization process in C'lela. To form this class of nouns, the language uses the 'resultative' morpheme /d'-/ on verb stem which has the effect of creating nouns that expresses the object that results from an action. For example in (22a), the verb /wá/ 'to die' takes the prefix /d'-/ to give the noun /d'wá/ which means "death". It is worth pointing out in connection to this rule that C'lela prefixes are used to change verbs to nouns, because normally verbs in the language do not occur with prefixes. Observe that except for a few cases, the derived forms retain the tone pattern of the verb stems. Take a look at the following examples:

	Verb		Abstract Noun	Gloss
(22)	a. wá	'to die'	d'wá	'death'
	b. bàsá	'to announce'	d'bàsà	'announcement'
	c. bànà	'to invite'	d'bàná	'invitation'
	d. mèrá	'to meet'	d' mèrá	'meeting'
	e. hwéssè	'to injure'	d'hwéssè	'injury'
	f. hwèrá	'to rest'	d'hwèrá	'holiday'
	g. séetè	'to help'	d'séetè	'a help'
	h. dàgà	'to decide'	d'dàgà	'a decision'

This pattern for forming nouns from verbs is parallel to what Comrie and Thompson (2007:342) describe as 'object nominalization' where the derived noun designates the object that results from an action of the verb. This is attested in Cicipu where abstract nouns tend to be derived from verbs by prefixing /ci-/ to the verb stem, or in Si-Luyana

where the suffix **-o** turns a verb into nouns, or in Sudanese, an Austronesian language of West Java, where the suffix **-an** performs similar function.

Cicipu

	Verb		Abstract Noun	Gloss
(23) a.	ita	‘to marry	ci-itani	‘marriage’
b.	pata	‘to beg/plead’	ci-pati	‘request’

McGill 2009:254)

Si-Luyana

	Verb		Abstract Noun	Gloss
(24) a.	lola	‘dream’	lu-lol-o	‘a dream’
b.	imba	‘sing’	lw-imb-o	‘a song’

(Comrie and Thompson 2007:342)

Sudanese

	Verb		Abstract Noun	Gloss
(25) a.	inum	‘to drink’	inum-an	‘a drink/alcohol’
b.	omɔŋ	‘to say’	omɔŋ-an	‘saying’

(Comrie and Thompson 2007:342)

4.1.13 Action Nouns Derived from Verbs

There are several C'lela verb forms that can take nominalizing affixes to form action nouns. Verb stems usually undergo nominalization when they are in simple present form. The language uses most noun class markers to turn verbs into action nouns; however, the prefix [u-] is a particularly frequent affix used in the derivation of action nouns. This derivational process also triggers “**final-vowel change**” in the nominalized form from the front vowel [a or e] to back vowel [o or u], the choice of which is mostly dictated by the vowel of the preceding syllable; and this final vowel has high tone. The following are the examples.

	Verb		Action Noun	Gloss
(26)	a. gèné	‘to write’	u’génó	‘writing’
	b. gàbà	‘to obey	u’gábó	‘obeying’
	c. sòpà	‘to scrub’	u’sòpó	‘scrubbing’
	d. zòlá	‘to take bath’	u’zòló	‘bathing’
	e. hùkà	‘to pull/drag’	u’hùkú	‘pulling’
	f. wáakà	‘to leak’	u’wáakú	‘leaking’
	g. mískà	‘to drizzle’	u’mískú	‘drizzling’
	h. láà	‘to know’	ù’láu	‘knowledge’
	i. hètè	‘to play’	u’hètó	‘playing’

We compare the following examples from C'lela.

- (27) a. t-a hètè
 FUT-they play
 “They will play”
- b. yanta-na elan u’-hètò
 girl-PL are PROG-play
 “The girls are playing”

The prefix /u-/ in (26) serves to give the derived forms a gerundive function, as does the English *-ing* suffix, or as in Lakhota, a Sioux language of South Dakota, which uses a prefix **wó-** on the verb for the creation of similar action nouns from action verbs; with the stem-final vowel **ā** of the verb sometimes alternating to /-e/ as taken from (Comrie and Thompson 2007). Also Cicipu has similar derivation process whereby an infinitive prefix /u-/ attaches to the verb root to form action noun, as given in (McGill 2009).

Lakhota

	Verb		Action Noun	Gloss
(28) a.	wuyuškī	‘to rejoice’	wo-wuyuškī	‘rejoicing’
b.	gnayā	‘to deceive’	wó-gnaye	‘deception’

(Comrie and Thompson 2007:335-340)

Cicipu

	Verb		Action Noun	Gloss
(29) a.	dàmà	‘speak’	u- dàmà	‘speaking’
b.	hullo	‘blow’	u-hllò	‘blowing’
c.	bidá	‘lick’	u-bidá	‘licking’

(McGill 2009:257)

4.1.14 Nouns Derived through Internal modification

In morphological analysis, there are situations where affixation process is supplemented by other processes. One of such derivational processes employed is called “internal modification” (Booij 2007:36) or ‘ablaut’ (Aronoff and Fudeman 2011:174) which are

used as cover terms referring to vowel alternation within a root word. An instance of such case may be explicitly attested in C'lela. In this derivational process, the verbal stem contains a lax vowel /a/, which alternates with the back rounded vowel /o/ or /u/ of the corresponding derived noun in the same environment. Therefore the word-final vowel /o/ which replaces the lax vowel /a/ in the derived form as given in (30a-h) somehow has with it a 'causer role' of creating action nouns (or event nouns) out of verbs. The final vowel /o/ of the output is said on low tone throughout. Examples:

	Verb		Action Noun	Gloss
(30)	a. cèpká	'to pray'	cèpkò	'prayer'
	b. cétà	'to carry/bear'	cètò	'father'
	c. còmá	'to send'	còmò	'message'
	d. cònká	'to swear'	cònkò	'oath'
	e. cóbtà	'to sneer'	cóbtò	'kissing'
	f. dòkná	'to tie (a knot)'	dòknò	'a knot'
	g. kèkbá	'to think'	kèkbò	'thought'
	h. sábà	'to make (a strap)'	sábò	'a strap'

Examples could be given in sentences such as in (30a and b) below:

(31) a. m **sab**-ka d'kwà
 I make-PST (strap) bag
 "I made a strap for the bag"

b. m ema-ka **sabo** u-sabt d'kwà
 I make-PST strap PROG-hang bag'
 "I made a strap for hanging the bag"

(Rikoto 2002:177, interlinear glosses ours)

This type of derivational process which appears unique to C'lela within the Western-Kainji languages is found in Hausa. In Hausa, the verbs also contain a lax vowel /a/, which alternates with either the back rounded vowel /o/ or /u/ of the corresponding derived form in the same environment. Compare the C'lela examples in (30) above and the Hausa examples in (32) below:

	Verb Stem		Action Noun	Gloss
(32)	a. gàadá	'to inherit'	gaado	'inheritance'
	b. yábàa	'to commend'	yaboo	'commendation'
	c. káamàa	'to catch	kaamuu	'catching'
	d. búgàa	'to beat'	buguu	'beating'

(Abubakar 2001:44)

4.1.15 Nouns Derived from Adjectives

C'lela has a morphological process that allows the derivation of nouns from adjectives. A noun can be derived from adjective by the addition of the derivational morpheme /-ne/. The nominal suffix /-ne/ connotes 'state of being', used to derive a noun that expresses the attribute of the adjectives with which they occur. For example in (33a), the suffix /-ne/ attaches to the adjective **poya** 'new' to turn it into a noun **poiane** 'newness', expressing the state of being new. This derivation process takes place without affecting the tone in the input stem, while the affix morpheme /-ne/ carries low tone throughout. Here are some examples:

	Adjective		Derived Noun	Gloss
(33)	a. pòoyà	'new'	pòoyà̀nè	'newness'
	b. rìmù	'black'	rìmùnè	'blackness'

c. pùsú	‘white’	pùsúnè	‘whiteness’
d. gyòzó	‘red’	gyòzónè	‘redness’
e. yòoró	‘green’	yòorónè	‘greenness’
f. èssé	‘small’	èssénè	‘smallness’

4.3 Verb Formation

This section looks at morphological derivation of verbs from noun stems, verb stems and adjectival stems through the process of affixation and internal modification.

4.2.1 Verbs Derived from Nouns

In C’lela, verbs can be derived from certain nouns. The suffix /-sa/, /-se/ or /-so/ that encodes ‘change of state’ is responsible for turning nouns into durative verbs. The noun stems are abstract nouns that mostly express sensory quality. This derivation is achieved both by deleting the nasal prefix [m-] (originally used to mark liquids or abstractness) and attaching the infinitive suffix [-sa], [-se] or [-so] to the input stem. The choice of the suffix vowel, either as [-s(a)], [-s(e)], or [-s(o)] is determined by the vowel in the penultimate syllable. The lexical items that undergo this process are generally of trisyllabic structure. The addition of the suffix morpheme sometimes changes the tone of the input noun stem; likewise the tone of the suffix is unpredictable. Here are the examples:

	Noun		Verb	Gloss
(34)	a. m’dàngà	‘warmth/heat’	dàngàsá	‘to warm up’
	b. m’hàkà	‘light’	hákàsà	‘become light’

c. m'làà	'ability (to educate)'	lààsà	'to educate'
e. m'lávà	'sleep'	làvàsá	'soothe to sleep'
f. m'lwàdè	'slipperiness'	lwàdèsè	'to slip'
g. m'lògò	'bigness'	lògòsò	'to increase/make bigger'
h. m'wèsè	'strength'	wèsèsè	'make stronger'
i. m'zìsá	'length'	zìsàsà	'to lengthen'

4.2.2 Verbs Derived from Adjectives

In C'lela, some verbs may be formed from adjectives. Such verbs are formed by suffixing the bound morpheme /-ka/ or /-ku/ to adjectives. The suffix which has the interpretable meaning 'cause to become/make' is responsible for the causal relation present in the resultative factitive verb. For example in (35a), the adjective **pusu** means "white", so that when the suffix /-ku/ 'cause' attaches to it, we derive the verb **pusuku** meaning "to whiten". The tone of the derivatives of this class remains the same as the corresponding verb stems, while the tone of the affix morpheme is low.

	Adjective		Verb	Gloss
(35)	a. pùsú	'white'	pùsúkù	'to whiten'
	b. ùtù	'old (of things)'	ùtùkù	'to grow older'
	c. pímkà	'deep'	pímkàkà	'to deepen'
	d. sètàsà	'thick'	sètàskà	'to thicken'
	e. yàtàtà	'wide'	yàtàmkà	'to make wide/larger'

4.2.3 Verb Extension

Verb extension, according to Ameka (2009:139) “is a term used in the Africanist Literature to designate the verbal affixes that are used to extend the verb root to form verb stems”. Hyman (2007) observes that verb extension affixes, as are commonly found in Niger-Congo languages, can be used to increase the valence of a verb; for instance, in the derivation of applicatives, instrumental, causative, dative verbs etc, or decrease the valence to derive reciprocal, passive or stative verb stems. They may also indicate the directional and reversive verb forms, and sometimes they may express inflectional meanings such as perfective, resultative. Like in many other Niger-Congo languages, C’lela has verbal suffixes that may be added to the verb stem to derive other verb forms; however, verb extension occurs in the language through vowel alternation as well.

4.2.3.1 Causative Suffix -sa

. C’lela has a verb extension suffix /-sa/ that attaches to some verbs to ‘add’ or ‘extend’ the meaning of such verbs. The verb extension suffix /-sa/, which often denotes ‘cause to’ is used to increase the valency of the verb by introducing an event argument in the derived causative form. For instance, in (36a), the causative suffix /-sa/ combines with the verb stem **napa** ‘know’ to derive the causative form **napasa**, which suggests ‘cause someone to know’. Note that this suffixation deletes the final vowel of the verb stems which have the heavy-initial syllable CVV-CV or CVC-CV as may be seen in (36e-g). The process alters the tone patterns of most source verbs. Consider these examples:

Verb		Verb Extension	Gloss
(36) a. nàpà	‘know’	nàpàsá	‘cause to know’
b. gàbà	‘obey/follow’	gàbàsá	‘cause to obey/follow’

c. hwèrá	‘rest’	hwèràsá	‘let someone to rest’
d. sòpà	‘scrub’	sòpásà	‘scrub off the surface’
e. cílkà	‘settle’	cìlk-sá	‘cause to settle’
f. sóodà	‘slide’	sóod-sà	‘cause to slide’
g. kàmǵá	‘collect’	kàmǵ-sá	‘cause to collect together’

The C’lela causative suffix [-sa] is comparable with the causative suffix [-sV] in Cicipu, as it is also analogous to the causative suffix [-εsε] in Degema, an Edoid language, both of which can be used with certain verbs to derive causative forms. The derived causative forms in these languages usually involves an increase in the valency of the verb by means of which a new introduced argument serves the role of an agent/causer, as exemplified in the following:

Cicipu

Verb	Causative
(37) a. Hina ‘ripen’	hina-sa ‘cause to ripen’
b. dooho ‘disappear’	doohi-sa ‘cause to disappear’
c. sukulu ‘move’	sukulu-su ‘cause to move’

(McGill 2009:221)

Dagama

Verb	Causative
(38) a. tu ‘be burnt’	tu-εsε ‘cause to be burnt’,
b. tul ‘reach’	tul-ese ‘cause to reach’,
c. kir ‘return’	kir-ese ‘cause to return’

(Kari 1995:158)

Likewise, Akanlig-Pare (2005) notes a similar process in Buli where what he calls ‘verbal extensors’ are suffixed to some CVCV disyllabic verbs to derive the trisyllabic

CVCVCV verb forms. These suffixes according to him, “usually add a shade of meaning to that of their source verbs”, as shown in the following examples:

Buli			
CVCV	Gloss	CVCV+CV	Gloss
(39) a. bi.li	‘to wipe a surface’	bi.li.si	‘role over a surface’
b. ma.gi	‘to measure (quality)’	ma.gi.si	‘measure length’
c. pe.ri	‘to prevent’	pe.ri.gi	‘to block’

(Akanlig-Pare 2005:59)

4.2.4 Derivation of Applicative Forms

In C’lela, applicative verbs are usually formed through vowel alternation. Haspelmath (2002) describes applicative construction as an object-creating operation which generates a completely new object in the function structure of the verb. Crystal (2008:30), on the other hand, defines the applicative as “a type of double-object construction in some languages”, which may roughly corresponds to the direct and indirect object construction in English. This process normally involves the addition of an applicative affix on the verb to encode a series of functions, such as benefactive, locative, and instrumental (Aronoff and Fudeman 2011). C’lela, like many other Bantu languages, has various mechanisms for deriving applicative forms, which we shall discuss below.

4.2.4.1 Benefactive Derived through Vowel modification

In C’lela, benefactive applicative may be formed from verb stem through internal modification. A benefactive is a term which “expresses the sense of ‘intended recipient’ and is often introduced by a ‘for’ phrase in English” (Crystal 2008:52). Skinner (2009:79) describes the benefactive, as a particle which “introduces the noun which

refers to the person who benefits from the action of the verb”. In the formation of applicative in this process, the low vowel /a/ within the disyllabic verb stems undergoes ‘morphophonemic alternation’, or alternatively ‘vowel rising’ and becomes a mid-high vowel /e/ in both environments, thereby creating a direct-object function in the derived verb. So we assume here that the internal vowel alternation has an interpretable feature ‘for’ which describes the benefactive form. The derived forms under this process in most cases carry over the tone of the verb stem. Consider the following examples:

	Verb Stem	Benefactive Form	Gloss
(40)	a. d̀àp̀à ‘to stick’	d̀èp̀é	‘to stick for someone/something’
	b. hàv̀á ‘to go	h̀èv̀é	‘to go for someone’
	c. màak̀á ‘to measure’	m̀èèk̀é	‘to measure for someone’
	d. v̀at̀á ‘to pronounce’	v̀èc̀é ²	‘to tell someone’
	e. màt̀á ‘to fill’	m̀èèt̀é	‘to fill something completely’

Consider the following examples of benefactive as taken from (Dettweiler 2012b):

- (41) a. màak ǹáat̀á
 measure millet
 “Measure out the millet”
- b. m̀èèk̀-è ǹá ǹáat̀á
 measure-APPL them millet
 “Measure out the millet for them”
 (Dettweiler 2012b:29, interlinear gloss ours)

This applicative derivation in C’lela may be linked to Chomorro, a Malayo-Polynesian language in which the applicative suffix -ye may be used to create a direct-object

construction in the derived verb's function structure (Haspelmath 2002). Consider the applicative constructions from C'lela in (41) and Chomorro in (42):

Chomorro

- (42) a. Ha hatsa si acho
 He lift ABS stone
 "He lifted the stone"
- b. Ha hatsa-yi si Pedro ni acho
 he lift-APPL ABS Pedro OBL stone
 "He lifted the stone for Pedro"
 (Haspelmath 2002:217)

4.2.4.2 Other Benefactive Derived through Vowel modification

One other means of deriving benefactive form in C'lela happens when the back-rounded vowel /o/ or /u/ of disyllabic verbs undergoes internal changes to front-undrounded vowel /e/ or /i/. The derived applicative form encodes the benefactive 'for' which introduces the object that benefits from the action of the verb. This vowel change, which appears to be 'vowel fronting', looks similar to the vowel alternation used in the expression of tense aspect in many languages such as English, in words like; 'sing' vs. 'sang', or Dutch; **geef** 'to give' vs. **gaf** 'gave' (Booij 2007:36), or in Bernese; **suuffe** 'drink' vs. **gsoffe** 'drank' (Aronoff and Fudeman 2011:174), or in Bemba; **kaana** 'refuse' vs. **keene** 'has refused', **laala** 'sleep' vs. **leele** 'has slept' (Kula 2002a:154). The derived applicative forms retain the tones of the source verbs; with exception of the last example (43e). Here are the examples:

	Verb		Benefactive	Gloss
(43)	a. gòtò	‘to watch’	gwèté ³	‘watch for someone’
	b. kùmù	‘to obtain’	kwìmí	‘obtain for someone’
	c. kùsú	‘to remain’	kwìsí	‘remain for someone’
	d. òmò	‘to pick up’	wèmé	‘pick up for someone’
	e. ùvù	‘to go (into)’	wìvì	‘go in for someone’

The above applicative form from C’lela in (44) may be used in sentences like in (44).

(44) a. gòt náam-nâ
 watch cattle-PL
 “Watch the cattle”

b. gwèt-é ò náam-nâ
 watch-APPL him cattle-PL
 “Watch the cattle for him”

(Dettweiler 2012:29-30, interlinear glosses ours)

Instances of applicative formation parallel to the C’lela examples in (33) come from Bemba, and Lobala, both of central Bantu language; however, while C’lela utilizes vowel alternation for the creation of applicative forms, these languages make use of the applicative suffix on verbs for the formation of applicative forms. In the examples that follow, Bemba uses the suffix **-il** in (45); whereas Lobala employs suffix **-el** in (46) to mark applicatives ‘for’:

Bemba

Verb		Applicative	
(45) a. ak-a	‘lit’	ak-il-a	‘lit for’
b. fyuuk-a	‘escape’	fuuk-il-a	‘escape for’
c. land-a	‘speak’	land-il-a	‘speak for’
d. lanjg-a	‘show’	lanjg-il-a	‘show for’

(Kula 2002a:146-153)

Lobala

Verb		Applicative	
(46) a. bin-a	‘dance’	bin-el-a	‘dance for someone’
b. ten-a	‘cut in two’	ten-el-a	‘cut in two for someone’
c. wand-a	‘hit’	wand-el-a	‘hit for someone’
d. bomb-a	‘hide’	bomb-el-a	‘hide for someone’
e. tub-a	‘sing’	tub-el-a	‘sing for someone’

(Morgan 1993:46)

4.2.4.3 Instrumental and Recipient Applicatives

There are certain disyllabic verbs whose final vowel alternates in the derivation of applicatives. This type of applicative construction happens when the stem-final low vowel /a/ or /o/ alternates with the mid-high vowel /-e/ in the same environment. This type of vowel alternation within the verb stem allows the occurrence of ‘recipient’ applied objects as in (37) and instrumental applied objects as in (38). As noted in (Haspelmath 2002:216-218), and Aronoff and Fudeman 2011:207, the applicative construction expressed by the ‘to’ phrase is called ‘recipient applicative’; while those that take ‘with’ phrase refer to ‘instrumental applicative’. The tone pattern of the source verb in (47) and (48) is maintained in the output, thus the change in the vowel appears very crucial. Examples:

Verb Stem		Recipient	Gloss
(47) a. cétà	‘to carry’	cète	‘to deliver something to someone’
b. hétà	‘to trip/fall’	hète	‘to make something to fall’
Instrumental Gloss			
(48) a. hõtò	‘to sneak away’	hõtè	‘to sneak away with something’
b. gwèdàsá	‘to open (door)’	gwèdèsé	‘to shut in (self) with something’
c. làbàsá	‘to hide’	làbèsé	‘to hide (self) with something’

A somewhat similar applicative construction is found in Wolof, an Atlantic language, which creates an instrumental form by adding an applicative suffix *-e* to the verb. Compare the C’lela and Wolof examples in (49a and b) and (50a and b) respectively:

- (49) a. t-ú hõtò tente
 FUT-he sneak today
 “he will sneak away today”
- b. t-ú hõt-è kíndì
 FUT-he sneak-APPL money
 “He will sneak away with money”

Wolof

- (50) a. Mungi lekk ag kuddu
 PRES.3SG eat with spoon
 “He is eating with a spoon”
- b. Mungi lekk-e kuddu
 PRES.3SG eat-APPL spoon
 “He is eating with a spoon”
 (Booij 2007:197)

4.3 Conclusion

This chapter provides a description of the main features of the derivational morphology in C’lela. It illustrates among a host of issues how abstract nouns are derived from common nouns, and how specific nouns are derived from noun stems, such as the

derivation of identity names from names of places, language names from ethnic-oriented names, and fruit names from plant names. It also dealt with how nouns are derived from verbs and adjectives and vice versa, demonstrating for example how abstract nouns, agentive nouns, and action nouns are all derived from verb in C'lela. Overall, the language uses affixation as well as internal modification in its derivational operation.

It was also shown that, though words are formed largely by concatenating affixes and lexical stems; however, there are other changes that take place internally within some discontinuous stems to signal meaning extension. It was also established that noun or verbal stems that come in contact with some derivational affixes, sometimes trigger certain phonological processes, such as vowel lengthening, and vowel change in the derived environment. Furthermore, it was evident that for the most part the tone of the root word barely alters after derivation.

In many ways, C'lela agrees with derivational procedures of major languages such as Akan, Buli, Dothraki, Ewe, and Lama, Cicipu, and Zulu in agentive formation, with Akan, Ewe, and Nupe in the derivation of identity or nationality name, with French in deriving fruit names from plant names, with Akan, Dagaare, Ewe and Dothraki in the formation of diminutives, with Nupe in the derivation of augmentative form, with Degema and Cicipu in causative verb extension. It employs a process of internal vowel modification in the derivation of action nouns similar to Hausa. It also agrees with Bemba, Chomorro, Labola, and Wolof in areas of verb extension, such as in the derivation of benefactive, recipient and instrumental applicatives. Nonetheless, it

differs from these latter languages in terms of verb extension. This is due to the fact that while these languages use affixation for verb extension, C'lela often employs internal vowel change to achieve the similar process.

One other unique derivational property is evident in action nominalization where prefixing the nominalizing prefix [u-] to the verb stem triggers a phonological process that affects the stem final vowel which, as can be observed in section **4.1.13**, changes from the front vowel to back rounded vowel.

End Notes

¹ Refer back to chapter section 3.3.2 for discussion on the diminutive singular/plural distinction

² Notice that in this derivation; a palatalisation rule operates, converting the underlying alveolar obstruent phoneme /t/ into a palato-alveolar /c/ [tʃ] before a front palatal vowel /e/, that is to say, if the final consonant of the verb stem is /t/, the occurrence of the front vowel /e/ in the derived form palatalises the alveolar /t/ into /c/ (tʃ).

³ Note that this particular process allows labialization of the initial plain velars before round vowels; and prefixing the same labio-velar consonant /w-/ to the vowel-initial verb in the derived form. In C'lela, plain velars /k/ and /g/ within the verbal forms undergo automatic labialization when they immediately precede a round vowel /o/ or /u/.

CHAPTER FIVE

COMPOUNDING IN C'LELA

5.0 Introduction

This chapter discusses compounding in C'lela. Spencer (2003:329) defines compounding as a “process in which novel lexemes are formed from the combination of two simpler lexemes”. A compound is a word that “consists of two lexemes that are joined together (called *compound members*)” (Haspelmath (2002:85). The term ‘compound’ is defined by various scholars in the literature using different terminologies. Some authors view compounds, in simple cases, as the combination of: i) two roots (Carstairs-McCarthy 2002:59, Harley 2009:130; ii) two stems (Plag 2003:135, Lieber 2004:47); iii) two lexemes (Bauer 2003:40, Spencer 2003:329, Booij 2007:75); iv) two words (Marchand 1960:11, Matthews 1991:14-15, Fabb 1998:66, Harley 2006:8, Booij 2007:75, O’Grady et.al 2011:128); v) two bases (Adams 2001:2, Plag 2003:135, Katamba and Stonham 2006:55); and vi) two elements (Bauer 2001:695). Dolphyne (2006) describes a compound as a word made up of two or more stems or a reduplicated form in which the same stem is repeated. For the sake of consistency, we use *stem* in our compounding processes instead of *root* or *base*.

5.1 Compounding in C'lela

Compounding is an established morphological process through which “two independently meaningful roots are directly combined to form a new, complex word, usually a noun or adjective” (Harley 2006:99). This means that compounding is a word-

formation device which most frequently involves the combination of at least two members of open lexical classes such as nouns or verbs (Aikhenvald 2007). A number of studies (Bauer 2003, Boij 2007, and Ebbers 2008) have revealed that compound words in many languages are the most common type of word family. Compounding in C'lela, like in many other languages, is one of the principal means of word formation. The chapter gives an account of C'lela compounding. It is structured into three sections: Section one examines the structure of compounds in C'lela. Section two discusses types of compounds; while section three describes the phonology of compounds in C'lela.

5.1.1 The Structure of Compounds

Compound words in English and in many other languages may occur in different structures. In English, for instance, which is known for having multiple forms of compounds, the lexemes that make up a compound word may be connected, as in 'sunshine', 'baseball', boyfriend, 'flashlight', and these are referred to as closed compounds. Sometimes they are written as separate words, as in 'ice cube', 'book jacket', girl friend, 'swing set'. These are called open compounds. Still others may be hyphenated, as in girl-friend, 'self-esteem', 'son-in-law', 'jack-in-the-box' (Ebbers 2008, and O'Grady et. al 2011). Nevertheless, Bauer (2012) observes that though this orthographic distinction between these compounds may reflect a genuine linguistic distinction of some sort, such differences may not necessarily prove anything about the linguistic status of a string of compound elements.

Compounds can be analyzed essentially by looking at the syntactic and semantic properties of the constituents or elements in the compound. For example, the syntactic category of a compound is analyzed based on the notion of ‘head’. A number of works on morphology have established the existence of compound head. The syntactic category criterion used for identifying syntactic heads, can also be applied for determining headedness in morphology (Spencer 1991; Haspelmath 2002; Plag 2003; Katamba and Stonham 2006; Booij 2007, and O’Grady et al. 2011). In English, for instance, the vast majority of compounds are often interpreted in such a way that the right-hand constituent of a compound is normally the syntactic head, while the left constituent modifies the head. The semantic relation between compound members is often interpreted in terms of the meaning of the compound constituents. For example, the compound *bedroom* denotes a kind of *room*, not a particular kind of *bed*. Therefore a compound may inherit its semantic as well as syntactic information from its head (Plag 2003, and Booij 2007).

Based on the fact that morphological processes in English are typically right-headed, Williams (1981) proposes the Right-hand Head Rule (RHR), which assumes that the head of a word is always the right most constituent of that word. However, looking at the structure of compounds head in Romance languages, which typically have their head to the left and Germanic languages, that consistently have their heads to the right, Clements (1992), proposes a Left-hand Head Rule (LHR) and RHR for left- and right-headed compounds respectively. In their recent formulation of the structure of compound heads, Scalise and Fabrégas (2010), suggest that the headedness for compounds can be determined by a parameter that has to be fixed based on language-

specific rules. Therefore, the RHR and LHR rules are found to be applicable to compounding in certain languages such as Italian as in (1) Booij (2007) and Catalan Padrosa-Trias (2010) as given in (2):

Italian

- (1) a. capo-stazione (master station) ‘station master’ (left-headed)
b. gentil-uomo (kind man) ‘gentleman’ (right-headed)
(Booij 2007:78)

Catalan

- (2) a. cama-trencar (leg break) ‘to break the leg’ (right-headed)
b. camio-cisterna (lorry tank) ‘tanker lorry’ (left-headed)
(Padrosa-Trias 2010:85)

Following the above exposition, this section discusses the structure of compounds in C’lela: headedness in compounds, endocentric and exocentric compounds and compound types. Compounding in C’lela involves certain phonological processes. These processes will be discussed in subsection 3 of this chapter.

5.1.2 Headedness of Compounds

In a number of works, for example Bauer 2008, 2009; Scalise and Fábregas 2010; Ralli and Marrios 2011, and Rallis, 2013, it has been shown that the head of a compound can be identified as that compound unit which normally transfers its categories and other formal and semantic properties to the compound as whole. C’lela has both right-headed and left-headed compounds.

5.1.2.1 Right-headed Compounds

The right-headed compound is a compound word in which the head element occurs on the right. For instance, in example (3a), in the compound **kándìm cètò** ‘uncle’, the right-hand compound element **cètò** ‘father’ is the head as it represents the core meaning of the resultant noun-noun compound. The left-hand compound member **kándìmà** ‘junior’, on the other hand, modifies the head. The tone of each component is the same on the derived nominal compounds. The right-headed compounds, most of which are noun-noun compounds appear to be less common and less productive in C’lela. The following examples show the right-headed compounds in the language:

Right-headed Compounds in C’lela

Stems		Compound
(3) a. kándìmà + cètò	→	kándìm cètò
(junior + father)		‘uncle’
b. hànù + ìnù	→	hànù ìnù
(sibling + mother)		‘aunt’
c. k’cé + àvà	→	cèk àvà
(tree + crab)		‘male crab’
d. gàbà + k’lèvé	→	gàb k’lèvé
(follow + path)		‘foot path’

5.1.2.2 Left-headed Compounds

Left-headed compound refers to a compound whose lexical head is located on the left-hand side of a given compound word. For instance, the compound word **gòng gùlè** ‘male lizard’ in (4a), is a left-headed compound since the left-hand compound member

gòngò ‘lizard’ is the head as it encodes the ‘meaning’ and the ‘category’ of the derived compound, while the second compound member **gùlè** (lit. yellow-headed), ‘male’ denotes ‘kind of’ lizard we refer to. The process creates nominal compounds. The tone pattern of the derived nominal compound is the same as that of the source stems.

Examples of left-headed compounds are presented below:

Stems	Compound
(4) a. gòngò + gùlè (lizard + yellow head)	→ gòngò gùlè ‘male lizard’
b. kùntòmò + gyòzó (bat + red)	→ kùntòm gyòzó ‘red/brown bat’
c. nāmá + kyóòmò (meat + sheep)	→ nām kyóòmò ‘mutton’
d. v’níná + kàsí (tooth + nice)	→ nínav kàsí ‘nice tooth’
e. k’kùrú + s’tò (room + soup)	→ kùrk s’tò ‘kitchen’
f. d’bà + hwàalà (place + trade)	→ bàd hwàalà ‘market place’

It is to be noted that left-headed compounds are more common than the right-headed compounds in C’lela; however, their distributions are unpredictable. Both types of compounds can be inflected for number. The plural suffix **-na** may attach to the end of both types of compounds so that the plural effect will be on the entire compound word.

Consider the following plural form of right-headed-compounds as in (5), and that of the right-headed compounds in (6) below:

Number Marking in Right-headed compounds

	Singular		Plural		Gloss
(5) a.	kándìm cètò	‘uncle’	kándìm cètònò		‘uncles’
b.	cèk àvà	‘male crab	cèk àvnà		‘male crabs’

Number Marking Left-headed compounds

	Singular		Plural		Gloss
(6) a.	gòngò d’òrgó	‘anthil lizard’	gòngò d’òrgnò		‘anthil lizards’
b.	kúntòm gyòzó	‘red bat’	kúntòm gyòzónò		‘red bats’

5.1.3 Endocentric and Exocentric Compounds

Endocentric and exocentric are cover terms used to describe headed and non-headed compounds in languages. In compounding, the existence or absence of a compound lexical head classifies compounds into endocentric and exocentric (Bauer 2010; Ralli and Marrios 2011, and Ralli, 2013). Endocentric compounds refers to compounds whose semantic head is inside the compound words, that is, in endocentric compounds one element functions as the head; while the other complements the head. Examples of endocentric compounds include: *book cover*, *dark-room*, *football*, *black board*, *oil-well* etc. For instance, the noun-noun compound ***book cover*** denotes a kind of ***cover*** and the ***book*** is the modifier element that has the function of attributing a property to the head.

In contrast, an exocentric compound traditionally refers to the type of compound which lacks a head. Examples of exocentric compounds comprise: *red neck*, *lazy-bones*, *greenhouse*, *cut-throat*, *blue-nose* etc. For instance, the compound *red neck* does not denote a kind of neck but *a kind of person*; therefore, neither the first element ‘*red*’ nor the second ‘*neck*’ can be called the head of this compound structure and the resulting compound unit is not identical to that of its components (Spencer 1991; Plag 2003; Katamba and Stonham 2006, and Booij 2007). C’lela has endocentric and exocentric compounds, the majority of which could be described as endocentric. Find below some examples of endocentric and exocentric compounds in C’lela:

5.1.3.1 Endocentric Compounds

Endocentric compounds are those types of compounds “which are hyponyms of their head elements” (Bauer 2010:167). Scalise and Fábregas (2010:114) note that “the head of a compound imposes three types of information on the whole compound: its grammatical category, its semantics and its morphological properties (such as gender...). An endocentric compound therefore is that compound that has a head which normally transmits its grammatical category on the compound and expresses the core meaning of that compound (Aronoff and Fudeman 2011, and Ralli 2013).

The following C’lela compounds may be described as endocentric. This is because the meaning of each compound in (5) follows from the meaning of the two joined components with one element carrying the core meaning of the whole compound word. For example, in (7a), in the compound word **céd d’bí** ‘threshing stick’ deriving from the stems **céd** ‘stick’ and **d’bí** ‘threshing’; the stem **céd** ‘stick’ is the noun that functions as the ‘semantic head’ of the derived nominal compound, while the second

element **d'bí** 'threshing' describe the sort of stick referred to. The compounds derived by this process are nominal compounds. These derived nominals retain the tone patterns of the two combined constituents. Consider the following examples:

Stems	Compound
(7) a. d'cé + d'bí (stick + threshing)	→ cé d'bí 'threshing stick'
b. gyòbó + tàtì (beetle + dung)	→ gyòbó tàtì 'dung beetle'
c. jánká + d'kàdè (donkey + bush)	→ jánkáv d'kàdè 'zebra (lit. bush donkey)'
d. dámrá + swàuné (big + person)	→ dámrá swàuné 'honorable (person)'
e. d'gyàn + pùsú (egg + white)	→ gyànd pùsú 'white egg'
f. kwèsmé kácì (male friend + chicken)	→ kwèsem kácì 'cock'

5.1.3.2 Exocentric Compounds

An exocentric compound is a type of compound unit whose meaning does not follow from the meaning of the two joined components. Therefore, an exocentric compound which often referred to by a Sanskrit name '*bahuvrihi*', is that headless compound in which neither of the two combined components that make up a compound undertakes the role of the head (Katamba and Stonham 2006, Bauer 2010, and Ralli 2013).

C'lela has examples of exocentric compounds in which the meaning of the elements that make up the compounds lies outside the meaning of the derived compounds. For instance, in (8a) the combination of the noun-noun **d'bàsà** 'news' and **kwèrmà** 'kind of mouse', produces the compound word **bàsád kwèrmà**. This compound word neither refers to 'news' nor to 'a kind of rat' but to 'promise breaker', that is, a person who often does not keep promises. The meaning of each derived compound word in these examples in (8) therefore is not directly designated by the meaning of the compound units. This process often yields nominal compounds. In most cases the tone of the derived nominal compounds remains the same as the base stems. The following constitutes exocentric compounds in C'lela:

Stems	Compound
(8) a. d'bàsà + kwèrmà (news + kind of mouse)	→ bəsád kwèrmà 'promise breaker'
b. d'isá + ù'ná (eye + leg)	→ isád nùná 'ankle'
c. u'sìpù + d'hí (hold + head)	→ sìpùn d'hí 'decency'
d. ù'còpó + gyòzó (earth + red)	→ còpó gyòzó 'hell'
e. ù'còpó + pùsú (earth white)	→ còpú pùsú 'eternal life'
f. cèetá + d'hàngù (pepper + pleasant smell)	→ cèetád hàngù 'ginger'

5.2 Compound Types in C'lela

In C'lela, three types of compounds can be identified: Noun-Noun (NN), Noun-Adjective (NA), and Verb-Noun (VN) compounds. First, we take noun-noun examples:

5.2.1 Noun-Noun (N-N) Compounds

The N-N compounds in the language are the common and most productive types of compounds in C'lela. The resultant words from this compounding are nominals. The noun-noun compounds are mostly left-headed, and the few right-headed ones are less productive. The majority of the N-N compounds are endocentric. The endocentricity emanates from the fact that the left-hand compound member functions as the semantic head, and the other member on the right modifies the head. For instance, in (9a) the word **tòhò** 'leaves' combines with the word **m'hò** 'water' to form **tòhámhò** 'spinach', a plant with edible leaves. The first compound member functions as the head, while second element describes the head. The tone pattern of the input stems and that of the derived nominal compounds is the same, except for (9a, b) which encounter vowel lowering. Consider the following examples:

[N-N] _N	
Stems	Compound
(9) a. tòhò + m'hò (leaves + water)	→ tòhámhò 'spinach'
b. k'tèlè + òimá (bone + back)	→ tèlkándimá 'spine'
c. d'káká + c'sèn (pancake + bee)	→ kákád c'sèn 'beehive'

- d. kúntòmò +kwèngó → kúntòm-kwèngó
 (bat + kind of bat) 'vampire bat'
- e. hùrù + d'gàagò → hùrùn d'gàagò
 (the shrub + bitterness) 'bitter leaf'

These nominal compounds are parallel to the nominal compounds in Hausa (Abubakar 2001) and Lɛtɛ (Larteh) (Ansah 2012). But while it is the case in noun-noun compounds in C'lela and Hausa, that the first compound member signifies the meaning of a compound, in Lɛtɛ it is the second stem of the noun-noun compounds that determines encoding of nominal compounds in most cases. Compare the C'lela noun-noun compounds above, with the Hausa examples in (10), and Lɛtɛ in (11) below:

Hausa

- | | Stem | Gloss | Stem | Gloss | Compound | Gloss |
|---------|----------|--------|----------|-----------|-------------------|-----------------|
| (10) a. | daaki | 'room' | karaatuu | 'reading' | → daakin-karaatuu | 'reading room' |
| b. | 'duutse' | 'stone | 'nikaa' | 'grinding | → duutsen nikaa | 'grinding stone |
- (Abubakar 2001:79)

Lɛtɛ

- | | Stem | Gloss | Stem | Gloss | Compound | Gloss |
|---------|--------|------------|-------|------------|------------|-------------------|
| (11) a. | sùkúú | 'school' | Ø-tsá | 'SG-house' | → sùkúútsá | 'school building' |
| b. | ó-wúrè | 'SG-chief' | əwú | 'home' | → ówúréwù | 'palace' |
- (Ansah 2012:118)

5.2.2 Noun-Adjective (N-A) Compounds

The N-Adj compounds are all endocentric and left-headed, a sharp contrast to the English Right-hand Head Rule, in which most endocentric compounds are right-headed. Observe in the compound **dàptà rímú** 'black monkey' in (12a), that the left-

hand element **dàptà** serves as the semantic head of the compound as it represents the core meaning of the compound unit, while the second element **rímú** ‘black’ occurs to modify it. All other examples in this group exhibit the same endocentricity and left-headedness. This is indicative of the presence of more left-headed compounds in C’lela. The N-Adj compounds yield nominal compounds. C’lela is an SVO language. These compounds therefore obey the N-Adj ordering in attributive use; hence conform to the word order of the language. The tone of the resultant compound and that of the input stem are the same. Examples are shown in (12) below:

[N-Adj]_N

Stems	Compound
(12) a. dàptà + rímú (monkey + black)	→ dàpt-rímú ‘chimpanzee’
b. dàptà + gyòzò (monkey + red)	→ dàpt-gyòzò ‘red monkey’
c. kàarò + bámbá (tortoise + different)	→ kàar-bámbá ‘turtle’
d. u’lòbò + pùsú (clay + white)	→ lòbú pùsú ‘white paint’
e. zòorè + gyòzò (antelope + red)	→ zòor gyòzò ‘red-tinted antelope’
f. làgù + pùsú (rat + white)	→ làg pùsú ‘white (kind of) rat’

Akan (Marfo 2010) and Lete (Ansah 2012), like C’lela, have similar technique for creating nominal compounds from a combination of nouns and adjectives. Observe that

in noun-adjective compound formation in Akan in (11), and Lete in (12), as is found in C’lela in (10) above, an adjective always follows the head noun and it modifies such a noun. Compare the Noun-Adjective compounds in C’lela in (10) above, and those in Akan in (13), and Lete in (14) below:

Akan

Stems		Compound	Gloss
(13) a. ká!sá + téntén	‘language, tall’	kàsàténtén	‘long talk’
b. ñsá + fúfúó	‘wine, white’	ñsàfúfúó	‘palm-wine’
c. sîká + kòkò	‘money, red’	sîká kòkò	‘gold’

(Marfo 2010:145)

Lete

Stems		Compound	Gloss
(14) a. òkyí + ònúmú	‘female, elderly’	òkyínúm	‘elderly woman’
b. ònyíné + ònúmú	‘male, elderly’	ònyínénúm	‘elderly man’
c. óbí + ònyínè	‘child, male’	óbinyínè	‘son’

(Ansah 2012:121)

5.2.3 Verb-Noun (V-N) Compounds

The majority of Verb-Noun compounds appear to be exocentric in C’lela, Most of these compounds behave like the English compounds *pickpocket*, *turncoat* of which neither element is being regarded as the semantic head that dominates the entire compound (Katamba and Stonham 2006, and Aronoff and Fudeman 2011). For example, in (15a), **betk d’herge** “dig up, village” does not refer to the particular village, but an ant that turns over earth around villages. The V-N compounds produce nominal compounds as in (15) as well as verbal compounds as in (17) below. These compounds occur in the

order: = v + object to conform to the SVO order in the language. The tone patterns on the verb-noun stems are the same on the resulting compounds. These are examples:

[V-N]_N

Stems	Compound
(15) a. b̀̀tké + d'̀̀hérgè (dig up + village)	→ b̀̀tk-d'̀̀hérgè 'ant'
b. g̀̀bà + z̀̀t̀̀t̀̀ (follow + branch)	→ g̀̀b-z̀̀t̀̀t̀̀ 'bee'
c. s̀̀òò + c̀̀èetá (drink + pepper)	→ s̀̀òò c̀̀èetá 'pepper eater'
d. u'̀̀sìpù + d'̀̀hí (hold + head)	→ s̀̀ìpùn d'̀̀hí 'decency'
e. s̀̀òò + c'̀̀sèn (drink + honey)	→ s̀̀òò c'̀̀sèn 'sugar ant'
f. ẁ̀àlká + d'̀̀hwén (look up + sun)	→ ẁ̀àlkád hwén 'smallest kind of scorpion'
g. k̀̀è + d'̀̀gwé (cut + grass)	→ k̀̀è d'̀̀gwé 'grass-cutter/rat'

As noted earlier in 5.2.3 above, the combination of verb-noun may also produce verbal compounds. For instance, in (16a) the verb stem **gàná** 'listen' which precedes the noun stem **u'cón** 'ear' come together to make a verbal compound, that is, **gànú'cón** 'pay attention'. So also in example (16b), combining the verb-noun **gaga** + **dèbè** 'appeal + liver' produces the verbal compound **gag dèbè** 'to make request'. Consider the following examples:

Stems	Compound
(16) a. gáná + u'cón (to listen + ear)	→ gánú'cón 'to pay attention'
b. gágá + d'dèbè (to appeal + liver)	→ gág dèbè 'to make request'
c. gècà + c'kóló (displace + falsehood)	→ gècàm- c'kóló 'to tell a lie'
d. gwà + d'nwá (catch + mouth)	→ gwà d'nwá 'to understand'
e. gèlké +kwèèyè (to run + speed)	→ gèlkán kwèèyè 'run off'

C'lela behaves similar to Yoruba in this type compounding. Like C'lela, the combination of verbs and nouns in Yoruba result in the formation of verbal compound, the meaning of which does not always represent the sum total of the compound constituents. Consider the following examples as in (17) below:

(17) a. gbé + ẹṣẹ (lift + leg)	→ 'gbésè 'die'
b. gbo + adùn (hear + sweetness)	→ 'gbadun' 'enjoy'
c. kó + ẹran (collect + meat)	→ 'keran' 'be in trouble'
d. jẹ + ayé (eat + world)	→ jayé 'enjoy'

(Akinlabi and Oyebade (1987:34)

5.3 Phonological Processes of Compounding in C'lela

Phonological processes are linguistic mechanisms that reflect the distributional patterns of sounds in a particular language and the phonological activities that take place as a result of sound combinations (Katamba 1993). Compounding processes in C'lela undergo certain phonological processes. These phonological processes are set off when a morphological condition is met. By this, it simply means that these processes are morphophonologically motivated. Some of the phonological processes that occur on compounds in C'lela include: metathesis, deletion and affixation.

5.3.1 Metathesis in Compounding

Two types of metathesis occur in compounding in C'lela: adjacent metathesis and non-adjacent metathesis. We take each in turn.

5.3.2 Adjacent Metathesis

Adjacent metathesis caused by compounding in C'lela is attested in a linear reordering of stem-final CV to VC. It is notable from example (17a) that in the nominal compound **aram gyozo** 'brave man' the final vowel /**a**/ in the left-hand compound element metathesizes with the sonorant /**m**/ that precedes it in the course of the compounding; making the second syllable a closed syllable instead of open syllable. The rule for this metathesis is that it occurs when the first compound element begins with the (C)VC syllable and ends in a sonorant consonant/vowel sequence. The tone pattern of the input stem is not affected by compounding and metathesis. Examples:

Stems	Compound
(18) a. àrmá + gyòzó (man + red)	→ àram gyòzó 'brave man'
b. òblá + péé (snake + lying flat)	→ òbál péé 'python'
c. gècmà + c'kóló (displace + lie)	→ gècàm c'kóló 'tell a lie'
d. kwèsmé kácì (male friend + chicken)	→ kwèsem- kácì 'cock'

This following represents the metathesis from example (18a):

(19)	# arma # # noun # INPUT
	# arma + gyòzó # compounding
	# aram gyòzó # metathesis
	# a r m a # structural description
	1 2 3 4 → 1 2 4 3 OUTPUT

A similar case of adjacent metathesis is attested in the Austronesian language, Leti. To account for phrase-medial metathesis in Leti, Hume (1997) employs constraint LINEARITY of Correspondence Theory. As could be observed in (19), when the first morpheme of a complex word ends in a sonorant consonant/vowel sequence before a following consonant cluster or consonant/glide sequence, as a result, metathesis occurs. This type of metathesis displays from Leti, according to Hume (1997), is motivated by, phrasal requirements, phonological conditions as well as syllable well-formedness conditions. The case of metathesis in Leti and the motivation for it are similar to the

situation in C'lela, in that, in both languages the metathesis results to satisfy phonological conditions within complex word. Compare the C'lela examples in (17) and those of Leti in (19):

(20) Phrase-medial Metathesis from Leti

- a. /ukra + ppalu/ ukar ppalu 'finger + bachelor (index finger)'
 b. /ukra + mwani/ ukar muani 'finger + man (middle finger)'
 c. /urnu + mOa/ urun mOa 'breadfruit + Moanese'

(Hume 1997:3)

5.3.3 Non-adjacent Metathesis

In C'lela, when the first element in a compound occurs with a prefix, the prefix always transposes to the final position of such stem. In all cases (21a-d) we observe that the nominal prefixes [**d**'-, **u**'-, and **c**'-] in the left hand of the compound shifts to the final position of their respective noun stems as a result of compounding. The first compound element in this process is monosyllabic; therefore it does not involve final vowel deletion. These derived compounds are either locative or object nominals. The tones of the input stems are the same in the compounds. Examples:

Stems	Compound
(21) a. d 'bà + c'hwàalà (place + trade)	→ bà d c'hwàalà 'market'
b. k 'rì + d'hí (thing + head)	→ rì k d'hí 'fontanelle'
c. d 'bè + àrmá (granary + man)	→ bè d àrmá 'outdoor-granary'

- d. **u'**bù + kòràndómó → **bùu** kòràndómó
 (house + snail) 'snail shell'
- e. **c'**lòn + rémé → **lònc** rémé
 (yam sweet) 'sweet yam'
- f. **d'**bà + kàrgà → **bàd** gàrkà
 (place + gathering) 'assembly hall'

The following structure expresses the metathesis from example (21a):

- (22) # d'ba # # noun # INPUT
 # **d'**ba + c'hwaala # compounding
 # **bad** c'whaala # metathesis
 # d' b a # structural description
 1 2 3 → 2 3 1 OUTPUT

A parallel process of non-adjacent metathesis is observable in Spanish. The following example in (23) shows the Spanish liquid metathesis. The differing pronunciations, according to Penny (2002) are probably influenced by the frequent occurrences of [r-l] consonants in the lexicon. However, the motivation for the non-adjacent metathesis phenomenon evident in Spanish is not the same as C'lela, except that the metathesis occurrence from both languages expresses long-distance effect. Compare as follows:

- | Latin | | Spanish |
|------------------|---|-------------------|
| (23) a. parabola | → | palabra 'word' |
| b. mi:ra:kulum | → | milagro 'miracle' |
| c. peri:kulum | → | peligro 'danger' |
- (Penny 2002:36)

5.3.4 Metathesis and the Final Vowel Deletion

In addition to metathesis, compounding in C'lela also triggers deletion of the final vowel of the first disyllabic compound member. That is, the occurrence of the stem-final, sonorant-vowel sequence in the second syllable of the first compound element often invokes the final vowel deletion in the resulting compound. For example, in (24a) the final vowel /-u/ deletion in **kùr-k s'tò** 'kitchen' may be perceived as the consequence of the occurrence of the stem-final liquid-vowel sequence in a compound construction. The tone of the input stems and that of the corresponding derived compounds are the same. Examples:

Stems	Compound
(24) a. k'kùrú + s'tò (room + soup)	→ kùr- k s'tò 'kitchen'
b. a'kómá + s'tò (hand + soup)	→ kóm- á s'tò 'right hand'
c. k'dómó + à'rímka (beak + black)	→ dóm- k à'rímka 'black-mouth (lit. ugly)'
d. i'kòmò + s'nà (piece of iron + leg)	→ kòm- í s'nà 'anklet'
e. k'kòmò + gyòzó (metal rod + red)	→ kòm- k gyòzó 'copper/bronze'

It is worth emphasizing that the above final vowel deletion in (24) occurs in order to conform to the 'sonority sequencing principle' used in "defining the well-formed sequences of phonological segments" (Kenstowicz 1994:260). Sonority simply "refers

to the amount of sound let out as the segment is pronounced” (Roca 1994:152). It also follows from this principle that, where sequences of sonorant sounds occur in a process, the most sonorous sound normally deletes. This phenomenon is attested in such English words as *castle* pronounced as [káss’l], *little* as [lít’t’l], *button* as [bútt’n], and *cotton* as [kótt’n] and also in Alesa where in the nasal-vowel sequences the vowel /-u/ deletes thus; **tumus** ‘to close’ becomes **tum-s-a** ‘door’ due to /-a/ suffixation (Buckley 2007:22).

5.3.5 Final-vowel Deletion in Compounding

Compounding in C’lela may also trigger final vowel deletion after metathesis. In (25a) for instance, the compound **bèl-ún yálà** is formed from a combination of two nouns, i.e., **ù’bèlà** + **yálà** ‘farm, bean’. The formation of this compound suggests deletion of the final vowel [-a] of the second syllable of the first compound element before the genitive affix [an] or [n] is added to it. The final vowel deletion is observably motivated by the liquid/nasal-vowel sequencing in compounds in C’lela. Notice that, when the shifting prefix is a vowel (25a, b), it replaces the [-a] of [-an]. The tone of the second syllable of the first compound constituent in the output is always high. Consider the following examples:

Stems	Compound
(25) a. ù’bèlà + yálà (farm + beans)	→ bèl-ún yálà ‘beans farm’
b. à’kómá + kántà (hand + left)	→ kóm-án kántà ‘left hand’
c. d’hìnà + wá	→ hin-d-án wá

(drum + die)	‘death drum’
d. k’ <u>tèlè</u> + ènà	→ <u>tèl</u> -k- <u>án</u> ènà
(bone + shin)	‘shinbone’

However, where the first compound elements are monosyllabic and their final consonant is non-sonorant, the final vowel deletion does not occur in that environment.

Compare the examples in (25) above and the ones in (26) below:

Stems	Compound
(26) a. d’bà + cèpkò (place + prayer)	→ bàd- <u>án</u> cèpkò ‘mosque/church’
b. d’hí + gèn (head + river)	→ híd- <u>àn</u> gèn ‘river source’
c. v’cé + sòmà (stick + gift)	→ cév- <u>án</u> sòmà ‘traditional staff (of office)’
d. m’hò + hwèlá (water + fire)	→ hò m - <u>án</u> hwèlá ‘hot water/alcoholic drink’

This genitive marker [-n] or [-án], added to the N-N compounds in (25) and (26) above, resembles what Newman (2000:109) identifies in connection to Hausa as relation marker [-n] (for masculine) or [-r] (for feminine) which attaches to the head noun of N-N compounds, in such words as; **gida-n-sauro** [house-Rel.M-mosquito] ‘mosquito net’. Newman (2000) regards this construction as a compound because it is inseparable even with the occurrence of the relational marker [-n].

As indicated in subsection 5.1, one of the defining properties of a compound word is that it consists of two or more base words, as in ‘apple juice’, ‘songbird’, ‘manuscript’.

In addition to this, however, many English compounds may come with a more complex structure, including those that use hyphenated base words as modifiers: ‘anti-speed table’, ‘red-headed bird’, ‘long-tailed brush lizard’. Sometimes compounds may contain prefixes or affixes, for instance, ‘morning prayers’, ‘headache pills’, and ‘red-tailed hawk’ (Ebbers 2008 and Padrosa-Trias 2010). This makes some of these compounds look like phrases.

In the literature, several attempts (Bates et. al. 1993; Haspelmath 2002; Plag 2003; Boij 2007, and Meibauer 2007) have been made to draw a distinction between a compound and a phrase. Payne (1997), Aikhenvald (2007), Lieber and Štekauer (2009) note that the phonological; morphological; morphosyntactic; and semantic criteria are the types of devices used to distinguish compounds from phrases; however, they observe further that none of these criteria are universal and definite. Haspelmath (2002) also indicates that, where the typical semantic properties are not sufficient to identify compounds, the phonological, morphological or syntactic criteria may be used to distinguish between a compound and a phrase, especially when the compound and phrase patterns are otherwise formally similar.

A compound stress is a widely-known phonological feature of compounds which distinguishes between a compound and a phrase in English. That is to say, in English, compounds are characterized by the placement of the main stress on the first element of the compound. For instance, the expressions in (27a) are considered as compounds because of the presence of the main stress on their first constituent; whereas those in (27b) that carry the main stress on their right constituent are taken to be phrases.

Consider the following examples as accounted for in Haspelmath (2002:157), and O’Grady (2011:129):

(27) a. 'Whíte House	(a resident)
'bláck board	(a chalk board)
'wét suit	(a diver’s costume)
b. white 'hóuse	(a house painted white)
black 'bóard	(a board that is black)
wet 'súit	(a suit that is wet)

C’lela, unlike English, does not use stress in distinguishing a compound from a phrase; however, Ango (2001) proposes that one way to distinguish compounds from phrases in C’lela is by writing words in a phrase with blank spaces. He held that pronunciation of such separated compound constituents with a pause can make the word function in other contexts. Thus, the examples in (28) are compounds, while those in (29) represent phrases:

(28) a. k’ri + d’sooco → rikadsooco	(29) a. k’ri + d’sooco → rik d’sooco
(thing + sit) ‘chair’	(thing + sit) ‘thing of sitting’
b. v’tele + toro → telvantoro	b. v’tele + toro → telvan toro
(bone + neck) ‘neck bone’	bone + neck ‘bone of neck’

(Ango 2001:12)

Notwithstanding, there are compound words that take the genitive linker [-v] or [-v̩n] in C’lela. The examples of the compound construction given in (30) below are recognized as possessive compounds analogous to the Hausa possessive compounds that occur with the genitive linker [-n] as in **sarki-n Kano** ‘emir of Kano’ (Skinner 2009:74), or **gida-n Musa** ‘Musa’s house’ (Newman 2000:109), or **Ilmi-n manya** ‘adult education’ (Fagge, 2004:31).

5.3.6 Vowel lowering and /-v/ Suffixation

In C'lela, sometimes when noun-noun stems combine to form compounds; the process sometimes triggers a lowering of the vowel /-e/ or /-o/ to /-a/ and subsequent suffixation of the possessive linker /-v/ to the first element in the compound. That the addition of the possessive morpheme /-v/ modifies the compound to possessive. We observe that the vowel lowering and /-v/ morpheme suffixation take place especially when the first compound member is disyllabic and also when the second element begins with the nominal prefix. For instance, in (29a), in the formation of **gwèlǎ-v c'gòmò** 'chief's goat' from **gwèlè** + **c'gòmò** 'goat + chief', the final vowel of the first compound element /-e/ is modified to vowel /-a/ before the possessive morpheme /-v/. The /-a/ segment sometimes inherits the tone of the lowered mid vowels. This is illustrated in (30) below:

Stems	Compound
(30) a. gwèlè + gòmò (goat + chief)	→ gwèlǎ-v c'gòmò 'chief's goat'
b. gwèlè + c'méné (goat + in-laws)	→ gwèlǎ-v c'méné 'in-laws' goat'
c. kǎci + c'gài (hen + marriage)	→ kǎcǎ-v c'gài 'bride's hen'
d. kǎci + s'bàncò (chicken + medicine)	→ kǎcǎ-v s'bàncò 'nursing mother's stewed-chicken'
e. còkó + à'yòmòkò (slave + work)	→ còkǎ-v nà'yòmòkò 'a hard-working slave'

The vowel modification rule from C'lela in (30) above may also depict 'imbrication'. The process of imbrication describes vowel lengthening, vowel loss, vowel fusion or vowel change, resulting from morphological operations (Kula 2002a). This type of process is found in Northern Sotho, a Bantu language where in the process of affixation of past tense morpheme, the verb stems with stem final [l, r, m or n] undergo imbrication (Kotzé 2008). The following data in Northern Sotho concerning stems with the stem-final VC sequence [am] suggests that, when [-ilê] is affixed to stems extended by the positional [-am-], imbrication is invoked. Compare the C'lela examples in (30) above and the following data from Northern Sotho in (31):

Northern Sotho

	Stem	imbrication	Gloss
(31)	a. mama	mam-ilê	'suckled'
	b. nama	nam-ilê	'stretched out legs'
	c. nyama	nyam-ilê	'was/were sad'
	d. phama	pham-ilê	'dished out'

(Kotzé 2008:226)

Other languages that share the same imbrication properties as Northern Sotho are Bemba and Ndebele, a Southern Bantu language of Nguni group. In these Bantu languages, when the perfective suffix **-ele** or **-ile** is added to the verb stem, the final vowel of the verb root undergoes imbrication, as in the following examples in Bemba in (33) and Ndebele (34):

Bemba

- (33) a. byool-a ‘belch’ byool -ele ‘has belched’
 b. fyeen-a ‘scratch’ fyeen- ene ‘has scratched’

(Hyman 1998:14-16)

Ndebele

- (34) a. lim-a ‘cultivate’ ba-lim-ile ‘they cultivated’
 b. thum-a ‘send’ ba-thum-ile ‘they sent’
 c. dabul-e ‘tear’ a-dabul-ile ‘he tore’

(Kula: 2002a:165)

5.3.7 Final-Vowel Deletion and /-van/ Suffixation

In C’lela, when the liquid/nasal-vowel sequence occurs in compound construction, the process results in the deletion of the final-vowel of the left-hand phrase element. In addition to this, the process also allows suffixation of the /-**van**/ morpheme to the left-hand component of the compound element. Moreover, the deletion and suffixation processes lead to the syllabification of the first constituent from the light syllables CV CV to the heavy syllables CVC CVC. The vowel /a/ of the suffix morpheme sometimes takes on the tone of the deleted vowels in the derived forms. Consider the following examples:

Stems	Compound
(32) a. gòmò + gòlmó (leader + organization)	→ gòm- ván gòlmó ¹ ‘golmo leader’
b. gòmò + táagè (leader + hunters)	→ gòm- ván táagè ‘chief hunter’
c. gwèlè + dùngú	→ gwèl- vàn dùngú

(goat + back yard)	‘sacrificial goat’
d. kácì + cèpkò	→ kác- và n cepko
(chicken + prayer)	‘sacrificial chicken’
e. zómò + vùkù	→ zóm- và n vùkù
(worm + vuku tree)	‘silkworm (of the vuku tree)’

5.3.8 Insertion of the Linking Element /n-/ within Compounds

In C’lela, a compound in which the second part begins with a vowel, the /n-/ element often attaches to that particular vowel. A possible explanation for this process could come from the general assumption that in syllabification, onsets are preferred over codas in the compound medial position in C’lela, a reason which conformably attracts nasal consonant insertion to help change syllabification in that environment so as to ease pronunciation. We can also argue that the motivation for this process comes from the striking sonority relations between the nasal sound [n] and vowels. Therefore, this [n-] which is affixed to all the initial vowels of the second compound member in example (33a-h) may be analysable as a meaningless linking element whose occurrence is motivated by the phonotactic rules of the language. Examples:

Stems	Compound
(33) a. k’rí + à’yòmkò (thing + work)	→ rík nà ’yòmkò ‘tool’
b. ù’còpó + à’isá (earth + outside)	→ còpú nà ’isá ‘abroad’
c. k’dòmó + a’cònà (lip + up)	→ dómk nà ’cònà ‘upper lip’
d. d’isá + ù’ná (eye + leg)	→ isád nù ’ná ‘ankle’

e. làgù + ù'bù (rat + house)	→ làgàv nù'bù 'house rat'
f. ká + ù'bù (someone + house)	→ ká nù'bù 'landlord'
g. ká + ù'gòcò (someone + soothsaying)	→ ká nù'gòcò 'soothsayer'
h. m'hò + u'sòu (water + drinking)	→ hò m nù'sòu 'drinking water'

The presence of [n-] in C'lela compounding is parallel to the stem extender or a linking element added to compound in languages. A stem extender is a word-building element that is devoid of content, interposed between the roots or stems as the English consonant -r- found in words like; *child-r-en* and *breth-r-en* (Katamba and Stonham (2006:47), or the vowel -o- in *immun-o-logy*, *phon-o-logy* (Harley 2006:94). Sloat and Tylor (2011), explain that a stem extender is a meaningless suffix that usually attaches directly to a stem when such a stem cannot take a regular suffix without it. Examples of the English stem extenders include the consonants *t*, *s*, *r*, *n*, *m*, and the vowels *o*, *i*, and *u* which may occur in compound construction such as; *reten-t-ion*, *explo-s-ion*, *bi-n-ary*, *resident-i-al*, *punct-u-ate* (Sloat and Tylor (2011:12).

Other instances in the literature where compounding attracts a linking element/stem extender analogous to C'lela include the German -s- in **Bildung-s-roman** (Escribano 2004), the Ilocano -n- in **bato-n-lagip** (*stone memory*) 'monument', the Slovak -o- as in **vzduch-o-lod'** (*air ship*) 'airship' (Štekauer et.al 2012:74-75). Also in explaining the Greek compound-internal vowel -o- found in words such as, **ayri-o yuruno** 'wild boar' derived from the stems **ayri(o)** 'wild' and **yuruni** 'pig', Ralli and Marrios (2011:2)

suggest that the existence of this linking vowel **-o-** between the Greek compound constituents is both phonologically and morphologically conditioned, since it is always absent when the second compound member begins with a vowel higher on the sonority hierarchy.

5.3.9 Other cases of Final-vowel Deletion

Vowel deletion, as stated earlier, is one of the phonological processes that frequently occur in C'lela compounding. In this group of compounds, the final vowel of the first compound element simply deletes without metathesis and the usual sonorant-vowel trigger. This type of process normally occurs on Noun-Noun and Noun-Adjective compounds. Examples are shown below:

Stems	Compound
(34) a. àvà + dwìrì (crab + hyena)	→ àv-dwìrì 'giant crab'
b. nòcò + k'dámrá (person + big one)	→ nòc-k'dámrá 'big man'
c. dàptà + bìkà (monkey + wild animal)	→ dàpt-bìkà 'red monkey'
d. gòngò + gìcè (lizard + male)	→ gòng-gìcè 'male lizard'
e. gòngò + d'òrgó (lizard + anthill)	→ gòng-d'òrgó 'anthil lizard'

The above vowel deletion process is somewhat analogous to the vowel deletion in compounding in Yoruba and Igala. It can be observed in the compound words from both languages, that the second vowel of the first morpheme undergoes deletion in all

cases. Compare the C'lela examples in (34) above, Yoruba in (35) (Akinlabi and Oyebade 1987), and Igala in (36) (Omochonu and Abraham 2012):

Yoruba

Stem	Compound
(35) a. ojú + oorun (eye + sleep)	→ ojórun 'slumber'
b. orí + omi (head + water)	→ orómi 'water surface'
c. ọmọ + iye (child + mother)	→ omiye 'siblings'

(Akinlabi and Oyebade 1987:34)

Igala

Stem	Compound
(36) a. ọma + ere (child + leg)	'omere → 'toe'
b. ura + edo (enjoyment + heart)	uredo → 'peace'
c. ilo + gba (hair + chin (Omochonu and Abraham 2012:187)	'ilagba' → 'beard'

5.4 Conclusion

This chapter dealt with compounding in C'lela. It surveys the structure and types of compounds, as well as the phonological processes that occur on compounds which include metathesis, vowel deletion, insertion and imbrication. It is revealed that most compounds in C'lela have heads, hence they are endocentric. It is clear from the examples in 5.2.1 and 5.2.2 that the majority of compounds in C'lela are left-headed since it is the left-hand constituent that determines both the core meaning and the lexical category of the derived compound word. This is in contrast to English whose endocentric compounds normally have their head element as the right-handmost constituent of the word.

Although LHR normally applies on the endocentric compounds in C'lela, there is; however, a small minority of endocentric compounds with right-hand heads as given in section 5.1.2.1. The different types of compound-formations described in the language include: noun-noun, noun-adjective, and verb-noun compounds. Of these different categories of compounds the noun-noun type appears to have the largest number followed by noun-adjective class of compounds. In addition, where a compound word contains a genitive morpheme [v or van] which carries additional semantic property, such a complex word is treated as a possessive compound.

As regards to the process of compounding, it was established that C'lela is in harmony with some languages within and outside Niger-Congo. It shares some features with Akan in the formation of noun-adjective compound, and with English in the derivation of verb-noun exocentric compound. It somehow behaves similarly to Lete in the creation of noun-noun compound, even though noun-noun compounds in C'lela are

left-headed, whereas those in Lete are right-headed. It agrees with Leti and Spanish in relation to metathesis, with Northern Sotho, Bemba, and Ndebele in imbrication, with Akan, English, Yoruba and Alesa in areas of vowel deletion. A word building element analyzed as stem extender in **5.3.8** appears to be identical to the ones in English, German, and Greek. Nonetheless, in compounding, the process of adjacent metathesis which requires satisfying certain phonological requirements before it occurs, as well as the case where prefixes undergo distant metathesis to the end of the first compound member, seem to be peculiar only to C'lela, not even to the nearest relative of C'lela such as Duka, Ut-Ma'in, Lyase.

End Note

²gòlmó is a custom among the Lelna people which refers to an institutionalized agricultural service in which the suitor (tuku) at the age sixteen begins to assist the girl's parents in the weeding and the harvesting of crops for a period of seven years before marriage. The recruitment into gòlmó is normally performed during a traditional festival called "Dibiti" (Muhammad 1990:137-138).

CHAPTER SIX

REDUPLICATION IN C'LELA

6.0 Introduction

Reduplication is a morphological process, which involves repeating all or part of a word. Spencer (1991:13) sees reduplication as a kind of affixation process in which “some part of the base is repeated to the left or to the right, or, occasionally in the middle”. Equally, Katamba and Stonham (2006:180) describe reduplication as “a process whereby an affix is realised by phonological material borrowed from the base”. Dolphyne (2006:124), on the other hand, refers to reduplication as “a type of compound-formation which consists of the repetition of the whole or part of a stem”. The process of reduplication is generally employed to express such concepts as distribution, plurality, repetition, customary activity, and increase in size, added intensity, and continuance (Katamba and Stonham 2006). Reduplication is categorized into two types: a complete reduplication and a partial reduplication. Complete reduplication involves repetition of the entire base as in the data from Yoruba (1), Javanese (2), Walpiri (3), and Indonesian (4):

Yoruba

- (1) a. pele ‘gently’ → pele-pele ‘more gently’
 b. osù ‘month’ → osù-osù ‘every month’
 (Awoyele 1989:29)

Javanese

- (2) a. baita ‘ship’ → baita-baita ‘various ships’,
 b. omaha ‘house’ → omaha omaha ‘various houses’
 (Booij 2007:35)

(3) Walpiri (Australia)

- a. kurdu ‘child’ → kurdukurdu ‘children’
 b. kamina ‘girl’ → kaminakamina ‘girls’
 (Katamba and Stonham 2006:182)

Indonesia:

- (4)** a. oraŋ ‘man’ → oraŋ oraŋ ‘men’
 b. anak ‘child’ → anak anak ‘children’
 (O’Grady et. al 2011:137)

Partial reduplication, in contrast, copies only the part of the base or stem, as can be found for instance in:

Javanese:

- (5)** tamu ‘guest’ → tətamu ‘to visit’
 (Booij 2007:35)

Tagalog:

- (6)** takbo ‘run’ → tatakbo ‘will run’
 (O’Grady et. al 2011:137)

Both types of reduplication processes occur in C’lela. In the partial reduplication process, the direction of copying is to the left, that is, the reduplicant¹ is consistently prefixed to the stem. For instance, the form **bùk-bùkù** ‘early tomorrow’, a reduplicative of **bùkù** ‘tomorrow’ involves copying of the initial CVC- of the stem. The language also has cases of complete reduplication as in **s’gó-s’gó** ‘assorted’ which is a complete reduplicated form of **s’gó** ‘different’.

Reduplication is one of the most productive means of word formation in languages. The essential tasks of reduplication are codifying grammatical functions as well as syntactic

functions. There could be other functions of reduplication in C'lela that this study is yet to discover but generally, reduplication in the language performs lexical and semantic functions, as we shall see below.

This chapter is divided into nine sections: The first section (6.1) examines the reduplication employed in the formation of adjectives from nouns. Section (6.2) is a discussion on reduplicated verbs which create nouns. Section (6.3) looks at other reduplicated verbs that generate other verbs. In section (6.4), the type of reduplication used to form adverbs from verbs is discussed. Section (6.5) provides reduplicated adjectives that form another set of adjectives. Section (6.6) considers some adverbials that are formed by reduplication of simple adverbs. Section (6.7) discusses reduplicated numeral stems which give adverbial forms, while section (6.8) concludes this chapter.

6.1 Reduplication of Nouns to form Adjectives

In C'lela, nouns may undergo complete or partial reduplication to denote attenuative meaning. The resulting adjective forms encode 'attenuative' meaning. Attenuative forms are often used to express the notion 'sort of, not exactly' like the English connotation -ish (Booij 2007). Note for instance in example (7a), that the noun stem **m'hò** 'water' reduplicates to generate the reduplicative adjective **m'hò m'hò** 'watery' showing reduction in intensity, quality or strength of the input noun. This process that forms the adjectives with attenuative meaning requires deleting the nominal prefixes /**m**'- and **u**'-/ of the disyllabic noun stem before reduplication occurs. The tone pattern of the syllable sequence in the noun stem may be the same or dissimilar in the derived adjective. Examples:

	Noun		Adjective	Gloss
(7)	a. m'hò	'water'	m'hò m'hò	'watery'
	b. u'pindù	'kind of smell'	pìndù pìndù	'dirty'
	c. u'yàngá	'local beer'	yàngà yàngà	'drunken/intoxicated'
(8)	a. m'hébo	'doubt'	hébhébo	'doubtful'
	b. zàpà	'trembling'	zàpzàpà	'fearful'
	c. hòkò	'well-being'	hòkhòkò	'puffed-up'
	d. yòbó	'laziness'	yòbyòbó	'hesitant (to act)'
	e. pèzé	'brush off'	pézpézé	'neat/tidy'

The above type of process in which a noun reduplicates to derive adjective with an attenuative meaning is in some way similar to what obtains in Ga and Akan (Amfo et al. 2007), and also in Dangme (Abakah et al. 2010). Compare the examples in (7) above from C'lela, the Ga examples in (9), the Akan in (10), and that of Dangme in (11) respectively:

Ga			
(9)	a. nu	'water'	nuinui 'watery'
	b. shia	'sand'	shiashia 'sandy'
	(Amfo et al. 2007:65)		

Akan			
(10)	a. nsu	'water'	nsunsu 'watery'
	b. nkyen	'salt'	nkyenkyen 'salty'
	(Amfo et al. 2007:65)		

Dangme			
(11)	a. jù	'water'	jù jù 'watery'
	b. dzàlè	'soap'	dzàlè dzàlè 'soapy'
	(Abakah et al. 2010:134)		

6.2 Reduplication of Verbs to form Nouns

When verbs in C’lela are reduplicated, it results in the creation of nouns, adjectives, adverbs, etc. The set of data below has verbs as the stem morphemes that reduplicates for the formation of nouns. The process results from the complete reduplication of verb stem in (12), and a partial reduplication in (13). In the partially reduplicated forms, the derived nouns occur with the nominal prefixes. The reduplicated output denotes ‘the action or process designated in the verb’. For example, in (12a), the verb **àtè** ‘start early’ turns into noun **áté até** ‘haste’, which entails urgency especially when the time is limited. The tones in the derived noun are different from the tones in the source verb. Here are some examples:

	Verb		Noun	Gloss
(12)	a. àtè	‘to start early’	áté até	‘haste’
	b. bátkà	‘to release’	bàtkà bátká	‘sparks’
	c. bùgà	‘to fly’	bùgà búgá	‘flying insects’
	d. gyáarà	‘to go round’	gyáarà gyáarà	‘circle’
	e. hùgà	‘to float (on water)’	hùgà hùgá	‘washed away objects’
	f. ùvǎ	‘to join’	ùvǎ úvǎ	‘person admitted into golmq’
(13)	a. bótó	‘to forget’	c’bótbótò	‘forgetfulness’
	b. làká	‘to splash	u’lákłáká	‘chatterer/talkativeness’
	c. sìpà	‘to grab’	a’sìpsípá	‘large grabbing tortoise’
	d. táalà	‘to walk away’	a’táaltáalà	‘rebel’

This process in (12) above resembles a reduplicative process from Ewe (14), in which verbs are turned into nouns through reduplication as given in Agbedor (2006):

Ewe:

- (14) a. tiá ‘select’ tiàtiá ‘selection’
 b. fiá ‘teach’ fiàfiá ‘teaching/showing’
 c. biá ‘ask’ biàbiá ‘question’

(Agbedor 2006:127).

6.3 Reduplication of Verbs to Signal Intensity

In verbs, reduplication may signal intensity, repetition, frequency or continuation of an action or event. This can be attested from languages such as Indonesian, as in **duduk** ‘sit’ giving the intensive form **duduk-duduk** ‘sit around’ (Meladel et al. 2009); Nandi (Kenya), **tiech** ‘to trample’ **tiechatiech** ‘to trample with the foot’; Nama (Namibia), **gó** ‘to see’ **gó-gó** ‘to see exactly’ (Al-Hassan 1997:40-41); Turkish, **iji** ‘well’ **iji iji** ‘very well’ (O’Grady et. al 2011:137); Tzeltal, **pik** ‘touch it’ becoming **pikpik** ‘touch it slightly, repeatedly’ (Katamba and Stonham (2006:181).

This reduplication process is in some way similar to the complete reduplication processes in C’lela. In C’lela, certain verbs are reduplicated to indicate ‘intensity’. By ‘intensity’ refers to a verb feature which usually denotes intensive action, which sometimes is directed towards several goals such as continuation, frequency or repetition of an event or action (Al-Hassan 1997, Katamba and Stonham 2006). In example (15a), for instance, repetition of the verb stem **tám̀b̀à** ‘miss the way’ to **tám̀b̀i tám̀b̀i** ‘keep travelling in the dark’, indicates continuation or an increased effort in the action of the source verb. The source verbs contain heavy CVC-CV or CVV-CV disyllabic stems. The tone pattern of the entire verb stem is mostly repeated in the resultant reduplicated forms. Consider the following examples:

Verb	Intensive Forms		
(15) a. <i>tám̀bà</i> ‘to miss the way’	<i>tám̀bì</i>	<i>tám̀bì</i>	‘keep travelling in the dark’
b. <i>báarà</i> ‘to hunt’	<i>bàarì</i>	<i>bàarì</i>	‘wander about’
c. <i>pìtlá</i> ‘to struggle’	<i>pìtlí</i>	<i>pìtlí</i>	‘keep struggling confusedly’
d. <i>pùktú</i> ‘to try’	<i>pùktí</i>	<i>pùktí</i>	‘try with effort’
e. <i>sám̀bà</i> ‘to brush’	<i>sám̀bì</i>	<i>sám̀bì</i>	‘brush hastily’
f. <i>míglà</i> ‘to move’	<i>míglí</i>	<i>míglí</i>	‘move while twisting the body’
g. <i>tàktá</i> ‘to rub’	<i>tàkté</i>	<i>tàkté</i>	‘rub clumsily’

Here are examples in sentences:

- (16) a. *kanhiri báari-báari m’-hoba naam-na*
 hunter walk-walk PROG-search animal-PL
 “The hunter wanders about searching for animals”
- b. *u el dà takte takte nu-emo*
 he is it rub rub PROG-do
 “He is doing it clumsily”

We observe from examples (15), that the final vowel of the verb stems undergoes ‘vowel alternation’ from the low vowel /-a/ to high vowel /-i/ or mid-high vowel /e/ in the reduplicated forms. This exhibits a morphophonological process known as ‘**imbrication**’, comparable to the Bemba imbrication process. Imbrication, as noted in section 5.1.3.6, simply refers to “the formation of a modified base” (Kula 2002b). In Bemba, both partial (17) and complete (18) reduplicated forms may undergo imbrications. Compare the C’lela vowel imbrication in (15) above and that of Bemba in (17 and 18) taken from Kula (2002b):

Bemba

- (17) a. sem-a ‘prophesy’ se-seem-e ‘has prophesied’
 b. shik-a ‘burn’ shi-shiik-e ‘has burnt’
 c. paat-a ‘plead’ paa-peet-e ‘has pleaded’
- (18) a. lyalyaata ‘eat a lot’ lyályaata lyáalyéet-e ‘has eaten a lot’
 b. lubaana ‘unrecognizable’ lubéen-e lubéen-e ‘has become unrecognizable’
 c. fwaata ‘trample about’ fwéet-e fwéet-e ‘has trampled about’
 (Kula 2002b:55).

6.4 Reduplication of Verbs to Form Adverbs

The reduplication of some verbs results in the formation of adverbs in C’lela. This process expresses the ‘manner’ in which an event takes place. For example, in (19a), the verb stem **dap** ‘to stick’ turns into adverb **dapdap-a** ‘stickily’ through complete reduplication, describing the manner in which something is fixed or fastened. The tone pattern of the final vowel in the derived adverbs is consistently low. We present the following examples from C’lela:

	Verb	Adverb	Gloss
(19) a.	dáp ‘to stick/glue’	dàpdàp-à (dàp.dà.pà)	‘stickily’
b.	mógtà ‘to smile’	mògmòg-ò (mòg.mò.gò)	‘smilingly’
c.	bòktò ‘to boil’	bòkbòk-ò (bòk.bò.kò)	‘continuous boiling’
d.	rògtò ‘to attach’	rògròg-ò (ròg.rò.gò)	‘shakily/loosely’
e.	mùktù ‘to smolder’	mùkmùk-ù (muk.mu.ku)	‘in a smoldering manner’
f.	mískà ‘to drizzle’	mìsmìs-ì (mis.mi.si)	‘in a drizzling manner’

In the above examples, adverbs result from the complete reduplication of the verb stems. The structure of the base form in both examples is monosyllabic and disyllabic. We observe that the process invokes ‘**syllable truncation**’, that is, before the complete reduplication occurs, the second syllable (**-ka**, **-ta**, **-to**, and **-tu**) of the disyllabic verbs drops, reducing the disyllabic verb to monosyllabic word. Additionally, the suffixation of the vowel after the reduplication of the truncated stem, which is recognized as **imbrication** in Kula (2002a), yields trisyllabic adverbs. Therefore, the consonant, which closed the second syllable of the reduplicated form, which hitherto was in a coda position, has changed to become an onset to the suffixed nucleus of the third syllable.

It can be observed that in the reduplication of verbs in examples (12), (13), (15), and (19), the tonal pattern of some verb stems undergo changes in the reduplicated output, while some of the tonal specifications remain the same. This suggests that the different tonal specifications on the derived reduplicated forms in C’lela are unpredictable.

6.5 Reduplication of Adjectives to Form Attenuative Forms

In C’lela, adjectives may undergo complete and partial reduplication, and when this happens the resulting word may have an ‘attenuative’ meaning sometimes referred to as “semantic weakening” (Newman 2000:41). The attenuation here implies ‘*not quite so*’ or ‘*not exactly*’. For example in (20a), the stem **cìrìm** ‘dark’ undergoes complete reduplication and the resulting word **cìrìmcìrìm** ‘darkish’ has an attenuative meaning, expressing the level of the colour as almost dark. The stem of the partial reduplicated form in (21) consists of the light CVCV structure of which the initial CVC- duplicates; and the tone pattern of the derived attenuative forms is low. Examples are given below:

	Adjectives		Attenuative Forms	Gloss
(20)	a. cìrim	‘dark’	cìrimcìrim	‘darkish’
	b. d̀ap̀rì	‘stuck (together)’	d̀ap̀rìd̀ap̀rì	‘sticky/oily’
(21)	a. gyòzò	‘red’	gyòzgyòzò	‘reddish’
	b. rímú	‘black’	rìmrìmù	‘blackish’
	c. p̀us̀ú	‘white’	p̀us̀p̀us̀ù	‘whitish’
	d. g̀im̀ì	‘grey’	g̀im̀g̀im̀ì	‘greyish’
	e. rémè	‘sweet’	rèmrè mè	‘sweetish’

Reduplication of adjectives in C’lela in (20) and (21) is analogous to the processes of adjective reduplication in Cicipu and Maori. The reduplicative process in C’lela has attenuative effect in the same way the reduplication of adjectives in Cicipu and Maori express attenuative meaning. Compare the C’lela examples above and those in Cicipu and Maori in (22) and (23) below:

Cicipu

	Adjective		Attenuative Form	Gloss
(22)	a. rumon	‘dark’	rumon-rumono	‘darkish’
	b. uyono	‘light’	uyono-uyono	‘lightish’
	c. silana	‘red’	silana-silana	‘reddish’

(McGill 2009:233)

Maori

(23)	a. mate	‘sick’	matemate	‘sickly’
	b. wera	‘hot’	werawera	‘warm, rather hot’
	c. whero	‘red’	whewhero	‘reddish’

(Katamba and Stonham 2006:182-183)

In contrast to C'lela, where reduplication of adjectives have attenuative effect; reduplication of certain adjectives in Cicipu (McGill 2009), Dangme and Gurene express intensity (Abakah et al. 2010). Compare the C'lela examples in (20, 21) above and those in Cicipu (24), Dangme (25) and Gurene (26) below:

Cicipu

- (24) a. pénué 'big' pénúé 'very big'
 b. étéí 'fine' étéí étéí 'very fine'

(McGill 2009: 233).

Dangme

- (25) a. kpítí 'short' kpítí-kpítí 'exceedingly short'
 b. kálá 'hot' kálá-kálá 'exceedingly hot'

(Abakah et. al 2010:137-138).

Gurene

- (26) a. sùṅà 'nice' sùṅà-sùṅà 'very nice'
 b. wókó 'tall/long' wókó-wókó 'very tall'

(Abakah et. al 2010:137-138).

6.6 Reduplication of Adverbs to Signal Intensity

Certain reduplicated adverbs may be used as adverbials in C'lela. Certain temporal, and place adverbs may be reduplicated to express the degree or intensity denoted by the adverb. For example, in (27a), reduplicating the adverb **àntámà** 'now', to **àntámàntámà** 'urgently' denotes intensity or the manner to which immediate action is required. The tone patterns on the adverbs are reflected on the reduplicated forms. Here are some examples below:

	Adverbs		Intensive Forms	
(27)	a. àntámà	‘now’	àntámàntámà	‘urgently, right now’
	b. ánzù	‘there’	ánzùánzù	‘right there, farther away’
	c. táhà	‘here’	táhàtáhà	‘right here’
	d. námzà	‘early morning’	námzànnámzà	‘very early morning’

Cicipu is somewhat similar to C’lela in this type of reduplication. In Cicipu, most temporal adverbs may be reduplicated to indicate the degree or intensity of the quality being described by the adverb.

Cicipu

	Verb		Intensive Form	Gloss
(28)	a. ka’a	‘now’	→ ka’a ka’a	‘just now, immediately’
	b. longo	‘recently’	→ longo longo	‘a while ago, far into the future’

6.7 Reduplication of Numerals

In C’lela, numeral stems may be reduplicated to signal a distributive meaning ‘*number each*’. A ‘distributive numeral’ is described as an adjective or adverb form that expresses the idea of distribution in time, place, numerals or manner (Newman 2000). For example in (28a), the stem **dán** ‘one’ becomes **dán v’d àn**, with the entire word repeated to encode the meaning ‘*one each*’, which demonstrates the notion of distribution involving more than one individual or entity in a group. Except in example (28a), the tone of the entire input stem is repeated in the resultant reduplicated forms. Consider the following examples:

- (28) a. dân ‘one’ dân v’ d àn ‘one each/in ones’
 b. nássé ‘four’ nássénássé ‘four each/in twos’
 c. tán ‘five’ tántán ‘five each/in fives’
 d. óopá ‘ten’ óopá-óopá ‘ten each/in tens’

Consider the following examples in a sentence structure from C’lela in (29):

- (29) a. kan laasa nēē-ke ǎn c’-takkalla tán-tán
 teacher give-PST them PL-book five-five
 “The teacher gave them five books each”
- b. Aliero da Umar onk-ka d’gwanda óopá-óopá
 Aliero and Umar get-PST pawpaw ten-ten
 “Aliero and Umar got ten papaws each”

Similar reduplication of numerals to express distributive meaning can be found in Nupe (Kawu 2002:241). This process is regarded to be a common feature within Niger-Congo languages.

Nupe

- (30) a. nini ‘one’ nini-nini ‘one by one’
 b. guba ‘two’ guba-guba ‘in twos’
 c. gutota ‘eight’ gutota-gutota ‘in eights’
 d. arata ‘fifty’ arata-arata ‘in fifties’

(Kawu 2002:241)

6.8 Conclusion

This chapter has explored reduplication in C'lela. The language exhibits both complete and partial reduplication. Both kinds of reduplications primarily perform lexical functions. We observed that reduplication is used in C'lela to create nouns, adjectives, and adverbs that in some cases denote intensity, continuation or attenuative meanings. Numeral can also be reduplicated to derive a meaning that can be glossed as 'one each'. Partial reduplication results from prefixation of a copy of the initial CVC of a stem, whereas complete reduplication mostly involves repeating of either the light CV stems or heavy CVV, CVC syllable stems. It was established that reduplication of some verbs sometimes allows phonological processes which include imbrication and stem-final syllable truncation.

C'lela; like Akan, Ga, and Dangme reduplicate nouns to create adjectives with attenuative meaning. It also behaves like Ewe in the reduplication of verbs to derive nouns from verb stems. It is similar to Indonesian, Nandi, Nama, Tzeltal, and Bemba in the reduplication of verbs to encode intensive action. It agrees with Cicipu and Maori in the reduplication of adjective which generates other adjectival forms that express attenuation. It also concurs with Bemba in imbrication processes. However, it has a unique way of invoking a process of syllable truncation resulting from the reduplication of certain verbs.

End Note

¹The *reduplicant* refers to the part of the stem that is reduplicated and *reduplicative word* as the output after reduplication.

CHAPTER SEVEN

SUMMARY AND CONCLUSIONS

This chapter presents the summary and main findings of the current study and shall as well set out the directions for further studies. The thesis has been devoted to the study of major aspects of the morphology of C'lela. The study was organized into seven main chapters including the introduction and conclusions:

Chapter One gave an overview of the ethno-linguistics, genetics and phonology of C'lela describing among others the origin of the language, family group, dialects, orthography, and sociolinguistic profile. The chapter also dealt with crucial research matters such as; statement of research problem, aim and objectives of research, the sources of data and research methodology, as well as earlier literature on C'lela, significance of the study and organization of the research.

Chapter Two provided an overview of the word classes of C'lela, focusing mainly on the structure of each word class. It examined six word classes: nouns, adjectives, verbs, adverbs, pronouns and prepositions.

It was established that in C'lela, as in other languages, nouns are classified according to their semantics. C'lela in particular uses the prefixes [**c-**, **d-**, **k-**, **m-**, **s-**, **v-** **a-**, **i-**, **u-**] for inanimate nouns; and a suffix [**-n(V)**] on animate nouns. One of the most striking features of the C'lela class-marking affixes is that they obligatorily shift from word

initial to word final position in a compound structure. It was later demonstrated in the first part of Chapter Five that when a shifting prefix gets to its landing site in compounding, it sometimes triggers final vowel deletion or affixation of morphemes. It was found that most noun stems and other lexical categories take prefixes instead of suffixes; therefore, as is evident from the language, it was concluded that C'lela is a prefixing language. The subject or object pronoun is employed generally to replace a noun or noun phrase.

The chapter also studied verb structure. It examined the forms, the semantic range and the morpho-syntactic functions of the various verbal forms. The source of the future prefix has also been provided. The perfective, the progressive, and the future tenses are morphologically realized from a simple verb stem in C'lela. The perfective is marked by attaching the **-k(V)** suffix to the verb stem; the future action is marked using the **t-** prefix on the subject pronoun which occurs before the verb, while any of the prefixes [**u-**, **v-**, or **m-**] may be added to the verb stems to mark progressive aspect.

Two types of adjectives were also identified: the derived and non-derived adjectives. Both types may occur in attributive and predicative positions. It was revealed that adverbs may occur as post-modifiers or pre-modifiers to the verbs in a syntactic structure. The last part of the chapter treats prepositions. It was shown that C'lela has three minor lexical items used as prepositions, usually placed before a noun or pronoun to show its relation to other words in the sentence.

The vast majority of nouns, adjectives, verbs and adverb stems in C'lela are minimally monosyllabic and maximally tri-syllabic. These main lexical items may be preceded or

followed by various single-consonant and single-vowel affixes. Generally, the syllables can be vowel-initial or consonant-initial. The language does not mark gender. The subject frequently precedes the verb in a clause and such verb could be followed by an object, and as a consequence of which the structure of the clause order showed that C'lela is an SVO language.

Chapter Three investigates the various aspects of inflection in C'lela. It begins by exploring formal properties of the noun inflection in the language. It discusses in detail instances where various inflectional prefixes and suffixes were used to mark number. The language attaches prefixes [c-, m-, s-] on lexical items to form plurals for inanimate nominals. The type of prefix to be picked by the morphology of the language is largely dependent on the semantics of the noun stem. Animate nominals formed their plurals by the addition of the suffix [-n(V)] to the noun stem. Plural formation via inflection usually ends with some form of phonological adjustments, such as vowel copying, vowel deletion, vowel lengthening, and metathesis. In vowel copying, an assumption is made that the features of the vowel of the plural suffix is always licensed by the right-most vowel of the preceding root morpheme.

The chapter also interrogates the verbal inflectional categories. It was held that the suffix /-kV/ is usually the inflectional morpheme that can be added to the verb stem to mark past event in the language. This verbal inflection displays significant morphophonological processes of vowel copying, vowel deletion, vowel lengthening, metathesis, and assimilation. In the same way as in the plural formation, the vowel of the perfective suffix always seeks to copy the quality of a vowel immediately to the

left. Thus, the direction of the vowel copying mechanism in C'lela is from the right to the left.

In terms of future actions, it was established that the inflectional **t**-prefix is always placed on the subject pronoun occurring adjacent to a following verb stem. However, where the subject pronoun is consonant-initial, the **-n** suffix is used in place of the **t**-prefix. Another distinguishing feature that is notable with the future prefix marking is that its application in almost every case forced a high tone on the inflected subject pronoun replacing the usual low tone, and this future prefixation does not appear to have caused tonal changes on the following verb root.

With regard to suppletion in general it was discovered that C'lela, like other natural languages such as Hausa, English, Russian, Latin etc, has a few lexemes whose different forms exhibit no phonological or morphological similarity, and the loan words, be they from Hausa or English, tend to be housed in the C'lela inflectional environment. In other words, they are appropriately adjusted to conform to inflectional rules of C'lela.

Chapter Four studies the derivation process which affects diverse linguistic categories in C'lela. In general, it was established that derivatives have various morphological as well as semantic properties in the language, akin to languages such as Akan, Buli, Chamorro, Bemba, Bernese, Degema, Dutch, English, Ewe, Hausa, Lama, Likpe, Lobala, Nupe, French, Dagaare, Dothraki, and Wolof. C'lela employs both prefixes and suffixes to form new words. It makes use of an array of prefix such as [**c-**, **d-**, **k-**, **ka-**, **kan-**, **i-**, **u-** **wa-**,] and suffixes such as [**-ge**, **-ne**] in its nominalization process. On the

contrary, the derivation of verbs from nouns and adjectives is attained mainly through suffixation. The language uses the suffix [-s(V)] to produce verbs from nouns, while it uses the suffix [-**ka/ku**] to change adjectives to verbs. In connection to the latter in particular, it was discovered that the circumfix [**na**-...-**ka**] is used to derive deverbal adjectives from verbs, while the circumfix [**u**-...-**lo/lu**] derives denominal adjectives from verb stems. It was also demonstrated that verb forms may be derived using verb extension suffixes or through internal vowel modification. Vowel modification can be viewed as a richer strategy of applicative extension for C'lela, and this appeared to be untypical of the Niger-Congo verb extensions. The meaning expressed by the extension suffixes and vowel modification process are derivational in nature. It was shown that the various verb extension mechanisms in the language can be used to derive causative, benefactive, recipient, or instrumental verb forms. The derivation phenomenon has been observed to involve the main lexical categories: nouns, adjectives, verbs, and adverbs in the language.

Chapter Five presents a morphologically-based account of compounding. On the basis of the evidence provided on the existence of heads in morphology (Bauer 1990, 2003, 2009, 2010; Anderson 1992; Plag 2003; Booij 2007; Ralli and Marios 2011; and Ralli 2013), it has been established that C'lela is an endocentric but a left-headed language. The major types of compounds in C'lela include; Noun-Noun compounds, Noun-Adjective compounds, Noun-Verbs compounds and Verb-Noun compounds. All the compound sets produced nominal compounds. However, some of the words coined from Noun-verb compounds [VN]_v (5.1.2.3) are verbs.

The chapter has shown the phonology-morphology interface in compounds. Instances where phonological processes were triggered by compounding in C'lela have been discussed. The phonological processes surveyed include adjacent and non-adjacent metathesis, vowel lowering, and vowel deletion. We assume that in compounding, the morphophonologically conditioned rules governing adjacent and non-adjacent metatheses are compound features unique to C'lela. We also note in the derived phrase structure in section 5.3.6 the evidence for mid-vowel lowering before a possessive linker [v] which attaches to the first phrase element. We speculate that, in C'lela compounding, the link element [n] in section 5.3.8 which attaches to the beginning of the vowel-initial second compound member is 'stem extender' that applies to satisfy the morphophonological conditions of the language compound structure.

Chapter Six analyzes the reduplication process in C'lela. Complete and partial reduplication have been shown to exist in the language. Partial reduplication results from the prefixation of a copy of the initial CVC- of a stem, whereas the complete reduplication process mostly involves repeating of either the light CV stems or heavy CVC syllable stems. The semantic properties of reduplication have been examined. It was discovered that both complete and partial reduplications perform mainly lexical functions. Lexically, the study has shown that nouns were turned into reduplicative adjectives. Verbs were also reduplicated to form nouns and intensive verb forms. Verbs were also reduplicated for the formation of adverbs. Reduplication of adjectives results in attenuative adjectival forms. Distributive forms were derived through the reduplication of numerals; while simple adverbs reduplicate to indicate the degree, manner, time and place where an action is performed. Moreover, the process of

complete reduplication triggers syllable truncation as well as the process of imbrication in the language.

Direction for Further Studies

The thesis has generally dealt with the morphological properties and the meaning of the lexical stems together with their various inflectional/derivational affixes. In effect, the thesis has revealed the productivity of the derivation process, compounding and reduplication, particularly as it affects the derivation of nouns in C'lela. To the best of my knowledge, it is the first major attempt to synthesize and analyze the scanty literature on the morphology of C'lela. It is anticipated that it will serve as a useful guide for future researchers. Some of the critical aspects of the morphology of the language that awaits further study and exploration include the following:

- A thorough comparative study of the morphology of C'lela and related languages using a formal theoretical framework, taking into account issues such as the morphology-syntax interface that have not been tackled in this study.
- This study only investigated simple concatenative and non-concatenative morphology; a systematic analysis on construction morphology will be an interesting area to consider in future.
- The study has not fully dealt with the non-segmental domain on the morphology of C'lela; therefore a detailed and systematic study on, say, tonal processes during morphological operations may provide more insight into the morphology of the language.

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