

ON THE PHONOLOGICAL PROCESSES OF COMPOUNDING IN C'LELA

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This article examines the phonological processes taking place within compounds in C'lela. The study establishes that Compounding in C'lela usually triggers certain phonological processes, which include metathesis, final-vowel deletion, final-vowel lowering, and nasal-sound insertion. In addition, it is proposed in the analysis that these phonological activities that occur in C'lela compounds are set off when a morphological condition and/or a phonotactic rule of the language are met. In other words, these processes are morphophonologically motivated.

Cet article examine les processus phonologiques qui se produisent au sein des mots composés en C'lela. L'étude établit que le phénomène de ces mots composés déclenche certains processus phonologiques, dont la métathèse, l'élision de la voyelle finale, l'abaissement de la voyelle finale et l'insertion du son nasal. En plus, l'analyse propose que ces activités phonologiques qui se déroulent dans ces mots composés ont lieu quand les conditions morphologiques et/ou les règles phonotactiques de la langue sont acquises. Cela veut dire que ces processus sont morpho-phonologiquement motivés.

0. INTRODUCTION

C'lela belongs to group 7 (G) of Western-Kainji, Benue-Congo, Niger-Congo languages together with Reshe, Kamuku, Kambari, Basa, Baushe, Gurmana, Banganci (Lyase or Gwamhi-Wuri cluster), Fakkanci (Peka-Kôri-Wipsi-Geeri Cluster) and Duka (Williamson 1989). However, Crozier and Blench (1992), based on lexical isoglosses, reclassified C'lela as a North-Western Kainji of Benue-Congo, along with Hun-Saare (Duka), Kag Cluster and Gwamhi-Wuri languages. It is the language of the Lelna (or the Dakarkari) people spoken by a majority of the inhabitants of Zuru emirate, located in the eastern part of Kebbi State, and in some parts of Kontagora emirate in Niger State, Nigeria, West Africa. Recent studies that shed some light on this aspect of C'lela morphology are Hoffmann (1967) and Dettweiler (2012), and in these studies, various phonological problems in compounding have not been fully accounted for. This article examines the phonological processes that occur during the formation of compounds in the language. The paper is organized into five sections: Section one presents a background to the C'lela phonology. Section two provides the main features of C'lela morphology. Section three is an overview of the structure of Compounds. Section four examines the phonological processes which occur in compounding, and section five presents the conclusion.

1. MAIN FEATURES OF C'LELA PHONOLOGY

C'lela has forty consonant phonemes; thirty-eight of these forty consonants are listed with examples of contrast (Rikoto and Sebastian 1996). The other two consonant sounds [ŋ] and [ʔ] are restricted to occurring in specific positions in a word. 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] (Dettweiler 2012). The language has twenty one single letter phonemes: **p, b, t, d, k, g, m, n, ŋ, f, v, s, z, h, r, l, tʃ, ɕ, w, j, ʔ**, and the other nineteen are labialized or palatalized consonants: **pʷ, bʷ, tʷ, dʷ, kʷ, gʷ, mʷ, nʷ, ŋʷ, fʷ, vʷ, sʷ, zʷ, hʷ, rʷ, lʷ, tʃʷ, ɕʷ, wʷ, jʷ**. In the C'lela orthography, the letter [c] represents phonetic affricate [tʃ]. The letter [j] represents the phonetic affricate [ɕ], while the letter [y] represents the palato-alveolar phonetic symbol [j]. C'lela has an eight vowel system; all vowels in C'lela have contrastive length, long and short (Rikoto and Sebastian 1996). The vowel inventory is represented in Figure 1 below.

Figure 1:

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

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 (CSCO)¹ suggests the use of underscored **e**, to represent the phoneme [ɛ], **o** to represent [ɔ] and **a** to represent the near close-mid central vowel [ə] in the current language writing system.

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 disyllabic root words, and such root words may have phonemic contrast with other disyllabic words that end in a short vowel as demonstrated in the following pairs: **nòoká** 'be fat' and **nòká** 'come', **nàamá** 'cow' and **námá** 'to grind'. Even though, length is mainly lexical in C'lela, 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 2012). The vowel quality may serve to distinguish between several words that ostensibly have identical spelling as shown in 1 below:

- (1) a. **yogo** 'crow' and **yogo** 'guinea fowl'
 b. **baka** 'husks' and **baka** 'to split/pluck'

C'lela exhibits some levels of word internal vowel harmony. Vowel harmony system refers to 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). The harmony system that exists in the language is mainly that of Advanced

¹.The CSCO was set up at Zuru, in 1994 by some concerned C'lela native speakers. The committee was mandated to propose, among other things, a standard writing system for C'lela.

Tongue Root (ATR), which is specified with feature value [+ATR] or [-ATR]. ATR is a phonological feature used to specify the contrasting state of the root of the tongue during pronunciation of vowels in languages. It 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), and it has also been used to distinguish between tense and lax vowels especially in Romance languages (Calabrese 2002).

Two kinds of vowel harmony may be identified in the language. The first type indicates the [ATR] harmony which operates within the stem. The forms in (2) display harmony process where all the vowels are [+ATR], while the examples in (3), are [-ATR], as exemplified in (Dettweiler 2001:8).

[+ATR] Root		[-ATR] Root	
(2)	a. dwiri 'hyena'	(3)	a. kwesa 'show'
	b. kumu 'get'		b. soma 'run'

This system differs from the harmonic principle operational in some Kwa languages such as Akan (Abakah 2012) and some Guang languages, such as Larteh (Ansah 2012), where the vowel **o** may be specified as +ATR.

The second type shows height harmony which presumably operates within the stem and spreads to suffixes. Although available data shows that 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, Dettweiler (2001:8), however, reports that 'certain pronominal suffixes also take the height specification for their vowels from the roots to which they attach'. The following harmonic alternation where the pronominal suffixes (**me/mi**) follow the noun stems **inù** 'mother' and **cètò** 'father' demonstrates this point below.

(4)	a. I in- mi	b. I cet- me
	It mother me	It father me
	'It is my mother'	'It is my father'

C'lela has four syllable types: CV, CVV, CVC, and CVCC). Those syllables (including single vowel syllables) which appear to be vowel-initial may be regarded as beginning with an underlying glottal stop [ʔ] (Dettweiler (2012). The syllable is the tone-bearing unit. C'lela, like many other African languages, is a tone language. It has two basic contrastive tones: high and low, which in turn combine to form a third one perceived as falling tone. The tone is realized on the vowel of a syllable and it performs both lexical and grammatical functions in the language. Whereas lexical tone distinguishes meaning in the lexical words, grammatical tone indicates tense variation.

2. MAIN MORPHOLOGICAL FEATURES IN C'LELA

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 language has ten noun classes that occur with ten distinct overt affixes (Hoffman 1967, Dettweiler, 2012, Aliero 2013). Out of the ten noun classes, three are marked by three prefixes [**c'**,

m'-, s'-] identified as noun plural markers for inanimate nouns, six are marked by six prefixes [**a'-, d'-, i'-, k'-, u'-, v'-,**] which mark singular for inanimate nouns, while the tenth class is marked by the suffix [**-nV**] which indicates plural for animate nouns. The choice of nominal prefixes for the noun stems depends largely on the semantics of the nouns in question.

Notice that the noun prefixes in 2 above occur with apostrophe spelling. In the earlier studies (Hoffmann 1967, Dettweiler 2001), noun prefixes are marked with the schwa vowel [ə]. The schwa vowel is post-posed on the noun class markers at phonetic level in order to distinguish them from pronouns and pronominal affixes. However, the CSCO prefers the use of an apostrophe /' in place of the schwa vowel when making a citation. The CSCO probably prefers the use of an apostrophe in place of schwa for reasons of familiarity and ease of writing and / or typing. Certainly, the schwa vowel is a special character that is hardly to be found on an ordinary typewriter, which the Committee probably used in its work.

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.

3. BASIC STRUCTURE OF C'LELA COMPOUNDS

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 1969:11, 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.

Spencer (2003:329) defines compounding as a 'process in which novel lexemes are formed from the combination of two simpler lexemes.' Compounding is a regular / common 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 process which most frequently involves the combination of at least two members of open lexical classes such as nouns or verbs (Aikhenvald 2007).

Compound words in many languages may occur in different forms. 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'. Sometimes they are written as separate words, as in 'ice cube'. Still others may be hyphenated, as in girl-friend (Ebberts 2008, and O'Grady et. al 2011). Although 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 (Bauer 2010).

Compounds can be analyzed essentially based on the notion of head, which is identified by looking at the syntactic and semantic properties of the left or right hand constituents in the compound. Thus, the right-headed compound is a compound word in which the head element occurs on the right; whereas a left-headed compound refers to a compound whose lexical head is located on the left-hand side of a given compound word (Scalise and Fábregas 2010).

Also, in compounding, the existence or absence of a compound lexical head classifies compounds into endocentric and exocentric (Bauer 2010; Ralli and Andreou 2011, and Ralli, 2013). Endocentric compounds are hyponyms of their head elements' (Bauer 2010:167). For instance, in the compound *book cover*, the *book* is the modifier element that has the function of attributing a property to the head *cover*.

In contrast, exocentric compounds are 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). For instance, in the compound *red neck* neither the first element *red* or the second *neck* can be called the head of this compound structure, hence the two elements are not hyponyms (Spencer 1991; Plag 2003, and Booij 2007).

C'lela has both right-headed and left-headed compounds. For instance, **kándim cètò** 'uncle', is a right-headed compound since the right-hand compound element **cètò** 'father' is the head as it represents the core meaning of the resultant compound. The left-hand compound member **kándimà** 'junior', on the other hand, modifies the head. Whereas the compound word **gòng gùlè** 'male lizard', is a left-headed compound, given that the left-hand compound member **gòngò** 'lizard' is the head as it encodes the 'meaning' and the 'category' of the derived compound, the second compound member **gùlè** (lit. yellow-headed), 'male' denotes 'kind of' lizard'. Though left-headed compounds are more common than the right-headed compounds in C'lela, their distributions, however, are unpredictable, and both types of compounds can be inflected for number (Aliero 2013).

C'lela has endocentric and exocentric compounds, the majority of which could be described as endocentric. Endocentric compounds occur in C'lela in such compound words as **céd d'bí** 'threshing stick'; the stem **céd** 'stick' functions as the 'semantic head' of the derived nominal compound, while the second element **d'bí** 'threshing' describe the sort of stick referred to. While the combination of the noun-noun **d'basà** 'news' and **kwèrmà** 'kind of mouse', produces an exocentric compound word, **bàsád kwèrmà**. This compound word neither refers to 'news' nor to 'a kind of rat' but to 'a person' who often does not keep promises'.

In C'lela, three types of compounds can be identified: Noun-Noun (NN), Noun-Adjective (NA), and Verb-Noun (VN) compounds. The N-N compounds in the language are common and most productive. The resultant words from this compounding are nominals. They are mostly left-headed, the majority of which are endocentric. The N-Adj compounds in C'lela are all endocentric and left-headed. 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 majority of Verb-Noun compounds appear to be exocentric. The V-N compounds produce nominal compounds as well as verbal compounds. These compounds occur in the order v

+ object to conform to the SVO order in the language. The tone of the resultant compound and that of the input stem are the same except those compounds which encounter vowel lowering (Aliero 2013).

4. PHONOLOGICAL PROCESSES IN 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). As indicated earlier, compounding processes in C'lela undergo certain phonological processes. These phonological processes are motivated when a morphological condition is met. Some of the phonological processes that occur in compounds in C'lela include: metathesis, final-vowel deletion, vowel lowering, and nasal-insertion.

4.1 METATHESIS IN COMPOUNDING

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 2001). Buckley (2011) observes that 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. Metathesis is of two types: i) adjacent metathesis (or local metathesis) which involves the exchange of two or more contiguous sounds and ii), non-adjacent metathesis (long-distance metathesis) where the exchange involves non-contiguous sounds. The two types occur in compounding in C'lela:

4.1.1 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 (5a) that in the nominal compound **àrám gyòzó** '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 an 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.

Stems		Compound
(5) a. àrám : gyòzó (man + red)	→	àrám gyòzó 'brave man'
d. kwèsémé káci (male friend + chicken)	→	kwèsém- káci 'cock'

This following represents the metathesis from example (5a):

(6) # **arma** # # noun # INPUT

# arma + gyòzò #	compounding
# aram gyòzò #	metathesis
# a r m a #	structural description
1 2 3 4 → 1 2 4 3	OUTPUT

4.1.2 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 examples (7a-b), we observe that the nominal prefixes [k'-, and d'-] 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.

Stems		Compound
(7) a. k'rì : d'hí (thing + head)	→	rik d'hí 'fontanelle'
b. d'bà : kàrgà (place + gathering)	→	bàd gàrkà 'assembly hall'

The following structure expresses the metathesis from example (7a):

(8)	# d'ba # # noun #	INPUT
	# d'ba : kàrgà #	compounding
	# bad kàrgà #	metathesis
	# d' b a # → b a d	structural description
	1 2 3 → 2 3 1	OUTPUT

4.1.3 Metathesis and 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 (9a), 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.

Stems		Compound
(9) a. k'kùrú : s'tò (room + soup)	→	kùr-k s'tò 'kitchen'
b. i'kòmò : s'nà (piece of iron + leg)	→	kòm-í s'nà 'anklet'

We assume that the above final vowel deletion in (9) 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], and *cotton* as [kótt'n].

Similarly, a compounding process which triggers final vowel deletion after metathesis sometimes attracts addition of the genitive affix [-an]. In (10a), for instance, the compound **tèl-k-án díímá** is formed from a combination of two nouns, i.e., **k'tèlè :díímá** 'bone, behind/back'. The formation of this compound suggests deletion of the final vowel [-e] of the second syllable of the first compound element before the genitive affix [-an] is added to it. The final vowel deletion is observably motivated by the liquid/nasal-vowel sequencing in compounds in C'lela. Note that, when the shifting prefix is a vowel (10b), it replaces the [-a] of [-an]. The tone of the second syllable of the first compound constituent in the output is always high as below.

Stems		Compound
(10) a. k'tèlè :díímá (bone + behind/back)	→	tèl-k-án díímá 'spine'
b. ù'bèlà : yálà (farm + bean)	→	bèl-ú-n yálà 'bean farm'

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 (10) above and the ones in (11) below:

Stems		Compound
(11) a. v'cé : sòmà (stick + gift)	→	cév-án sòmà 'traditional staff (of office)'
b. m'hò : hwèlà (water + fire)	→	hòm-án hwèlà 'hot water/alcoholic drink'

4.1.4 /-v/ and /-van/ suffixation

In C'lela, when noun-noun stems combine to form compounds the process sometimes triggers suffixation of the possessive linker /-v/ to the first word in the compound and a lowering of the vowel /-e/ or /-o/ to /-a/. Thus, the addition of the possessive morpheme /-v/ modifies the compound to possessive. We observe that the /-v/ morpheme suffixation and mid-vowel lowering take place especially when the first compound member is disyllabic and also when the second element begins with the nominal prefix. For instance, in (12a), in the formation of **gwèlà-v c'ménè** 'in-laws' goat' from **gwèlè : c'ménè** 'goat + in-laws', the possessive morpheme /-v/ attaches to the end of the first compound element while its final vowel /-e/ is modified to vowel /-a/. The /-a/ segment sometimes inherits the tone of the lowered mid vowels.

Stems		Compound
(12) a. gwèlè : c'ménè	→	gwèlà-v c'ménè

- | | | |
|---------------------------------|---|------------------------|
| (goat + in-laws) | | 'in-laws' goat' |
| b. kàcì : c'gàì | → | kàcà-v c'gàì |
| (hen + marriage) | | 'bride's hen' |
| c. còkó : à'yòmkò | → | còkà-v nà'yòmkò |
| (slave + work) | | 'a hard working slave' |

There are however instances where the process allows attaching the /-**an**/ morpheme to the /-**v**/ when the second compound element does not begin with the nominal prefix. In addition, this process results in the deletion of the final-vowel of the left-hand compound member which also leads to the syllabification of the same first constituent element 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. Examples:

- | Stems | | Compound |
|------------------------------------|---|----------------------------------|
| (13) a. gòmò : gòlmó | → | gòm-vàn gòlmò² |
| (chief + organization) | | 'golmo leader' |
| b. gòmò : táagè | → | gòm-vàn táagè |
| (chief + hunter) | | 'chief hunter' |
| c. kàcì : cèpkò | → | kàc-vàn cèpkò |
| (chicken + prayer) | | 'sacrificial chicken' |

4.1.5 Nasal n-Insertion

In C'lela, a compound in which the second part begins with a vowel, the /**n**-/ element often attaches to that particular vowel. This /**n**-/, added to the N-N compounds in (14) below, resembles the Hausa possessive linker /-**n**/ which Newman (2000) identifies as 'relation marker' attaches to the head noun of N-N compounds, in such words as; **gida-n-sauro** [house-Rel.M-mosquito] 'mosquito net' or what he calls 'genitive linker' as in **gida-n Musa** 'Musa's house' (Newman 2000:109). Another 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. Differently put, the motivation for this process may emanate from the striking sonority relations between the nasal sound [**n**-] and vowels.

²**gòlmò** 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 **gòlmò** is normally performed during the annual traditional festival called **Dibiti** (Muhammad 1990:137-138).

Alternatively, this [n-], may be analyzable as a stem extender or linking element (cf. Escribano 2004, Štekauer et al. 2012:74-75, and Ralli and Andreou 2011:2) that applies to satisfy the phonotactic rules of the languages, since it does not apply in compounds such as **rik s'tò** (thing + soup) 'vegetable'. These assumptions are against the analysis in Rowbory (2009:14-25) where the [n-] variously signifies prepositions 'of', 'at', 'to,' or in Dettweiler (2012:16-34) where it denotes prepositions 'in' and 'of'. Consider the following examples:

Stems		Compound
(14) a. k'rí : à'yòmkò (thing + work)	→	rik nà'yòmkò 'a tool'
b. k'dòmó : a'cònà (lip + up/sky)	→	dòm k nà'cònà 'upper lip'
c. d'isá : ù'ná (eye + leg)	→	isád nù'ná 'ankle'
d. ká : ù'bù (someone + house)	→	ká nù'bù 'landlord' .

5. CONCLUSION

This paper attempts to examine the phonology of compounds in C'lela. It discusses the structure of compounds in the language. The discussion has shown that to adequately account for compounding in this language, one needs to understand its phonology. The phonological processes surveyed include adjacent and non-adjacent metathesis, final-vowel deletion, mid-vowel lowering and nasal-sound insertion. We assume that in compounding, the morphophonologically conditioned rules governing adjacent and non-adjacent metatheses are compound features unique to C'lela within the Benue-Congo family. The paper also suggested that, in C'lela compounding, the linking element [n] which attaches to the beginning of the vowel-initial second compound member is a 'stem extender' that applies to satisfy the morphophonological conditions of the language compound structure.

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