

ON THE SO-CALLED REVERSING TONAL SYSTEM OF CÍLÚBA:  
A CASE FOR RESTRUCTURING<sup>1</sup>

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1. Introduction

In 1939 Burssens published a description of the tonal system of Cí'lú'ba, a Bantu language of Zone L. Earlier, Hulstaert had written two detailed studies on tonal phenomena in M'óng'o [1934; 1935] and a grammar of the same language [1938]. The almost simultaneous publication of both grammars in the same Kongo-Overzee Series stimulated the comparison of their respective tonal systems [Hulstaert 1941]. Cí'lú'ba, as well as M'óng'o, seemed to have a fixed system of two basic tonemes, high (H) and low (L). But, curiously enough, Cí'lú'ba showed H tonemes where M'óng'o had L tonemes, and vice versa. This appeared to be consistent for nouns with disyllabic stems, nominal prefixes (L in M'óng'o and H in Cí'lú'ba), and for the connective particle (H in M'óng'o except for classes 1 and 9, and L in Cí'lú'ba except for classes 1 and 9).

Since then, the tonal system of M'óng'o has been considered as the normal 'etymological' type. That is, a type with almost no differences between the surface tone and its deep representation, with the latter being labeled 'original Bantu'. The Cí'lú'ba system, in contrast to M'óng'o, was then described as a 'reversive' type. Most linguists continue to accept the fact that this is a very exceptional kind of tonal system. Nothing so far in print seems to suggest an explanation for the apparent reversal of the tonemes in Cí'lú'ba. It has been vaguely suggested that the cause for the Cí'lú'ba 'reversal' may be found in the fact that the Bálú'ba like to reverse tones in their mourning songs [Meeussen and Van Caeneghem 1953].

In the present paper I wish to argue that the so-called reversive

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<sup>1</sup>This paper deals only with the theoretical aspects of the problem. Only a few examples are cited, and a monograph with a detailed tonal analysis of a body of sentences demonstrating the theory proposed here is now in preparation.

tonal system of Cílúba is the result of an ordered sequence of rules which are very common in Bantu languages. Further, I would like to demonstrate that the formulation of near-surface rules does not help discovering underlying tonemes in Cílúba, but serves only to describe the mechanism of stabilizing a once mobile tonal system.

To this effect I will also use data from some other Bantu languages of Zone L, such as Pende (L.11), Budya (L.20), Binji (L.22), Songe (L.23) and Kanyoka (L.32) as well as supplementary data from languages of other Zones: Tetela (C.71), Horohoro (D.28), Bangobango (LD.27), Shambaa (G.23) and Tonga (M.64). (All Zone numbers refer to Guthrie's [1948] classification.)

I will begin this paper by reexamining and discussing the data which have impelled G. Hulstaert, A. Burssens, A. E. Meeussen, A. Coupez and many others to accept the Cílúba tonal system as reversed in function of the Móngo system.

## 2. Comparison of the Móngo and Cílúba data

a. Monosyllabic stems. Since I regard sufficient syllabic length as a major condition for an adequate analysis of tonal patterns [Van Spaandonck 1967], nouns with monosyllabic stems cannot be considered as useful material.

- (1) M. mbwá  
Lu. mbwá  
 'dog'

b. Disyllabic stems. Nouns with disyllabic stems usually seem to demonstrate reversal of tonemes in Cílúba. Móngo patterns LHL and LLL for NP-CVCV (NP here means 'noun prefix') structures correspond mostly with Cílúba HLH and HHH.

- (2) M. ɪɔ(b)ʒkɔ  
Lu. dʒbokó  
 'arm, hand'
- (3) M. nyama  
Lu. nyámá  
 'animal, meat'

There are, however, some exceptions to the LHL pattern. They have been noted in the nouns for 'cattle', 'guinea-fowl', 'spear', 'hair', 'eye-brow', 'buffalo', 'shame', etc.<sup>2</sup>

(4) Mɔ. bɔ̃ngí  
Lu. lú súki  
'hair'

(5) Mɔ. lokíki  
Lu. díkiki  
'eye-brow'

For the Mɔngɔ patterns LLH and LHH (both of rather low frequency) there is no consistent reversing in Cílúba. The data are very confusing. Mɔngɔ LLH may correspond with Cílúba HHL, which means reversal, but also with HLH, HLL and HHH.

(6) Mɔ. fafá  
Lu. táátu  
'father'

(7) Mɔ. jɔkɛ́  
Lu. búíkí  
'honey'

(8) Mɔ. bofalá  
Lu. mupaala  
'antelope'

(9) Mɔ. mpulú  
Lu. nyúnyú  
'bird'

c. Verbal stems. As for verbal stems in the infinitive structures NP-CVCV and their extended forms (verbal and nominal) NP-CVCV(CV\*), the comparison is made difficult by the tonal difference in the prefix:

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<sup>2</sup>It really is too easy to explain these exceptions as errors in tone-marking or in printing, or even to attribute them to the influence of some surrounding dialects.

Ǿ- in Móngo and kú- in Cílúba. If, therefore, one confines oneself to the comparison of the tonal patterns of the -CVCV stems, it becomes clear that the two possible patterns in Móngo, LL and HL, correspond mostly with Cílúba HH and LH.

(10) Mo. -kenda  
Lu. -éndá  
 'go'

(11) Mo. -tóma  
Lu. -tumá  
 'send'

However, -VCV stems show some inconsistencies.

(12) Mo. -éta  
Lu. -ítá  
 'call by name'

Other stems have a different meaning:

(13) Mo. -amba                    'accept, receive'  
           -ámba                    'curse'  
Lu. -ámbá                    'speak, say'

The derived (extended) verbal and nominal forms of these basic stems seem to fit into the reversive type:

(14) Mo. -kendela  
Lu. -éndéíá  
 'go'       applicative

(15) Mo. -tómela  
Lu. -tumíná  
 'send'       applicative

(16) Mo. bokendo  
Lu. lúéndó  
 'journey'

d. Affixes. Tonemes on verbal prefixes in Móngo differ according to

tenses, while in Cílúba they are L for the 3rd person (classes) and H for the 1st and 2nd person [Meeussen 1954a].

Object infixes are L in Móngo and in Cílúba L too, except for the 2nd pers. sing. and the 3rd pers. sing. classes 1 and 3 [Meeussen 1960].

e. Word groups. Comparison of identical word groups demonstrates clearly that tonal patterns in Cílúba must be governed by other rules than simple reversal of tones.

- (17) Mb. wěla wă ngandó  
Lu. múkila wa nándu  
'tail of a crocodile'

f. Exceptions. Hulstaert [1941] and Coupez [1954] noted a number of exceptions. Hulstaert suggested borrowing and Coupez mentioned influences from neighbouring languages as a possible explanation for these exceptions. But Hulstaert also drew attention to the fact that personal pronouns had exactly the same tonemes in both Móngo and Cílúba. There was no explanation offered for this important exception.

Reexamining the data makes it clear that tone reversal in Cílúba is far from 'complete'. A few vocabulary items have created the impression of a reversive system.

### 3. Phonological rules in tone systems of Bantu languages

Elsewhere I have described in great detail three important tonological rules common in Bantu languages:

a. Displacement. Progressive displacement, or surface tone delayed by one, two or more syllables: H → 1, 2, ... H(H...)

- (18) So. kukúna butongo → kukuna bútongo  
'to plant cotton'

b. Repetition. Progressive repetition or spreading of the surface tone (tone copy) on one or more syllables: H → HH(H...)

- (19) Sh. mukalá mubabashi → mukalá múbábáshi  
'a dumb hunter'

c. Anticipation. Regressive displacement or anticipation of the surface

tone on one or more of the preceding syllables:  $H \rightarrow (\dots H)H\dots 2, 1$

- (20) To. izfna  $\rightarrow$  fzina  
'name'

The rules (a) and (c) can be combined with (b).

#### 4. Tonology rules in Cílúba

a. Phonological reduction rule. In his description of Cílúba, Burssens [1939] mentioned the use of a copular morpheme n- with a morphophonemic variant m- before labial stops.

- (21) Lu. n-nyoká  
'they are snakes'

- (22) Lu. m-bántú  
'they are people'

Other Bantu languages have ní (Swahili, Shambaa, etc.) so that Cílúba surface structure can be explained by a phonological reduction rule which seems to be essential for the analysis of the tone system:

$ní \rightarrow n-$  .

b. Tonological progressive displacement rule. Burssens [1939] established a rule of tonal contrast: n- has L tone when the following syllable is H, and H tone when the following syllable is L, cf. (21) and (22). However, we know that ní has a structural high toneme (cf. Shambaa [Roehl 1911]) which is represented in Cílúba on the morpheme (or syllable) itself when H tonemes in the deep level prevent the displacement. The surface representation of H is then delayed or shifted to one of the following syllables which have no deep H tonemes. Compare that with languages which have this characteristic phenomenon of tone-shift:

- (23) Bb. ní-bandu  $\rightarrow$  \*n-báandu  $\rightarrow$  mbandú  
'they are people'

- (24) So. ní-kadilu  $\rightarrow$  \*n-kádilu  $\rightarrow$  nkadílu  
'it is a fire'

It seems possible that mbúta 'it is a bow' in Cílúba may be the surface

structure of ní-butá because the displacement of the deep H toneme on ní may have caused the progressive displacement of the toneme on -tá (cf. Mò. botá).

c. Tonological progressive repetition rule. In Bantu languages with tonal repetition as a characteristic feature (Shambaa, Tetela, Shona, etc.) the representation of the H toneme of ní will take place accompanied by some echo-tonemes (spreading of tone) on one or more of the following syllables.

(25) Sh. ní muntu → [ní múntu]  
'it is a human being'

(26) ní muhuza → [ní múhúza]  
'it is a sin'

Applying the reduction, displacement and repetition rules one may obtain, for Cílúba:

(27) Lu. ní-bantu → \*n-bántu → mbántú  
'they are people'

The rules changing the deep tone into surface tone depend entirely on the tonological, phonological, and morphological environment. Forms without any underlying H tonemes will easily allow spreading of H echo-tonemes. Forms with underlying H tonemes will prevent eventually the displacement of a toneme [Van Spaandonck 1967]:

(28) Lu. ní-nyóka → \*ní-nyoká → ní-nyoká  
'it is a snake'

(29) Bb. ní-mbúzi → \*ní-mbuzí → nímbuzí  
'it is a goat'

d. Phonological deletion rule. Coupez [1955] has mentioned the deletion of the copular ní morpheme in some syntactical or even phonological environments in Horohoro.

(30) Hr. ní beetwé → \*ní beetwě → beetwě  
'it is us'

It thus seems possible that múntú 'a human being' in Cílúba is the

surface structure of: ní muntu → \*n-múntu → \*n-múntú → \*m-múntú  
→ [múntú].

The deletion of ní explains the H toneme on the nominal prefixes, one of the remarkable characteristics of Cílúba. Comparing then disyllabic noun stems in this language with the same nouns in other languages from Zone L, such as Bangobango and Songe, one finds the same surface patterns after applying the deletion rule:

(31) 'cheek'

<u>Bb.</u> ditáma	→	ditamá
<u>So.</u> etáma	→	etamá
<u>Lu.</u> ní ditáma → *n-dítamá	→	dítamá
<u>Mo.</u> litáma	→	litáma

e. Conclusion. Surface tonal patterns in Cílúba (the so-called reversible system) can be analysed and explained using a phonological reduction and deletion rule and a tonological displacement and repetition rule.

##### 5. Tonological rules in languages geographically and linguistically related to Cílúba (L.31.a.)

Most languages surrounding the Lúba dialects are marked by tonal phenomena transforming deep level tonemes into surface tones through rules akin to those mentioned above. Songe (L.23) and Bangobango (LD.27) have an ordered combination of displacement and repetition rules working on all levels [Van Spaandonck 1967]. Binji (L.22), described by Van Coillie [1948-49], has the same ordered combination of displacement and repetition rules but restricted to a limited number of structures. Pende (L.11), Budya (L.20) and Kanyoka (L.32) [Stappers 1953; 1955; 1952], show a repetition rule in a limited number of structures.

Some languages geographically in the neighborhood of Zone L, but linguistically belonging to other Zones, present also sufficient complementary evidence for these same rules: Horohoro (D.28) [Coupez 1955], with a combined displacement and repetition rule; Tetela (C.71) [Jacobs 1962-64], with a repetition rule only.

##### 6. Stabilization

A language with characteristic displacement and/or repetition of



tonemes has a mobile system because the derivation of deep tone to surface tone depends entirely upon distribution possibilities.

(32a) Bb. maíma gashoo → \*meemá gashoo → \*meemá gáshoo →  
 meema gáshóo  
 'little water'

(32b) maíma gáádiba → \*meemá gádiba → meemá gadíba  
 'much water'

A tonal phenomenon like repetition, if it occurs in all environments, may cause much confusion in surface patterns. In Tetela, clauses and sentences have become completely H, so that tonal contrast disappears and deep structure tonemes can no more be established through analysis of the surface patterns. Thus, a deep structure tonal context HLHL would be transformed in surface structure as HHHH. Most languages of this type have consequently developed restructuring devices in environments where tone repetition would obscure deep structure recognition.<sup>3</sup>

(33a) Tet. ló nsenge → ló nséngé  
 'in the millet'

(33b) ló nkambá → ló nkambá  
 'working'

Bantu languages which did not develop some kind of restructuring device show such complicated surface tonal patterns that their deep level tone remains a secret. Some of these languages are no more considered as tone languages.

Cílúba has no restructuring devices, but seems to have stabilized the mobility of the surface tonal patterns, by employing several near-surface rules, see above.

The surrounding languages with a displacement rule operating near the surface level, have different tonal patterns for the same structure, predictable only by analysing the environment:

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<sup>3</sup>Many other restructuring devices have been noted in several Bantu languages: limitation of the number of echo-tonemes, neutral syllables, localisation, downstep, etc.

- (34a) So. muíne muána → \*muiné muána → \*mwine múaná →  
mwine mwâná  
'the same child'
- (34b) ná muána uóso → \*na múaná uóso → na mwâna wósó  
'and the child completely'
- (34c) múngí muána → \*mũngí muaná → \*mũngí muaná → mũngí mwâná  
'the other child'

Cílúba, on the other hand, has stabilized tonal patterns at a certain level, so that the mobile system (created by the response of near-surface patterns to phonological and tonological environments) has been changed into a fixed system.

- (35a) Lu. ní-muána mukúlú → \*múaná múkulu → mwâná múkulu  
'the first born'
- (35b) ní-bulaalu buá muána → \*búlaalu bua múaná → búlaalu bwa mwâná  
'a bed for the child'

New rules for a fixed tonal system could thus be established. Compare the following:

- (36a) 'send'  
Mo. ōtóma  
Lu. ní-kutúma → kútumá
- (36b) Derivational forms:  
Mo. passive ōtómama  
Lu. causative ní-kutúmakaja → kútumákájá
- (37a) 'laugh'  
Mo. ōseka  
Lu. ní-kuseka → kúséká
- (37b) Derivational forms:  
Mo. reciprocal ōsekana  
Lu. causative ní-kusekesha → kúsékéshá

In both (36) and (37) deletion, displacement and repetition rules produce Cílúba surface patterns with a H tone on the final morpheme -a. It seemed then logical to formulate a rule stating that the final morpheme

in infinitives is always H and controls the neutral syllables belonging to the verbal extensions of the derivational stems (see [Meeussen 1961]).

## 7. Summary

The Cílúba tonal system is not a complete reversive system. Many questions about its ultimate nature are still wide open.

Tonology rules which have been established for many other Bantu languages in different Zones may work also in Cílúba, thus serving to erase the exceptionality of the system. Cílúba is completely surrounded by languages where these rules need to be formulated in order to describe the relation of deep and surface tone and find the deep tonal patterns.

At a certain level, the mobile near-surface tonal level in Cílúba has been stabilized; this explains in part why the rules are not immediately discoverable.

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List of Abbreviations:

*	indicates intermediate steps in the tonal derivation
C	consonant
H	high
L	low
NP	nominal prefix
V	vowel

Bb.            Bangobango

Hr.            Horohoro

Lu.            Cílúba

Mɔ.            Mʒngɔ

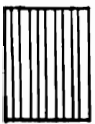
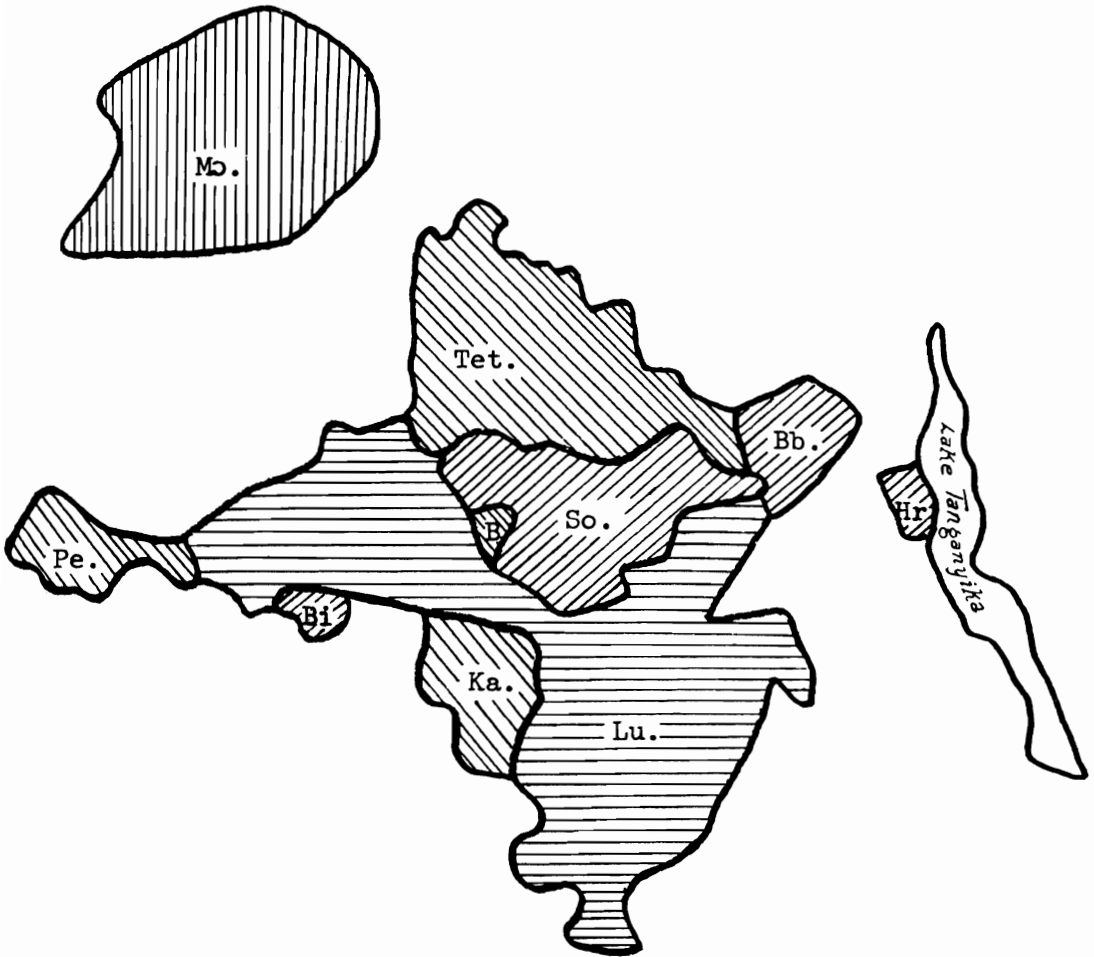
Sh.            Shambaa

So.            Songe

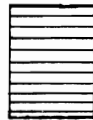
Tet.           Tetela

To.            Tonga

GEOGRAPHICAL DISTRIBUTION OF THE LANGUAGES DISCUSSED



Fixed type: Mŋgo



So-called reversive type: Cíŋba



Repetition rule:  
Budya, Pende, Kanyoka;  
**Tetela**



Ordered combination of displacement and repetition: Songe, Binji, Bangobango; Horohoro