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Title

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Permalink

<https://escholarship.org/uc/item/8ws9r4tw>

Journal

UC Berkeley PhonLab Annual Report, 7(7)

ISSN

2768-5047

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Publication Date

2011

DOI

10.5070/P78ws9r4tw

Metatony in Abo (Bankon), A42

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Presented on June 10, 2011 at the 42nd Annual Conference on African Linguistics
University of Maryland, College Park

ABSTRACT

Since Meeussen (1967), there have been recurrent reports of “metatony”, a process by which a subset of verb forms ending with L tone utterance-finally, end with H tone if followed by an object. While Schadeberg (1986) and Hadermann (2005) speculate that the H is historically derived from the Proto-Bantu *H tone augment and relate metatony to the conjoint/disjunct distinction, we show that neither hypothesis accounts for the full range of facts in Abo (A42), a Cameroonian Bantu language closely related to Basaa. Avoiding arbitrary reference to specific TAM forms, we present a strictly phonological analysis based on distinct tonal representations.

1. What is metatony?

Within traditional Bantu studies, the term *metatony* was introduced to characterize tonal alternations on the final vowel of the class 15 *ku-* infinitive:

“The final element has to be set up as *-a* (low) or *-á*... (with metatony: high if an object follows, low otherwise).” (Meeussen 1967: 111)

Canonical examples in (1) from Songye (L23) (Stappers 1964) are cited by Dimmendaal (1995:32) and Schadeberg (1995: 176) as representative of the phenomenon:

- (1) a. *ku-sep-a* ‘to laugh (at)’ (without metatony)
b. *ku-sep-á mfumu* ‘to laugh at the chief’ (with metatony)

As seen in (1a), an infinitive ends with L(ow) tone in isolation, but acquires a final H(igh) if followed by an object noun phrase. Both Dimmendaal and Schadeberg point out that the “metatonic” final H is lacking when the infinitive is followed by a connective (genitive) NP:

- (2) *ku-sep-a kwǎ-mbwá* ‘the laughing of the dog’ (without metatony)
to laugh of-dog

Citing several additional cases, Hadermann (2005: 405) shows that metatony can also be observed in verb conjugations built historically on the *ku-* infinitive, e.g. the present tense in Lega (D25) (from Meeussen 1971: 20):

- (3) a. *be-ko-bolót-á* ‘mózigí ‘they are pulling the rope’ (with metatony)
b. *be-ko-bolot-a tɔngɔ* ‘they are pulling also’ (without metatony)

Note that metatony occurs before the object noun in (3a), but not before the adverbial in (3b). Thus, to summarize, metatony originally referred to constructions which involve both the *ku-* ... *-a* infinitive and a following object NP.

Since (1967), the term *metatony* has been extended to describe tonal alternations in certain conjugated verb forms which clearly do not involve the infinitive *ku-* prefix, as well as cases where the following constituent need not be an object (to be exemplified below):

“Metatony is the term used for those cases where the tone of the final (inflectional) suffix of certain verb forms is (underlyingly) high before an object and low otherwise.” (Schadeberg 1995: 176)

“La métatonie consiste à attribuer à la finale d’une forme nominale-verbale ou d’une forme verbale un ton haut si celle-ci est suivie d’un « complément ». Bien que dans la majorité des exemples cités par les sources, la métatonie opère dans le contexte classique « Verbe + Objet », nous n’utilisons pas le terme d’objet car la fonction syntaxique du syntagme qui suit le verbe ne nous paraît pas toujours facile à identifier.” (Hadermann 2005: 404)

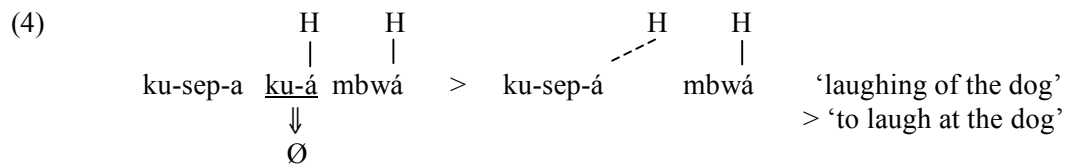
“Dans la phrase bàsàa la silhouette tonale d’un verbe conjugué avant pause est sensiblement différente de celle du même verbe, conjugué au même temps, mais suivi d’un mot quelconque.” (Bitjaa-Kody 1990: 364)

In synchronic analyses, the general assumption appears to be that the final H is derived:

“In the languages concerned here [Duala (A24) and Basaa (A43)], a verb-final vowel becomes high when it is followed by a complement.” (Costa & Kula 2008: 313)

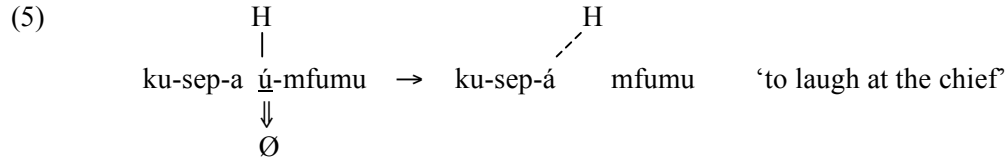
“...metatony, whereby in certain T[ense]A[spect] forms a high tone replaces a low or falling tone on post-radical syllables... if and only if the verb is not phrase-final, that is, followed by other material such as an object or adverbial.” (Nurse 2008: 48)

Attention has, however, been more focused on the question of how metatony originates. Two diachronic origins have been proposed for an historical *H developing into metatony: (i) from the connective (genitive) *-á morpheme (Angenot 1971; but see Hadermann 2005: 408-9); (ii) from the initial *H “augment” morpheme on the following noun phrase (Dimmendaal 1995, Schadeberg 1995). The first proposal naturally accounts for why metatony is often restricted to infinitive + object. As seen in the hypothetical derivation in (4), when the segments of the class 15 connective marker /ku-á/ drop out, its H tone is reassociated to the final vowel of the preceding infinitive verb:



While such a development might seem reasonable, even intuitive, Hadermann (2005: 408-9) rightly points out the absence of evidence that a connective morpheme was ever present in the forms that become metatonic. In Bantu, when the *ku-* infinitive is used verbally, e.g. to mean ‘to laugh at the dog’, the NP object normally follows without any marking, as in (1b) and (3a).

Turning to the second proposed origin, as schematized in (5), when the vowel of the hypothetical class 1 “article-like” augment *ú- drops out, its H reassociates to the final vowel of the infinitive:



This proposal makes two predictions: (i) metatony should only occur in languages which do not today have an overt augment; (ii) metatony could, at least originally, occur only before post-verbal nominals which could take the historical initial H augment, e.g. not kinship terms, proper nouns, etc. The languages cited by the above authors seem to support the first prediction, but probably not the second. (In any case, if metatony did occur before all objects, one could always propose that there had been an analogical extension to augmentless nominals.) While this reconstruction might account for why it is only objects which condition metatony, it would not be able to explain why the process is limited to infinitives in some languages. Still, Dimmendaal finds the augment source so appealing that he even extends it to account for pre-object verb-tone raising in distant non-Bantu Yoruba and Kana:

“...the metatony rule is so specific and similar in detail in the languages discussed above, that a hypothesis of an original augment causing the tonal alternation provides the most plausible explanation, despite the conjectural nature of this hypothesis.” (Dimmendaal 1995: 37)

A more recent idea is that metatony is related to focus and the “conjoint-disjoint” distinction attested in a number of Bantu languages (see §2):

“...in Duala and Basaa, where a tonal distinction with respect to a following complement can still be seen, we have [immediate after verb] focus as opposed to initial focus, pointing to the fact that the tonal effects... are the indicator of focus (via prosodic structure).” (Costa & Kula 2008: 313)

“[Metatony] is often described as just a tonal process, but it is striking that it has certain characteristics linking it to focus.... This suggests it has a syntactic-semantic function....” (Nurse 2008: 204)

Perhaps these authors would also seek a relationship between focus and the presence vs. absence of the augment, as sometimes occurs, e.g. synchronically in Luganda (Hyman & Katamba 1993) and diachronically in Makhuwa (van der Wal 2009: 32, 121). However, in the relevant languages the observed tonal changes occur not only before an object, but before any post-verbal constituent occurring within the same clause. Either the original metatony has been analogized to new contexts or, as we shall argue, focus and conjoint/disjoint distinctions are not related to the canonical metatony observed in Songye, Lega etc., where infinitives are not expected to be followed by focused elements.

Finally, somewhat vaguer is the characterization of metatony as simply marking a special relation between the verb and what follows:

“Even if the syntactic details are not known, it is clear that metatony is a syntactic marking of a certain relationship between a verb and a class of complements which includes what we call the object.” (Schadeberg 1995: 176)

“Nous préférons avancer que la métatonie est un phénomène suprasegmental conditionné par la syntaxe de l'énoncé qui consiste à mettre en évidence le lien « verbe-complément »” (Hadermann 2005: 409)

Despite the above, varying ideas, we suspect everyone would agree with Nurse (2008: 204): “The nature and origin of this whole tonal phenomenon needs more examination....” It is with this in mind that we now turn to consider “metatony” in Abo.

2. “Metatony” in Abo

In this section we describe apparent metatony in Abo (Bankon), a Cameroonian NW Bantu language designated as A42 in Guthrie’s (1967-71) referential system. Spoken by an estimated 12,000 speakers (SIL, 2001), Abo is located to the north of Duala and to the west of Basaa, to which it is closely related, although it is more closely to Barombi (A41) (Lamberty 2002)). Previous work on Abo includes Spellenberg (1922), Ittman (1926-7) and Atindogbe (1990, 1996). The present study is based on a yearlong field methods course, based on the speech of Achille Massoma from Màngàmbà to whom we owe our deepest thanks, as well as to the other participants in the class.¹

As seen in (6) Abo verb forms show three final tone patterns, illustrated with the L tone verb *pòṅḁ* ‘make, create’:²

(6)	<i>suffix tone</i>	<i>TAM</i>	<i>pre-pause</i>	+ bitámbe ‘shoes’	
a.	-L ~ -H	<i>present</i>	ǎ pòṅḁ	ǎ pòṅḁ bitámbe	‘he is making shoes’
		<i>past</i>	à pòṅḁ	à pòṅḁ bitámbe	‘he made shoes’
		<i>perfect</i>	à má pòṅḁ	à má pòṅḁ bitámbe	‘he has made shoes’
b.	-L	<i>future</i>	à káá pòṅḁ	à káá pòṅḁ bitámbe	‘he will make shoes’
c.	-H	<i>stative</i>	à pòṅḁ	à pòṅḁ bitámbe	‘he has made shoes’
		<i>imperative</i>	pòṅḁ	pòṅḁ bitámbe	‘make shoes!’
		<i>subjunctive</i>	sá pòṅḁ	sá pòṅḁ bitámbe	‘let’s make shoes!’

As seen, verbs either alternate between -L and -H, always end -L, or always end -H. As also seen, while the tone of the prefix of *bitámbe* ‘shoes’ is underlyingly L, it sometimes becomes H, to be discussed below.

The first question is how to analyze the metatony-like alternations in (6a) diachronically. First, it is highly unlikely that it derives from an infinitive + *H connective marker: There is no trace of *ku-* or any reason to think that an infinitive is involved in these forms, either synchronically or diachronically. In fact Abo does not have an infinitive, the verbal noun which does exist has a quite different form: *pòṅḁlá(ghà) dí bitámbe* ‘making of shoes’.

The tonal alternations in (6a) are also not likely to derive from a *H augment. The tenses in (6a) acquire a final -H even when followed by a non-object. That is, the final -L observed before pause becomes -H before all parts of speech and all constituents within the clause:

(7)	a.	ǎ sòṅsè	‘he is counting’	
	b.	ǎ sòṅsé mó’ní	‘he is counting money’	___ noun
	c.	ǎ sòṅsé àmù mòní	‘he is counting this money’	___ demonstrative
	d.	ǎ sòṅsé mó	‘he is counting it’	___ pronoun
	e.	ǎ sòṅsé látálá	‘he is counting now’	___ adverb
	f.	ǎ sòṅsé nì mìnnyòó myé	‘he is counting with his fingers’	___ preposition
	g.	ǎ sòṅsé nì/tò sák	‘he counts and/or dances’	___ conjunction

Since pronouns, adverbs, prepositions and conjunctions are not marked by an augment in Bantu, a different source of the tonal alternations must be sought.

¹ Nadine Borchardt, Roslyn Burns, Toni Cook, Thera Crane, Rachele Delucchi, Stefanie Fauconnier, Greg Finley, Clare Sandy.

² As seen in the translations, the stative is also used transitively as a resultant, while the subjunctive is also used as a hortative. Depending on the verb, there may also be vowel modifications in the stative and/or subjunctive.

We now turn to the second question, which is how to interpret the alternating -L ~ -H tenses in (6a) synchronically. We first show that it has nothing to do with marking focus or with the tightness of the bond between the verb and what follows, e.g. Meeussen's (1959) "conjoint" vs. "disjoint" distinction. As seen in (8), metatonic -L → -H occurs independently of where the focus is within the sentence:

- (8) a. "neutral" focus mǎn ǎ sòŋsé mǎsɔŋ mé 'the child is counting his teeth'
 b. subject focus mǎn ndí ǎ sòŋsé mǎsɔŋ mé 'the CHILD is counting his teeth'
 c. non-subject focus mǎn ǎ sòŋsé ndí mǎsɔŋ mé 'the child is counting his TEETH'

Whether unmarked for focus as in (8a), or whether the focus marker occurs pre- or post-verbally, as in (8b,c), the verb /sòŋsé/ 'count' is realized with a final -H. In (8c), the post-verbal focus marker *ndí* can indicate focus on the object, the lexical verb, or both. Hence, (9a) can be the answer to any of the questions in (9b) (Burns 2011):

- (9) a. kém, mǎn ǎ sòŋsé ndí mǎsɔŋ mé
 no, child he count FOC teeth his
 b. Is the child counting his fingers? *Answer:* No, the child is counting his TEETH
 c. Is the child cleaning his teeth? *Answer:* No, the child is COUNTING his teeth.
 d. Is the child cleaning his fingers? *Answer:* No, the child is COUNTING HIS TEETH.

Since the same three-way distinction in final tone is observed in corresponding relative and other backgrounded clauses, where most focus distinctions are typically neutralized in Bantu, we can conclude, contrary to Costa & Kula (2008: 313) that the final -H is not an "indicator of focus":

- | | | | | | |
|------|-------------|---------|-----------------|-------------------------|---------------------|
| (10) | suffix tone | TAM | pre-pause | + bitámbe 'shoes' | 'the person who...' |
| a. | -L ~ -H | present | mùt nú pòŋɔ | mùt nú pòŋɔ bitámbe | 'is making shoes' |
| | | past | mùt nú pɔŋɔ | mùt nú pɔŋɔ bitámbe | 'made shoes' |
| b. | -L | future | mùt nú káà pòŋɔ | mùt nú káà pòŋɔ bitámbe | 'will make shoes' |
| c. | -H | stative | mùt nú pòŋɔ | mùt nú pòŋɔ bitámbe | 'has made shoes' |

Can one however exclude the possibility that the -L ~ -H tenses realize a tighter bond between the verb and what follows? That is, that they represent a "conjoint" form of the verb? We follow Hyman & Watters (1984) in identifying two types of "conjoint" vs. "disjoint" distinctions:

- (11) a. Type 1: syntactic [±focus]
 b. Type 2: morphologized [±F]

Consider the following characterization of syntactic [-focus] conjoint vs. [+focus] disjoint in Chibemba (M42):

"[Conjoint forms] throw emphasis (if any) on what follows the verb, or more precisely, are strongly linked to what follows (and formally therefore cannot stand at the end of the sentence...)
 [Disjoint forms] throw emphasis on the verb itself, or more precisely, have only a weak link with what follows (and formally therefore may stand in mid-sentence or at sentence-end." (Sharman 1956: 30)³

³ In most type 1 systems, conjoint verb forms can occur at sentence-end if in a relative clause, where focus distinctions are minimized or prohibited. Thus, the final verb form in a sentence such as 'I picked up the book that fell' would be conjoint.

More than tone can be involved in realizing the conjoint/disjoint distinction. In Chibemba the disjoint [+focus] present tense is marked by *-la-* prefix, while the corresponding conjoint [-focus] is marked by \emptyset :

- (12) a. *disjoint*: bušé mu-la-peep-a ‘do you (pl.) smoke?’ (Sharman 1956:40)
 b. *conjoint*: ee tu-peep-a sekelééti ‘yes, we smoke cigarettes’
 c. *disjoint*: bámó bá-la-ly-á insoka ‘some people actually eat snakes’

While disjoint *-la-* must appear in a main clause final verb, as in (12a), both forms occur internally. In (12b) the verb is conjoint because it is [-focus]; in (12c) *-la-* appears because the verb is included in the focus. There are also (and sometimes only) tonal affects. As seen in (13a), disjoint verb forms are marked by spreading the H tone to the end of the word (Sharman 1956: 40):

- (13) a. *disjoint*: nga mw-aa-tób-á úmutóndó, bálééisaafúlwá
 ‘if you BREAK the pot, they will get angry’
 b. *conjoint*: nga mw-aa-tób-a úmutóndó, tsáákuláatápíla múnsupa
 ‘if you break the POT, we will have to use a calabash to draw water’

The H of /-tób-/ ‘break’ does not spread in the conjoint form in (13b). As seen above in (9) and (10), the -L ~ -H alternations in Abo clearly have nothing to do with type 1 conjoint vs. disjoint.

In type 2 systems different tense-aspect-mood-polarity features result in a similar strong vs. weak prosodic bond between the verb and what follows. In Haya (JE22), all H tones of [-F] verbs are deleted in non-final position, while [+F] verbs retain their H tones (Hyman & Byarushengo 1984: 71-2; Hyman & Watters 1984: 260). In the following examples we see that the affirmative of the P1 (today past tense) is [-F], while the corresponding negative is [+F]:

- (14) a. [-F] bá-á-kôm-a ‘they tied’ (today) ba-a-kôm-a Káto ‘they tied Kato’
 b. [+F] ti-bá-á-kom-a ‘they didn’t tie’ (today) ti-bá-á-kom-a Káto ‘they didn’t tie Kato’

In general, [+F] forms are intrinsically focused, “marked” values of tense, aspect, mood and polarity (Hyman & Watters 1984), while the “unmarked” values tend to be [-F], as in Haya:

- | | | | |
|------|----------------------------|--|------------------------|
| (15) | <i>Affirmative [-F]</i> | <i>Affirmative [+F]</i> | + All Negatives = [+F] |
| | 0 tense (present habitual) | PROG (progressive) | |
| | P1 (today past tense) | PERF (perfect ‘to have already...’) | |
| | P2 (yesterday past tense) | EXP (experiential ‘to have done before’) | |
| | PH (past habitual) | PRST (persistive ‘still’) | |
| | F1 (today future) | SJCT (subjunctive) | |
| | F2 (general future) | IMPER (imperative) | |

The most clear indication of this is that all negatives are [+F], indicating that they form a less tight bond with what follows. That this is not the case in Abo is seen in the negative forms in (16).

- | | | | | | |
|------|--------------------|----------------|------------------|--------------------|-------------------------|
| (16) | <i>suffix tone</i> | <i>TAM</i> | <i>pre-pause</i> | + bitámbe ‘shoes’ | |
| a. | -L ~ -H | <i>present</i> | à tá pòŋò | à tá pòŋò bitámbe | ‘he isn’t making shoes’ |
| | | <i>past</i> | à tá ‘póŋò | à tá ‘póŋò bitámbe | ‘he didn’t make shoes’ |
| | | <i>perfect</i> | à táá pòŋò | à táŋ pòŋò bitámbe | ‘he hasn’t made shoes’ |
| b. | -L | <i>future</i> | à táá pòŋò | à táá pòŋò bitámbe | ‘he won’t make shoes’ |

c.	-H	<i>stative</i>	à tá pòṅó	à tá pòṅó bitámbé	‘he hasn’t made shoes’
d.	-L ~ -H	<i>imperative</i>	ḍ tṣḍ pṣṅḍ	ḍ tṣḍ pṣṅḍ bitámbé	‘don’t make shoes!’
		<i>subjunctive</i>	sá táá pṣṅḍ	sá táá pṣṅḍ bitámbé	‘let’s not make shoes!’

As can be observed, the three final tone patterns of the affirmative forms in (6) stay the same in the negative except (16d). If inherent focus or markedness were conditioning a disjoint absence of metatony, we would expect the imperative and subjunctive negatives to be the least prone to the -L ~ -H alternations seen in (16d). We thus safely conclude that -L → -H does not correspond with [±focus] or [±F]. Instead, the alternation has a strictly phonological basis, as we shall now see.

3. A phonological analysis

Given that there are only three suffix tone patterns on verbs, there are several possible phonological analyses:

(17)	<i>suffix tone</i>	<i>analysis #1</i>	<i>analysis #2</i>	<i>analysis #3</i>	<i>(etc.)</i>
a.	-L ~ -H	/-LH/	/-Ø/	/-H/	
b.	-L	/-L/	/-L/	/-L/	
c.	-H	/-H/	/-H/	/-HL/	

In analysis #1, the metatonic tenses would end in a /-LH/ suffix sequence distinct from both /-L/ and /-H/. The L would be lost in final position, but kept in medial position. While simplifying a final LH to L would not be surprising, there would be no explanation for why the LH sequence is not simplified to a downstepped H after a H root, e.g. *ǎ :sálá bitámbé* ‘he is using shoes’ (not **ǎ:sá·lá bitámbé*). In analysis #2, the metatonic tenses would end in a toneless specification, which would acquire a L finally, but a H medially. Besides being arbitrary, how could one distinguish a toneless specification on a monomoraic H tone verb such as *jé* ‘eat’ or *fá* ‘put’, which do not have a second mora to contrast the -Ø specification. Analysis #3 assumes a contrast between /-H/, /-L/ and /-HL/. The /-H/ of the metatonic tenses would become -L finally. In order to keep these distinct from those verb forms which remain -H in all contexts, these latter would have to be analyzed as having an underlying /-HL/ suffixal sequence. In the remainder of this section we will argue for analysis #3, beginning with a demonstration that the contrasting /-HL/ representation is well motivated.

To make the argument we begin by observing in (18) that -L → -H not only raises the final tone of the verb, but also the L tone of a following noun prefix:

(18) a.	L-L	→	H-L	ǎ sḍṅsé má-kḍn	‘he is counting plantains’	(mà-kḍn)
	L-LH	→	H-LH	ǎ sḍṅsé má-cèé	‘he is counting eggs’	(mà-cèé)
	L-H	→	H-H	ǎ sḍṅsé má-kṣó	‘he is counting stones’	(mà-kṣó)
b.	L-L-L	→	H-L-L	ǎ sḍṅsé má-kàkò	‘he is counting crabs’	(mà-kàkò)
	L-L-H	→	H-L-H	ǎ sḍṅsé má-bèndé	‘he is counting cups’	(mà-bèndé)
	L-H-H	→	H-H-H	ǎ sḍṅsé má-pṣḍó	‘he is counting holes’	(mà-pṣḍó)

In addition, when the noun has a floating L prefix, e.g. in class 9/10, a following L or LH stem will instead undergo raising:

(19) a.	(L)-L	→	HL	ǎ sḍṅsé njḍk	‘he is counting elephants’	(`n-jḍk)
	(L)-LH	→	H·H	ǎ sḍṅsé mbé·é	‘he is counting pots’	(`m-bèé)
	(L)-H	→	H	ǎ sḍṅsé mbyó	‘he is counting dogs’	(`m-byó)

- b. (L)-L-L → H-L ǎ sòṅsé mbónjì ‘he is counting flowers’ (ṁ-bònjì)
 (L)-L-H → H·H ǎ sòṅsé ṅḡḡndó ‘he is counting beans’ (ṁ-ḡḡndó)
 (L)-H-H → H-H ǎ sòṅsé mbótí ‘he is counting clothing’ (ṁ-bótí)

The forms in (20) show that the same alternations take place in the ‘N₁ of N₂’ connective construction:

- (20) a. L-L → H-L ibók dí má-kòṅ ‘place of the plantains’ (mà-kòṅ)
 L-LH → H-LH ibók dí má-cèé ‘place of the eggs’ (mà-cèé)
 L-H → H-H ibók dí má-kóó ‘place of the stones’ (mà-kóó)
 b. L-L-L → H-L-L ibók dí má-kàkò ‘place of the crabs’ (mà-kàkò)
 L-L-H → H-L-H ibók dí má-bèndé ‘place of the cups’ (mà-bèndé)
 L-H-H → H-H-H ibók dí má-póndó ‘place of the holes’ (mà-póndó)
 c. (L)-L → HL ibók dí njòk ‘place of the elephants’ (ṁ-njòk)
 (L)-LH → H·H ibók dí mbé·é ‘place of the pots’ (ṁ-mbéé)
 (L)-H → H ibók dí mbyó ‘place of the dogs’ (ṁ-mbyó)
 d. (L)-L-L → H-L ibók dí mbónjì ‘place of the flowers’ (ṁ-mbónjì)
 (L)-L-H → H·H ibók dí ṅḡḡndó ‘place of the beans’ (ṁ-ḡḡndó)
 (L)-H-H → H-H ibók dí mbótí ‘place of the clothing’ (ṁ-bótí)

On the other hand, if the following word does not have a L- prefix, either overt or floating, it will not undergo raising, even if the form itself begins L:

- (21) a. *demonstrative*: ǎ sòṅsé àyí njòk ‘he is counting those elephants’
 ibók dí àyí njòk ‘the place of those elephants’
 b. *preposition*: ǎ sòṅsé nì ndíṅ yě ‘he is counting with his friend’
 c. *particles*: ǎ sòṅsé kì màkàkò ‘he is also counting crabs’
 à tá sòṅsé tò mùt ‘he isn’t counting anyone’

To account for the raising of a L prefix, one might naturally propose a rule of H tone spreading (HTS). However since a L prefix + H root becomes H-H, not the expected H·H, we must prevent the prefixal L from conditioning a downstep. There are two possible interpretations: (i) rather than HTS, the L of a noun prefix is featurally changed to H in the above two contexts (i.e. L → H); (ii) the L of a noun prefix is deleted in the above contexts, followed by HTS. We adopt and illustrate this second interpretation in (22).

- (22) ǎ sòṅsé + mà-kóó → ǎ sòṅsé + ma-kóó → ǎ sòṅsé + má-kóó ‘he is counting stones’
 $\begin{array}{ccccccc} \wedge & | & | & | & \vee & & \\ \text{LH} & \text{L} & \text{H} & & \text{L} & \text{H} & \\ \wedge & | & | & & \vee & & \\ \text{LH} & \text{L} & \text{H} & & \emptyset & \text{H} & \\ \wedge & | & | & & \vee & & \\ \text{LH} & \text{L} & \text{H} & & \text{H} & & \end{array}$

While there are thus two aspects to “metatony” in Abo, final L → H on the verb + raising of the prefix tone of a following noun, it is important to note that the latter occurs only with the former. Crucially, *L prefixes are not raised after verb forms which end -H* (recall (6c), repeated below in (23a)):

- (23) a. -H *stative* à pòṅó à pòṅó bítámbé ‘he has made shoes’
imperative pòṅó pòṅó bítámbé ‘make shoes!’
subjunctive sá pó·ṅó sá pó·ṅó bítámbé ‘let’s make shoes!’
 b. -H *stative* à pòṅó à pòṅó mbótí ‘he has made clothing’
imperative pòṅó pòṅó mbótí ‘make clothing!’
subjunctive sá pó·ṅó sá pó·ṅó mbótí ‘let’s make clothing!’

As seen in (23b), H tone nouns which have a floating L prefix are realized with a downstep in (23), which does not occur a metatonic -H (cf. (19)). Similarly, pronouns, which also have a floating L prefix, are realized H in (24a), but ¹H in (24c).

(24)	<i>suffix tone</i>	<i>TAM</i>	<i>pre-pause</i>	+ byó ‘them’ (class 8) < /bì-ó/ or / ¹ bí-ó/	
a.	-L ~ -H	<i>present</i>	ǎ pòŋò	ǎ pòŋó byó	‘he is making them’
		<i>past</i>	à póŋò	à póŋó byó	‘he made them’
		<i>perfect</i>	à má pòŋò	à má pòŋó byó	‘he has made them’
b.	-L	<i>future</i>	à káà pòŋò	à káà pòŋò byó	‘he will make them’
c.	-H	<i>stative</i>	à pòŋó	à pòŋó ¹ byó	‘he has made them’
		<i>imperative</i>	pòŋó	pòŋó ¹ byó	‘make them!’
		<i>subjunctive</i>	sá póŋó	sá póŋó ¹ byó	‘let’s make them!’

Our proposal to account for this difference is that metatonic tenses end with an underlying /-H/, which undergoes H → L finally. Final -H tenses are underlying /-HL/, which simplifies to -H, with its delinked L conditioning downstep on a following H.

However, since nouns and pronouns begin with a (linked or floating) L tone, we have not been able to demonstrate that the observed downsteps are indeed due to the L of suffixal /-HL/. In order to do this we need to test the hypothesis by placing an unambiguously /H/-initial constituent immediately after the /-HL/ tenses. This is rather hard to find, as most words in Abo begin with a L tone. One clear source of an initial H constituent is a headless connective, e.g. class 8 *bí mán* ‘those of the child, the child’s’, illustrated in (25).

(25)	<i>suffix tone</i>	<i>TAM</i>	<i>pre-pause</i>	+ bí mán ‘the child’s’ (e.g. bitámbe ‘shoes’)	
a.	/-H/	<i>present</i>	ǎ pòŋò	ǎ pòŋó bí mán	‘he is making the child’s’
		<i>past</i>	à póŋò	à póŋó bí mán	‘he made the child’s’
		<i>perfect</i>	à má pòŋò	à má pòŋó bí mán	‘he has made the child’s’
b.	/-L/	<i>future</i>	à káà pòŋò	à káà pòŋò bí mán	‘he will make the child’s’
c.	/-HL/	<i>stative</i>	à pòŋó	à pòŋó ¹ bí mán	‘he has made the child’s’
		<i>imperative</i>	pòŋó	pòŋó ¹ bí mán	‘make the child’s!’
		<i>subjunctive</i>	sá póŋó	sá póŋó ¹ bí mán	‘let’s make the child’s!’

In (25a) we observe the expected final H on the verb. Also as expected, in (25b) the final vowel of verb in the future tense in (25b) remains L. Crucially, the downstep preceding *bí mán* in (25c) shows the effect of the final L of the posited /-HL/ suffixal tone sequence. Our analysis is thereby confirmed: The “metatonic” tenses in (25a) end in a /-H/ suffix, which becomes L finally. Non-alternating final-L tenses such as the future in (25b) end /-L/, and non-alternating final-H tenses end /-HL/.

The last point to clarify is that the final /-H/ of metatonic tenses will be preserved only if the postverbal element occurs within the same clause. The H → L rule thus applies in recapitulative right-dislocations such as in (26).

(26)	a.	mǎn ǎ sòŋsè tò nyé kì	‘the child is counting, even he’
	b.	ǎ sòŋsè mǎn	‘he is counting, the child’
		(cf. ǎ sòŋsé mán	‘he is counting the child’)

In (27) we formulate the rule as lowering the H suffix of a verb at the end of an intonational phrase:

(27) $H_{\text{verb.sfx}} \rightarrow L / \text{ ___ }]_{\text{IP}}$

With this established, we consider further evidence for the analysis in the following two subsections.

4. Curious further evidence concerning /H/ verbs

In our treatment of the different verb-tone patterns in Abo, we have thus far considered only /L/ verbs, where one can easily see the -L ~ -H alternation on the verb itself. Although /H/ verbs always end H, e.g. *sálá* ‘use’, the effect of the different tonal suffixes can be seen on the following word. Thus, the prefix *bì-* of *bítámbe* ‘shoes’ is raised in (28a), but not in (28b,c).

(28)	suffix tone	TAM	pre-pause	+ <i>bítámbe</i> ‘shoes’	
a.	/-H/	<i>present</i>	ǎ ‘sálá	ǎ ‘sálá <i>bítámbe</i>	‘he is using shoes’
		<i>past</i>	à sálá	à sálá <i>bítámbe</i>	‘he used shoes’
		<i>perfect</i>	à má ‘sálá	à má ‘sálá <i>bítámbe</i>	‘he has used shoes’
b.	/-L/	<i>future</i>	à káà sálá	à káà sálá <i>bítámbe</i>	‘he will use shoes’
c.	/-HL/	<i>stative</i>	à sélé	à sélé <i>bítámbe</i>	‘he has used shoes’
		<i>imperative</i>	sálá	sálá <i>bítámbe</i>	‘use shoes!’
		<i>subjunctive</i>	sá sálá	sá sálá <i>bítámbe</i>	‘let’s use shoes!’

The fact that *bì-* stays low after *sálá* in (28b) shows that the future has to have a /-L/ suffix which blocks HTS. Similarly, the floating L prefix of *mbótí* ‘clothing’ is raised (or deleted) in (29a), where the noun follows the verb without a downstep:

(29)	suffix tone	TAM	pre-pause	+ <i>mbótí</i> ‘clothing’	
a.	/-H/	<i>present</i>	ǎ ‘sálá	ǎ ‘sálá <i>mbótí</i>	‘he is using clothing’
		<i>past</i>	à sálá	à sálá <i>mbótí</i>	‘he used clothing’
		<i>perfect</i>	à má ‘sálá	à má ‘sálá <i>mbótí</i>	‘he has used clothing’
b.	/-L/	<i>future</i>	à káà sálá	à káà sálá ‘ <i>mbótí</i>	‘he will use clothing’
c.	/-HL/	<i>stative</i>	à sélé	à sélé ‘ <i>mbótí</i>	‘he has used clothing’
		<i>imperative</i>	sálá	sálá ‘ <i>mbótí</i>	‘use clothing!’
		<i>subjunctive</i>	sá sálá	sá sálá ‘ <i>mbótí</i>	‘let’s use clothing!’

In (29b,c), where the floating L prefix follows the /-L/ or /-HL/ suffixal tones, either of the two floating L tones in sequence would have conditioned the downstep. /H/ tone verb roots thus support the analysis.

Further evidence for the proposed underlying verb suffix tones comes from a curious, morpheme-specific tonal effect: a H tone verb becomes L before the complementizer *là* ‘that’, *but only in the tenses that exhibit metatony!* Thus, the verb *sáá* ‘make’ is realized *sàà* in (30a), but not in (30b,c).

(30)	suffix tone	TAM	final	+ <i>là bá jé</i> ‘that they eat’	
a.	/-H/	<i>present</i>	ǎ ‘sáá	ǎ <i>sàà là bá jé</i>	‘he is making them eat’
		<i>past</i>	à sáá	à <i>sàà là bá jé</i>	‘he made them eat’
		<i>perfect</i>	à má ‘sáá	à má <i>sàà là bá jé</i>	‘he has made them eat’
b.	/-L/	<i>future</i>	à káà sáá	à káà sáá <i>là bá jé</i>	‘he will make them eat’
c.	/-HL/	<i>stative</i>	à séé	à séé <i>là bá jé</i>	‘he has made them eat’
		<i>imperative</i>	sáá	sáá <i>là bá jé</i>	‘make them eat!’
		<i>subjunctive</i>	sá séé	sá séé <i>là bá jé</i>	‘let’s make them eat!’

Any H tone verb of however many syllables and any syllable shape will show the same alternations before *là*; This is illustrated again with the verb *yó* ‘say’ in (31).

(31)	<i>suffix tone</i>	<i>TAM</i>	<i>final</i>	+ <i>là kém</i> (lit. ‘that no’)	
a.	/-H/	<i>present</i>	ǎ ‘yó	ǎ yò là kém	‘he says no’
		<i>past</i>	à yó	à yò là kém	‘he said no’
		<i>perfect</i>	à má ‘yó	à má yò là kém	‘he has said no’
b.	/-L/	<i>future</i>	à káá yó	à káá yó là kém	‘he will say no’
c.	/-HL/	<i>stative</i>	à yó	à yó là kém	‘he has said no’
		<i>imperative</i>	yó	yó là kém	‘say no!’
		<i>subjunctive</i>	sá yó	sá yó là kém	‘let’s say no!’

Note that *là* can lower a preceding H only on the verb, not on a noun or pronoun:⁴

(32) a.	ǎ tón̩ jé	‘he wants food’
b.	ǎ tòn̩ là á jé	‘he wants to eat’ (lit. ‘he _i wants that he _i eats [indicative]’)
	ǎ tòn̩ là à jé	‘he wants him to eat’ (lit. ‘he _i wants that he _j eat [subjunctive]’)
	ǎ tòn̩ là mǎn à jé	‘he wants the child to eat’

In the above examples, pre-*là* lowering is illustrated with H tone verbs, e.g. *tón̩* ‘want’, since its effect would be vacuous on a L tone verb. *là* may however be assumed to remove the suffix /-H/ of L tone verbs, e.g. *kòŋgè* ‘remember’:

(33)	<i>suffix tone</i>	<i>TAM</i>	+ <i>là à jé</i> ‘that he eat’	
a.	/-H/	<i>present</i>	ǎ kòŋgè là à jé	‘he remembers to eat’
		<i>past</i>	à kòŋgè là à jé	‘he remembered to eat’
		<i>perfect</i>	à má kòŋgè là à jé	‘he has remembered to eat’
b.	/-L/	<i>future</i>	à káá kòŋgè là à jé	‘he will remember to eat’
c.	/-HL/	<i>stative</i>	à kòŋgè là à jé	‘he has remembered to eat’
		<i>imperative</i>	kòŋgè là ò jé	‘remember to eat!’
		<i>subjunctive</i>	sá kòŋgè là à jé	‘let’s remember to eat!’

The lowering effect of *là* on a preceding H tone verb in metatonic tenses is significant for several reasons. First, it shows that “metatony” is not a raising process: Just looking at the L tone verbs in (33), one might at first conclude that “raising” is blocked before *là*. However since the H tone of the verb root is also affected, as in (30)-(32), a lowering process is clearly needed. Second, the fact that lowering is limited to metatonic tenses cannot be due to these latter having an underlying /-L/ suffix. This is seen from the absence of lowering in the future tense, which unambiguously ends /-L/. Finally, lowering before *là* supports our decision to set up the relevant tenses with a final /-H/ suffix. Consider the metatonic past tense forms of the verbs /kàŋà/ ‘refuse (to s.o.)’ and /nísé/ ‘ask (for)’ in (34).

(34) a.	à kàŋà	à nísé	‘he refused/asked’
b.	à kàŋà bitámbe	à nísé bitámbe	‘he refused/asked for shoes’
c.	à kàŋà là à jé	à nisè là à jé	‘he refused/asked that he eat’

⁴ It is possible that the agreement marker which occurs in relative clause formation is L because it precedes *là*. This is particularly clear in subject relatives such as *mǎn nù là nú kó* ‘the child who fell’, which provide the only context in which the class 1 marker /nú/ is realized with a surface L tone. The second /nú/ which occurs before the verb maintains its underlying /H/.

As seen in (34a), the past tense has a prefixal H- tone which associates onto the first syllable of *kàŋà*. According to our analysis the underlying representation would thus be /' + kàŋà/, with the second syllable being realized L before pause. The final H is maintained in (34b), with the H + L-H sequence being realized as H-H. While the prefixal H- is not realized before a H tone verb such as *nísé* we do observe that the prefix of /bì-támbé/ undergoes HTS after both verbs, as we expect from a metatonic tense. What's of particular interest are the realizations in (34c). Since /' + kàŋà/ is realized *kàŋà*, it is clear that only the final H is lowered before *là*. The prefixal H is presumably protected by the /L/ of the root. However, note that /' + nísé/ is realized *nìsè*, i.e. all L. What this means is that the prefixal H + root H + suffixal H are all lowered before *là*. While we cannot explain why *là* has the effect that it does, its lowering effect supports our contention that the so-called metatonic tenses have an underlying /-H/ suffixal tone, not /-L/. As seen in (30c)-(32c), the tenses which end /-HL/ are notably not affected.

5. Variation and the focus marker *ndí*

Up until now we have proceeded as if the facts were completely clean and without variation. Quite late in our investigation we noted that our one speaker occasionally accepted forms in which a L prefix remained L after a metatonic H. Thus, in addition to the expected form in (35a), (35b) was also judged to be acceptable, but less preferred:

- (35) a. ǎ sòŋsé bí-támbé ‘he is counting shoes’
 b. ǎ sòŋsé bì-támbé

However, when the noun begins with a floating L prefix, e.g. /'njòk/ ‘elephant(s)’, /'mbyó/ ‘dog(s)’, the L cannot be maintained in the output:

- (36) a. ǎ sòŋsé njòk ‘he is counting elephants’ (*ǎ sòŋsé njòk)
 b. ǎ sòŋsé mbyó ‘he is counting dogs’ (*ǎ sòŋsé 'mbyó)

We therefore assume that sporadic cases like (35b) are innovative, something which should be investigated in more depth and with more speakers of different ages.

Another variation occurs with the focus marker *ndi*, which occurs either after a preverbal constituent or immediately after the verb. Curiously, *ndi* has a L tone when preverbal, but a H tone when postverbal. Thus recall the sentences from (8), repeated in (37a,b).

- (37) a. *subject focus* mǎn ndi ǎ sòŋsé másòŋ mé ‘the CHILD is counting his teeth’
 b. *non-subject focus* mǎn ǎ sòŋsé ndí másòŋ mé ‘the child is counting his TEETH’
 c. mǎn à káà sòŋsè ndí másòŋ mé ‘the child will count his TEETH’

Our initial hypothesis was that *ndi* was underlyingly /L/, but became H in post-verbal position by the same HTS process that affects nouns. However, the sentence in (37c) convinced us that postverbal *ndi* must be underlyingly /H/ as it here follows the future verb ending in suffixal -L. We thus recognize postverbal /ndí/.⁵

What is much more puzzling is the effect that /ndí/ has (or does not have) on what follows. Compare the following sentences with those seen earlier in (6):

⁵ It is of course entirely possible that preverbal /ndí/ becomes a L by a process similar to lowering before *là*, as it likely is a left-dislocation. *là* may not follow *ndi*, however, in (37a).

(38)	<i>suffix tone</i>	<i>TAM</i>		
a.	/-H/	<i>present</i>	ǎ pòŋó ndí bitámbe	‘he is making shoes’
		<i>past</i>	à pòŋó ndí bitámbe	‘he made shoes’
		<i>perfect</i>	à má pòŋó ndí bitámbe	‘he has made shoes’
b.	/-L/	<i>future</i>	à káá pòŋò ndí bitámbe	‘he will make shoes’
c.	/-HL/	<i>stative</i>	à pòŋó ‘ndí bitámbe	‘he has made shoes’
		<i>imperative</i>	pòŋó ‘ndí bitámbe	‘make shoes!’
		<i>subjunctive</i>	sá pòŋó ‘ndí bitámbe	‘let’s make shoes!’

As seen, *ndí* is transparent to HTS: In (38a) the verb seems to have spread its final -H onto /bi-támbe/ right through *ndí*. No such effect is seen in (38b), where the future ends /-L/, or in (38c), where the final /-HL/ causes /ndí/ to be downstepped. Now compare the following sentences containing /bí mán/ ‘those of the child, the child’s’ with the forms seen earlier in (25).

(39)	<i>suffix tone</i>	<i>TAM</i>		
a.	/-H/	<i>present</i>	ǎ pòŋó ndí bí mán	‘he is making the child’s’
		<i>past</i>	à pòŋó ndí bí mán	‘he made the child’s’
		<i>perfect</i>	à má pòŋó ndí bí mán	‘he has made the child’s’
b.	/-L/	<i>future</i>	à káá pòŋò ndí ‘bí mán	‘he will make the child’s’
c.	/-HL/	<i>stative</i>	à pòŋó ‘ndí ‘bí mán	‘he has made the child’s’
		<i>imperative</i>	pòŋó ‘ndí ‘bí mán	‘make the child’s!’
		<i>subjunctive</i>	sá pòŋó ‘ndí ‘bí mán	‘let’s make the child’s!’

In (39a) *ndí* occurs in a H plateau from the verb onto the complement. In (39b), *bí mán* is downstepped after *ndí*, while in (39c) both *bí mán* and *ndí* itself are downstepped. In order to account for both sets of forms we must assume that the same suffixal tone occurs on *ndí* as on the main verb: /ndí + H/ in (39a), /ndí + L/ in (39b), and /ndí + HL/ in (39c). This suggests that *ndí* was once a verb, perhaps a copular verb, as it appears cognate with such forms found in other Bantu languages.

Despite the neatness of the above demonstration, again we find minor variation. Thus we have as well recorded *pòŋó ndí bitámbe* (without downstep) and *à káá pòŋò ndí bitámbe* (with HTS). Over a long period of elicitation varying the forms and contexts on different days, we found these variants to be in the minority. (We did not find such variations in the forms in (39).) In order to figure out exactly what the range of variations is, a much broader investigation involving more speakers would be required.

6. Summary and Conclusion

From the previous sections we can conclude that Abo metatony: (i) is not likely derived from the *H of either the connective or the augment; (ii) is not related to marking objects, focus, or the conjoint-disjoint distinction; (iii) can be accounted for in terms of underlying suffix tones on the verb; (iv) is best analyzed as an underlying /-H/ suffix which becomes L at the end of an intonational phrase. We speculate that such lowering may be part of a general tendency to lower final Hs in this region; cf. Tunen (A44) where, with the loss of final vowels, underlying trisyllabic /L-H-H/ is realized as disyllabic L-L, but /L-H-L/ is realized L-H, i.e. without lowering because the H is not final (Mous 2003: 286-7). Although metatony has been identified in mostly westerly Bantu languages, arranged below by Guthrie zone, more work is required in almost every case:

- (40)
- | | | | | |
|------------|-----------|------------------|---------------|------------|
| A24 Duala | B30 Pove | C25 Mboshi | D13 Mituku | L23 Songye |
| A42 Abo | B42 Sango | C30 Binza | D14 Enya | |
| A43 Basaa | B70 Teke | C61 Mbole-Toolli | D25 Lega | |
| A53 Bafia | | | D26 Binja-Sud | |
| A71 Eton | | | D30 Bodo | |
| A72 Ewondo | | | D43 Nyanga | |
| | | | D54 Bembe | |

Relating the above cases to Eastern Bantu type 1 conjoint/disjoint distinctions is tenuous, at best: Even the distributional properties argue against such an identification. First, although metatony cannot occur when the verb is final in its clause, it occurs non-finally in all kinds of clauses. Second, both conjoint and disjoint verb forms can occur finally and non-finally, depending on clause type, as indicated in (41).

(41)

		<i>final</i>	<i>non-final</i>
<i>conjoint</i>	<i>main clause</i>	-	+
	<i>relative clause</i>	+	+
<i>disjoint</i>	<i>main clause</i>	+	+
	<i>relative clause</i>	-	-

Note also that conjoint/disjoint distinctions can be marked non-tonally and other than by differences in suffixal tone. One thing they do have in common so far is that metatony and conjoint/disjoint are both restricted by specific TAMs and polarity, but this may be only an accident.

The final question is what we should do concerning terminology. One possibility is to restrict the term metatony to Meeussen's (1967) original characterization of -H vs. -L suffixal tone alternations in infinitive verb ± object constructions. The other is to allow it to refer to -H vs. -L suffixal tone alternations in any verb form and involving any a postverbal constituent. If we map out these variations, we arrive at the table with the four logical possibilities in (42).

(42)

		<i>before object only</i>	<i>before any word</i>
	<i>only infinitive verb forms</i>	Songye, Lega	
	<i>various verb forms</i>		Abo, Basaa

While both the Songye/Lega type and the Abo/Basaa type are now amply attested, the other cells and combinations most likely also exist.

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