

Disentangling Conjoint, Disjoint, Metatony, Tone Cases, Augments, Prosody, and Focus in Bantu

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1. Introduction

The purpose of this paper is to disentangle a number of overlapping concepts that have been invoked in Bantu studies to characterize the relation between a verb and what follows it. Starting with the conjoint/disjoint distinction, I will then consider its potential relation to “metatony”, “tone cases”, “augments”, prosody, and focus in Bantu.

2. Conjoint/disjoint (CJ/DJ)¹

In many Bantu languages TAM and negative paradigms have been shown to exhibit suppletive allomorphy, as in the following oft-cited Chibemba sentences, which illustrate a prefixal difference in marking present tense, corresponding with differences in focus (Sharman 1956: 30):

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

In (1a) the verb is final in its main clause and must therefore occur in the disjoint form, marked by the prefix *-la-*. In (1b), the answer to the question in (1a), the verb occurs in the conjoint form, which lacks the *-la-* prefix, since the verb is presupposed and ‘cigarettes’ is in focus. A table of Chibemba conjoint/disjoint forms is provided from Hyman & Watters (1948: 251) in (2) from Hyman & Watters (1984: 251), drawing on Sharman & Meeussen (1955), Sharman 1956 and Givón (1972):

(2)		<i>non-progressive</i>			<i>progressive</i>	
		<i>conjoint</i>	<i>disjoint</i>			
<i>Present/hab.</i>	:	-Ø- -a	-la- -a	[±TS]	-lée- -a	[±TS]
<i>Past₁/Fut₁</i>	:	-á- -a	-áa- -a	[±TS]		
<i>Past₂</i>	:	-áci- -a	(complex)		-áciláa-	[±TS]
<i>Past₃</i>	:	-á- -ile	-álii- -a	[±TS]	-álée-	[±TS]
<i>Past₄</i>	:	-a- -ile	-alí- -ile	[+TS]	-alée-	[±TS]
<i>PresLinger</i>	:	-Ø- -ile	náa-’ -á	[-TS]		
<i>PastLinger</i>	:	-a- -á	-alí -a	[+TS]		
<i>Future₂</i>	:	(-ka- -a	-ka- -a)	[+TS]	-kalée-	[±TS]

In the above table, the feature [TS] stands for “tone spreading”: Verb forms which are [+TS] spread their last underlying H tone to the end of the word (Sharman & Meeussen 1955: 395). All conjoint forms are [-TS]. The two sentences in (3) show the [±TS] of the P₁ correlating with the CJ/DJ distinction (Sharman 1956: 40):

¹ Several months after presenting this paper, I received two papers (Creissels 2012, van der Wal 2013) which cover much more on the conjoint-disjoint distinction and overlaps with some of the discussion of further sections below. Following them, I will adopt the practice of referring to conjoint and disjoint as CJ and DJ. Thanks to Jenneke van der Val for comments on an earlier version of this paper.

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

As seen from the words that I have placed in small caps, the information structure of the two if-clauses is different: the first places greater focus on the pot, while the second appears to treat the whole verb phrase as in focus. Some of the terminological history of the distinction is summarized in (4) (cf. Hyman & Watters 1984: 251; Güldemann 2003: 328):

(4)	<i>Meeussen (1959)</i>	<i>Sharman (1956)</i>	<i>Givón (1972)</i>	<i>Givón (1975)</i>	<i>S. Bantu</i>
	conjoint	strong link	[-action focus]	COMP focus	short form
	disjoint	weak link	[+action focus]	VP focus	long form
		= <i>prosody</i>	= <i>information structure</i>		= <i>morphology</i>

As Meeussen was aware in introducing the terminology, the CJ/DJ distinction represents a package of potential differences in morphology, prosody (tone) and information structure. In (5) I list the canonical properties of the conjoint/disjoint distinction, not all will be present at one time:

- (5) a. differences in inflectional prefix morphology on the verb
 b. differences in inflectional suffix morphology on the verb
 c. differences in prosodic cohesion with what follows the verb
 d. differences in information structure (focus)
 e. differences in distribution within the clause (final vs. non-final)
 f. differences in distribution across clause types (main vs. subordinate; root vs. non-root)

While both the CJ/DJ terminology and much of the current discussion has centered around Narrow Bantu, where the affixal differences mentioned in (5a,b) are often involved, CJ/DJ-like distinctions also exist outside of Narrow Bantu and even Niger-Congo (Hyman & Watters 1984). Thus consider the following Hodiernal Past₁ examples from Aghem (Grassfields Bantu) (cf. Anderson 1979: 99):

(6)	<i>conjoint</i> [-focus]		<i>disjoint</i> [+focus]	
a.	ò m̀d̀ z̀ì k̀í-bé	‘s/he ate fufu’	ò máà z̀ì bé ^l k̀ó	‘s/he ate/did eat fufu’
b.	*ò m̀d̀ z̀ì°	‘s/he ate’	ò máà z̀ì°	‘s/he ate/did eat’
c.	ò m̀d̀ z̀ì ǹô	‘s/he ate’	*ò máà z̀ì ǹô	/ǹô/ = focus marker
d.	ẁìz̀ín ẁìlà ò m̀d̀ z̀ì	‘the woman who ate’	*ẁìz̀ín ẁìlà ò <u>máà</u> z̀ì	‘the woman who did eat’

Based on ungrammatical examples such as (6b), it is often stated that conjoint verb forms cannot occur at the end of a sentence:

[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...). (Sharman 1956: 30)

The CJ form can never appear sentence-finally...; i.e., some object or adjunct has to follow.... The DJ form, on the other hand, may occur sentence-finally..., but not need to, i.e., something can still follow the DJ verb form.... (van der Wal 2009: 217)

However, the tense-aspect-mood (TAM) forms one gets in relative and other backgrounded (non-root) clauses are typically identical to the conjoint forms in main (root) clauses:²

In most Bantu languages, important differences are noted in the marking of tense aspect in main vs. relative clauses. In some languages, such as KiRundi and ChiBemba, the forms which occur in relative clauses (where there is no focus distinction) also occur in main clauses. (Hyman & Watters 1984: 249)

...there is no CJ/DJ alternation in the relative conjugations. The relative verb forms, both in the affirmative and negative conjugations, are formally identical to the CJ verb form, the negative using the prefix -hi-. (van der Wal 2009: 128)

At the same time, some Bantu (and non-Bantu) languages which have different TAM marking in main clause affirmative vs. relative and/or negative clauses do not have a CJ/DJ contrast in main clauses. Such contrasts can also exist without prosodic/phrasing differences:

One such language studied by the second author is Ngie (Grassfields Bantu, Cameroon), where one set of tense markers is found in main clauses and another in relative clauses. This... explains the widespread use of such terms as ‘main’ vs. ‘relative’ tenses in the literature. (Hyman & Watters 1984: 254)

As a result of this overlap, there are two ways to define “conjoint”: (i) by form (= Hyman & Watters 1984); (ii) by contrast with disjoint (= van der Wal 2009). If one goes strictly by form, the distributions are as in the following table from Hyman & Lionnet (2011: 13):

(7)

		<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>	-	-

As seen, CJ forms can occur at the end of a sentence, as long as the verb is in a relative clause. For this reason I prefer to restate the restriction as “The CJ form cannot occur at the end of a main clause.”

As can be seen from the Chibemba table in (2) above, some TAMs do not distinguish CJ/DJ, e.g. Future₂, while others have only a [±TS] distinction, e.g. progressive forms. Recognizing the importance of specific TAMs in determining Hyman & Watters (1984) distinguish two types of “auxiliary focus”, i.e. interactions between focus, TAMs, and polarity:

- (8) a. Type 1: syntactic [±focus] (= the above)
 b. Type 2: morphologized [±F] (= the immediate following)

While we have been discussing Type 1, where CJ/DJ encodes differences in syntax and information structure, Type 2 has to do with the intrinsic focus of certain “marked” TAMs (and negation) which exhibit a prosodic break (“weak link”) with what follows. This is seen in the following Haya sentences in the today past tense (Hyman & Watters 1984: 260, based on Hyman & Byarushengo 1984):

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

In (9a) we see that when a constituent follows the affirmative verb, the H(igh) tones are deleted. In the corresponding negative sentence in (9b), the H tones are not deleted. The following table summarizes the

² The same is often true of negative forms, which may have inflectional marking identical to the conjoint forms of the respective TAMs.

major [\pm F] distinctions in Haya (cf. Hyman, Katamba & Walusimbi 1987: 92-94 for similar facts from closely related Luganda):

(10)	<i>Affirmative [-F]</i>		<i>Affirmative [+F]</i>	+ All Negatives = [+F]	} marked polarity
	0 (present habitual)	PROG	(progressive)		} marked tense-aspect
	P ₁ (today past tense)	PERF	(perfect ‘to have already...’)		
	P ₂ (yesterday past tense)	EXP	(experiential ‘to have done before’)		
	PH (past habitual)	PRST	(persistive ‘still’)		} marked mood
	F ₁ (today future)	SJCT	(subjunctive)		
	F ₂ (general future)	IMPER	(imperative)		

The following summarizes the differences between intrinsic, morphologized [\pm F] TAMs/negation vs. CJ/DJ [\pm focus]:

- (11) a. [\pm F] effects occur independently of semantics/pragmatics (focus) of the utterance
 b. [\pm F] contrasts are maintained in backgrounded (e.g. relative) clauses
 c. [\pm F] distinctions have prosodic effects, and sometimes also affect nominal marking (cf. (13, 14))

Intrinsic [\pm F] TAMs/negation are however reminiscent of CJ/DJ [\pm focus] in the following ways:

- (12) a. [-F] forms, like conjoint, have a “strong link” with what follows; [+F] forms, like disjoint, have a “weak link” with what follows
 b. the “unmarked” [-F] TAMs are also the ones where CJ/DJ allomorphs arise
 c. both have to do with information structure/focus, although [\pm F] is morphologized

While we have been focusing on the morphology of the verb, Aghem distinguishes an A-form vs. B-form of NPs. As seen in (13), the appropriate form is determined by both [\pm focus] and [\pm F] on the auxiliary (Hyman & Watters 1984: 234, 243; Hyman 2010)³. In the following IAV = “Immediate After Verb”:

(13) a.	IAV:	ò m̀ z̀ k̀- [↓] bé [↓] né	‘s/he ate fufu today’	k̀- [↓] bé	‘fufu’ = A-form
b.	post-IAV:	ò m̀ z̀ ń [↓] bé [↓] k̀	‘s/he ate fufu TODAY’	} b́ [↓] k̀	‘fufu’ = B-form
c.	post-[+focus]:	ò máà z̀ b́ [↓] k̀ (ń)	‘s/he did eat fufu (today)’		
d.	post-[+F]:	z̀ [↓] bé [↓] k̀ (ǹ)	‘eat fufu!’ (‘eat FUFU!’)		

In (13a) the direct object appears in A-form after a [-F] TAM such as the [-focus] form of the today past tense marked by *m̀*. When the IAV is occupied by another element, e.g. the temporary *ń* ‘today’ in (13b), the post-IAV object now appears in B-form. Although the object appears to be in the IAV position in (13c), the same B-form is observed when the auxiliary is the [+focus] *máà* form of the today past. The forms in (13a-c) might suggest that the A- vs. B- distinction is directly attributable to information structure: A-form = in focus, B-form = not in focus. However, (13d) shows that the B-form is required after the [+F] imperative, independent of focus: The “out-of-focus” B-form is required even if (13d) is a response to the question “What should I eat?”. A second difference in NP marking concerns the Bantu augment, discussed in the next section.

3. The Bantu augment

³ In (13), IAV stands for the “immediate after verb” position, and /ǹ/ is a focus marker.

In a number of Bantu languages, the “article-like” augment morpheme appears to be (or to have been) implicated in the prosodic realization of the CJ/DJ distinction. However, differences in nominal marking are potentially independent of whether the verb+complement form a prosodic domain or not. This is seen in Luganda H tone plateauing, whereby $H-L^n-H \rightarrow$ all H within a tone group (TG) (Hyman, Katamba & Walusimbi 1987, Hyman & Katamba 2010). As seen in (14a), the augment (here, *e-*) is present on an object that forms part of a wide focus, but is absent on an object occurring under IAV focus in (14b).

- (14) a. affirmative [+Augment] = 2 TGs : y-a-láb-à e-bi-kópò ‘s/he saw cups’ (wide focus)
H L H L
 b. affirmative [-Augment] = 1 TG : y-a-láb-á bí-kópò ‘s/he saw CUPS’ (IAV focus)
H Ø H L
 c. negative [-Augment] = 2 TGs : te-y-a-láb-à bi-kópò ‘s/he didn’t see cups’
H L H L
 d. negative [+Augment] : *te-y-a-láb-à e-bi-kópò (no augment after negative verb)

As also seen, there is no H tone plateauing between the verb and the augmented noun object in (14a) as there is in (14b). While it is the case that the augment blocks formation of a TG, (14c) shows that [+F] TAMs, also blocks TG-formation. Negation was chosen to illustrate this in (14c), since as seen in (14d), the augment is disallowed after a negative verb.

The question which thus arises is whether the differences between Luganda (14a) and (14b) are related to the CJ/DJ distinction: the occurrence vs. non-occurrence of H tone plateauing? the presence vs. absence of the augment? As the table in (15) shows, the answer appears to be no: CJ is not isomorphic with [-F], the absence of the augment ([-A]), H tone plateauing (HTP), or [-IAV focus]:

(15)	[±F]	[±A]	[±HTP]	[±IAV focus]
<i>MC Affirmative</i>	+	+	-	-
<i>MC Affirmative</i>	-	+	-	-
<i>MC Affirmative</i>	+	-	-	+
<i>MC Affirmative</i>	-	-	+	+
<i>MC Negative</i>	+	-	-	-
	<i>verbal</i>	<i>nominal</i>	<i>phrasing</i>	<i>information structure</i>

The generalizations from the table in (15) are as follows (cf. Hyman & Katamba 1990, 1993):

- (16) a. if [+F] or [+A], then [-HTP], i.e. there are two blockers of H tone plateauing
 b. if [+IAV focus], then [-A]; but note that [-A] does not imply [+focus]
 c. if NEG, then [+F], [-A], [-HTP]; [-IAV focus] is at least preferred

While the match-up may not be perfect, the augment H tone can potentially contribute to the tonal marking of the CJ/DJ distinction in at least two (almost opposite) ways.⁴

- (17) a. the augment (and/or its H) is absent after a conjoint verb, e.g. Makhuwa (cf. Luganda [-F])
 b. the augment (and/or its H) is absent after a disjoint verb, e.g. Tonga

Termed predicate lowering by Schadeberg & Mucanheia (2000), Makhuwa deletes first H of a nominal after a conjoint verb (cf. van der Wal 2009: 128, Stucky 1979:191). Thus the H of the citation form of *maláshi* ‘grass’ is also observed after the DJ verb in (18a), but is absent after the CJ verb in (18b).

⁴ It has been hypothesized that the Proto-Bantu augment had H tone in all but noun classes 1 and 9 (de Blois 1970), although the *H (always?) generalizes to all classes in all cases I know.

- (18) a. disjoint : enyómpé tsi-náá-khúúr-á maláshi ‘the cows eat grass’
 b. conjoint : enyómpé tsi-n-khúúr-á maláshi ‘the cows eat GRASS’⁵

As van der Wal (2009: 32) succinctly puts it:

Only nouns and adjectives which had a pre-prefix or augment in some earlier stage of the language have the possibility to undergo P[redicate] L[owering] and have a different tone pattern.

It is thus clear that the deleted H of *maláshi* comes from the historical augment, which would have been class 6 *á-*. In this case, we identify absence of the augment and IAV focus with CJ.

In Luganda we saw that the absence of an augment allowed a [-F] verb to form a tight bond (“tone group”) and undergo H tone plateauing with the IAV constituent. In Tonga nouns appear to assign a final H to CJ verb, as in (19a), but not to a DJ verb (Goldsmith 1984: 24, based on Carter 1962):

- (19) a. conjoint : ndà-ká-[↓]tól-á nyàmà ‘I took MEAT’

 b. disjoint : ndà-ká-tòl-à] nyàmà ‘I TOOK meat’

As hypothesized in (19a), the nominal H in question is from the historical augment which links onto the preceding CJ verb. As seen in (22b), where the bond is less tight with a preceding DJ verb, the H of the augment is instead deleted as it is on the citation form of nouns. Again, this effect expected only when the IAV constituent is nominal, hence capable of having taken an historical augment. However, the CJ/DJ distinction has never been limited to whether the following constituent is a NP, an object or something else. Since the CJ/DJ distinction has ultimately to do with focus, the post-verbal element can be any constituent (argument, adjunct) within the same clause. This naturally brings us to the issue of “metatony” discussed in the next section.

4. Metatony

The term “metatony” was originally introduced by Meeussen (1967: 111) to characterize the tone of 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).

Canonical examples are presented in (20) from Songye (L23) (Stappers 1964, cited by Dimmendaal 1995: 32 and Schadeberg 1995: 176):

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

Both Dimmendaal and Schadeberg point out that the “metatonic” final H is lacking when the infinitive is followed by a connective (genitive) NP:

- (21) ku-sep-a kwǎ-mbwá ‘the laughing of the dog’ (without metatony)

⁵ By a separate rule, all L *malashi* becomes *maláshi* before pause.

to laugh of-dog

Citing several cases, Hadermann (2005: 405) shows that metatony can also be observed in verb conjugations built historically on the *ku-* infinitive, e.g. the Lega (D25) progressive form in (22a) from Meeussen (1971):

- (22) a. be-ko-bolót-á †mózigi ‘they are pulling the rope’ (with metatony)
 b. be-ko-bolot-a tɔŋgɔ ‘they are pulling also’ (without metatony)

As seen, the concept of metatony originally referred to constructions which involve (i) the *ku-* ... -a infinitive and (ii) a following object NP. However, subsequent to Meeussen (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 or require the following constituent to be an object. In synchronic analyses, the 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)

Both Dimmendaal (1995) and Schadeberg (1995) speculate that metatony derives from the *H augment. This is schematized in (23), where I have indicated a hypothetical augment *ú-:

- (23) H H
 | - - - -
 ku-sep-a ú-mfumu → ku-sep-á mfumu ‘to laugh at the chief’
 ↓
 ∅

As in the case of predicate lowering in Makhuwa, if this reconstruction is correct, there should originally have been no metatony before a nominal which lacked an augment in PB (e.g. kinship terms, names), although subsequent analogy is always possible. As far as I know, this has not been shown.

Another speculation is that metatony is related to focus and the CJ/DJ distinction:

[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)

...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)

In fact, it is not clear that metatony *sensu stricto* is ever related to focus. Abo (Bankon), a language closely related to Basaa, shows three verb tone patterns illustrated with the L tone verb pɔŋɔ ‘make, create’ (Hyman & Lionnet 2011):⁶

- (24) *suffix tone* *TAM* *pre-pause* + bitámbé ‘shoes’
 a. -L ~ -H *present* ǎ pɔŋɔ ǎ pɔŋɔ bitámbé ‘he is making shoes’

⁶ Makasso (2012) treats similar phenomena in closely related Basaa.

		<i>past</i>	à pɔŋɔ	à pɔ ^l ŋɔ bitámbe	‘he made shoes’
		<i>perfect</i>	à má pɔŋɔ	à má pɔŋɔ bitámbe	‘he has made shoes’
b.	-L	<i>future</i>	à káá pɔŋɔ	à káá pɔŋɔ bitámbe	‘he will make shoes’
c.	-H	<i>stative</i>	à pɔŋó	à pɔŋó bitámbe	‘he has made shoes’ ⁷
		<i>imperative</i>	pɔŋɔ	pɔŋɔ bitámbe	‘make shoes!’
		<i>subjunctive</i>	sá pɔ ^l ŋɔ	sá pɔ ^l ŋɔ bitámbe	‘let’s make shoes!’

While (24b,c) have a stable final -L and -H tone, respectively, the tenses in (24a) show an alternation between -L and -H. As seen in the representative examples in (25), the -L ~ -H alternation occurs before all parts of speech and all constituents within the clause:

(25)	a.	ǎ sɔŋsɛ	‘he is counting’	
	b.	ǎ sɔŋsɛ mɔ́ní	‘he is counting money’	___ noun
	c.	ǎ sɔŋsɛ àmù mɔ́ní	‘he is counting this money’	___ demonstrative
	d.	ǎ sɔŋsɛ mɔ́	‘he is counting it’	___ pronoun
	e.	ǎ sɔŋsɛ látála	‘he is counting now’	___ adverb
	f.	ǎ sɔŋsɛ nì mìnnyɔ́s myé	‘he is counting with his fingers’	___ prepositional phrase
	g.	ǎ sɔŋsɛ nì/tɔ́ sák	‘he counts and/or dances’	___ conjoined verb

The sentences in (26) show that metatony occurs independently of where the focus is within the sentence:

(26)	a.	“neutral” focus	mǎn ǎ sɔŋsɛ mǎsɔŋ mé	‘the child is counting his teeth’
	b.	subject focus	mǎn ndì ǎ sɔŋsɛ mǎsɔŋ mé	‘the CHILD is counting his teeth’
	c.	non-subject focus	mǎn ǎ sɔŋsɛ ndì mǎsɔŋ mé	‘the child is counting his TEETH’

The same three-way distinction in final tone is also observed in corresponding relative clauses, where focus marking is typically limited:

(27)	<i>suffix tone</i>	<i>TAM</i>	<i>pre-pause</i>	+ bitámbe ‘shoes’		
	a.	-L ~ -H	<i>present</i>	mùt nú pɔŋɔ	mùt nú pɔŋɔ bitámbe	‘the person who is making shoes’
			<i>past</i>	mùt nú pɔŋɔ	mùt nú pɔ ^l ŋɔ bitámbe	‘the person who made shoes’
	b.	-L	<i>future</i>	mùt nú káá pɔŋɔ	mùt nú káá pɔŋɔ bitámbe	‘the person who will make shoes’
	c.	-H	<i>stative</i>	mùt nú pɔŋó	mùt nú pɔŋó bitámbe	‘the person who has made shoes’

To account for such alternations, Hyman & Lionnet (2011) propose that metatonic tenses end /-H/, which undergoes H → L finally, while the final -H tenses are /-HL/. The most direct evidence for this analysis can be observed by placing a /H/-initial constituent after the different tenses.⁸

(28)	<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 pɔŋɔ	ǎ pɔŋɔ bí mán	‘he is making the child’s’
			<i>past</i>	à pɔŋɔ	à pɔ ^l ŋɔ bí mán	‘he made the child’s’
			<i>perfect</i>	à má pɔŋɔ	à má pɔŋɔ bí mán	‘he has made the child’s’
	b.	/-L/	<i>future</i>	à káá pɔŋɔ	à káá pɔŋɔ bí mán	‘he will make the child’s’
	c.	/-HL/	<i>stative</i>	à pɔŋó	à pɔŋó ^l bí mán	‘he has made the child’s’
			<i>imperative</i>	pɔŋɔ	pɔŋɔ ^l bí mán	‘make the child’s!’

⁷ In this sentence the stative is used transitively as a resultative; the subjunctive is also used as a hortative.

⁸ This is quite hard to find in Abo, since most words begin L. As seen, the headless genitive construction, here *bí mán* ‘the ones (cl.8) of the child/the child’s’, provides a particularly clear case.

subjunctive sá pɔ́^lŋɔ́ sá pɔ́^lŋɔ́ ^lbí mán ‘let’s make the child’s!’

From the above (and further evidence in Hyman & Lionnet 2011) we conclude that Abo metatony: (i) is not likely derived from the *H of the augment; (ii) is analyzeable in terms of underlying suffix tones on the verb; (iii) does not insert a H; metatonic tenses undergo clause-final H → L; (iv) is not related to marking objects, focus, or the conjoint-disjoint distinction.

Despite the conclusion in (iv), it is rather striking that languages identified with “metatony” are in near-perfect geographic complementary distribution with those identified as having a “conjoint/disjoint”. Thus, as seen in the table in (29), languages reported to have metatony tend to occur in the Northwest Bantu zones, while those exhibiting the CJ/DJ distinction are found in the Eastern and Southern zones:

(29) <i>Metatony (Hyman & Lionnet 2011)</i>			<i>CJ/DJ (Nurse 2006: 193; van der Wal 2009: 216)</i>				
A20	Bakweri, Duala	C30	Binza	DJ60	Rundi, Rwanda, Ha	P20	Makonde
A40	Abo, Basaa	C60	Mbole-Toolii	EJ20	Haya	P30	Makhuwa
A50	Bafia	D10	Mituku, Enya	G20	Shambala	S20	Venda
A70	Eton, Ewondo	D20	Lega, Binja-Sud	K20	Lozi	S30	Tswana, Sotho
B30	Pove	D30	Bodo	M40	Bemba	S40	Xhosa, Swati, Zulu
B40	Sango	D40	Nyanga	(M50)	Lamba?	S50	Tsonga
B70	Teke	D50	Bembe	M60	Tonga		
C20	Mboshi	L23	Songye				

It is hard to evaluate the alleged relationship between metatony and CJ/DJ, since we do not know if metatony represents a unified phenomenon. There are at least two possibilities: (i) If all cases of metatony are the same and all cases of CJ/DJ are the same, they may or may not have a common source (if yes, this has not been demonstrated); (ii) if not all cases are the same, then some cases of metatony may be the same as CJ/DJ. Unfortunately, the work has not yet been done, especially as concerns metatony: We need more detailed studies like Hyman & Lionnet on Abo to see if there is a general phenomenon that can be identified as the same “metatony” across Bantu languages. The same is true concerning tone cases, to which we now turn.

5. Tone cases

In addition to the augment and metatony, it has also been suggested that so-called “tone cases” may be related to the CJ/DJ distinction:

The CJ/DJ distinction may diachronically, and possibly synchronically as well, also be linked to the so-called tone cases... (Schadeberg 1986). (van der Wal 2009: 217)

... the two systems – verbal conjoint-disjoint inflection and nominal tonal ‘case’ inflection – are in fact quite similar. Apart from the marking of verbs as opposed to nouns, the two systems are broadly similar with respect to the use of prosodic means to express the distinctions, the relation of the marking to parts – but not the whole – of the tense-aspect paradigm, the absence of distinctions in relative clauses, and the relation of the systems to information structure and linear order/constituency. (Kavari, Martin & van der Wal 2002:1)

Let us first consider Herero, which distinguishes the following four tone cases (Kavari, Marten & van der Wal 2012: 2):

- | | | | | |
|---------|-------------------------------|-----|-----------------------|------------------------------|
| (30) a. | “default” (citation, subject) | L-L | : òtjì-hávèrò tj-á ù | ‘the chair fell down’ |
| b. | “complement” (object in MC) | L-H | : vé múná òtjì-hávèrò | ‘they usually see the chair’ |
| c. | “copulative/predicative” | H-L | : ótjì-hávèrò | ‘it’s a chair’ |
| d. | “vocative” | Ø-L | : tjì-hávèrò | ‘o chair!’ |

Whether an object will receive complement (C) or default (D) case depends on the TAM, polarity, and clause type (all objects receive D in relative clauses, for instance). The following table based on Kavari, Marten & van der Wal 2012: 5) shows that complement case tends to appear after what would be [-F] TAMs in Haya, Luganda etc.:⁹

(31) TAMs assigning C	Affirmative	Negative	TAMs not assigning C	Affirmative	Negative
Factive-Habitual	C	C~D	Present, Near Future	D	D
Recent Past [-perf]	C	D	Indefinite Future	D	D
Remote Past [-perf]	C	C	Imperative	D	D
Recent Past [+perf]	C	D	Optative	D	D
Remote Past [+perf]	C	C	Subjunctive	D	D
Subsecutive (Narrative)	C	D			

Such nominal tone marking is found quite extensively in westerly Bantu languages from Gabon down to Namibia, with considerable variation (and greater complexity). In Giphende there are five apparent tonal cases which have a rather odd distribution quite different from Herero:¹⁰

(32)	a.	b.	c.	d.	e.	f.	g.	h.
<i>Underlying stem tones:</i>	/Ø.Ø/	/Ø.Ø.Ø/	/Ø.H/	/Ø.H.Ø/	/H.Ø/	/H.H/	/H.H.Ø/	/H.H.H/
1. citation, subject, object of neg. infinitive, left-dislocation	L-L.L	L-L.L.L	L-L.H	L-L.H.L	L-H.L	L-H.H	L-H.H.L	L-H.H.H
2. focused object	H-H.L	H-H.H.L	L-L.H	L-L.H.L	L-H.L	L-H.H	L-H.H.L	L-H.H.H
3. genitive; Obj ₂ ; Obj after neg. verb, subject after rel. verb	H-H.L	H-H.H.L	H-L.H	H-L.H.L	L-H.L	L-H.H	L-H.H.L	L-H.H.H
4. object after affirmative verb or <i>na</i> 'with'	H-H.L	H-H.H.L	H-H. ¹ H	H-H. ¹ H.L	H- ¹ H.L	H- ¹ H.H	H-H.H.L	H- ¹ H.H.H
5. predicative ('it's ...')	H-H.L	H-H.H.L	H-L.H	H-L.H.L	H-H.L	H-H.H	H-H.H.L	H-H.H.H

As seen, the bold line separates those forms which receive an initial H from those which do not. Giphende might be interpreted in terms of prefixal or proclitic H “co-phonologies” converting toneless prefixes to H- as follows:¹¹

- (33) a. case 1: Ø- remains Ø- on all nouns
 b. case 2: Ø- → H- unless there is a H anywhere in the stem = a skeleton-insensitive OCP(H) restriction
 c. case 3: Ø- → H- unless there is a H in the first syllable of the stem to avoid a local, skeleton-sensitive OCP(H) restriction

⁹ Coincidentally, the abbreviations C and D can serve as mnemonic for CJ and DJ, the verb marking to which the respective tone cases correspond.

¹⁰ In the table in (32), based on joint work with Mwatha Ngalasso in 1998, L- and H- represent the noun prefix, whereas stem syllables are separated by a dot. Underlyingly toneless (Ø) syllables receive L pitch by default. For other discussion of tone cases, see Daelemann (1983) for Kikongo [DRC] and Blanchon (1999a,b) for a historical account with tones coming in cyclically from the left.

¹¹ Note that any H- prefix/proclitic will spread to the penult if the noun is completely toneless. As seen, when the noun has a /H/, the variation in (3b-e) concerns whether and how the prefix/proclitic H can appear with different resolutions of OCP(H).

- d. case 4: Ø- → H- in all nouns; the H spreads to the penult or up to a H, which is downstepped to avoid an OCP violation
- e. case 5: Ø- → H- in all nouns; the H spreads to the penult if the stem is all L, otherwise is realized only on the prefix, without downstepping the following H, the OCP violation thus being tolerated

While Giphende has no augment, involvement of the augment with case marking is found in Umbundu, which has only two nominal forms, but three cases (Schadeberg 1986: 431):¹²

(34)	<i>noun with augment</i>	<i>noun without augment</i>	‘bark’	‘Doctor’
	Common case (CC)	Ø-	Ø-	o-ci-peta ci-mbanda
	Object case (OC)	H-	Ø-	ó-cí-péta ci-mbanda
	Predicative	H-	H-	ó-cí-péta cí-mbánda

Examples of Umbundu nominals with and without the augment *o-* and a bisyllabic are seen in (35).

(35)	‘to meet’	‘to read’	‘vein’	‘hippopotamus’	(derived name)	
	/-sang-a/	/-táng-a/	/-singá/	/-gevé/	/-gevé/	
	Common case	o-ku-sang-a	o-ku-táng-á	o-lu-singá	o-n-gevé	n-gevé
	Object case	ó-kú-sáng-a	ó-kú- [↓] táng-á	ó-lú-sí [↓] ngá	ó-n-gé [↓] vé	n-gevé
	Predicative	ó-kú-sáng-a	ó-kú- [↓] táng-á	ó-lú-sí [↓] ngá	ó-n-gé [↓] vé	n-gé [↓] vé

Schadeberg (1986: 444-5) proposes the following stages in the development of the augment common and object cases: (i) The high tone on the augment is generalized to all classes (including classes 1 and 9); (ii) the initial consonant of the augment is lost (cf. Bukusu *ba-ba-ntu* vs. Luganda *a-ba-ntu*); (iii) The augment vowel *o-* is generalized at the expense of *e-* and *a-* to certain classes, e.g. class 7 *o-ci-*; (iv) the *o-* augment is generalized for all syntactically defined environments. As Schadeberg puts it:

Tonally, the old distinction was preserved; thus, Umbundu OC continues the PB presence of the augment, and CC continues its absence. Semantically, it seems problematic to start from De Blois’ determinative function of the augment. If ‘determinative’ may be interpreted as ‘making definite’, it should have become a subject marker whereas in fact it has turned into an object marker... It therefore seems possible that the augment further weakened to an indefinite determiner.... Of course, no sharp line separates augment from case languages. Also, the tonal marking of focus that has been claimed for Makua (Stucky 1979) is very likely to be another derivative of the augment. (p.445)

The contexts where the Umbundu common vs. object cases occur are summarized as follows (Schadeberg 1986: 432-7):

(36)	<i>Common Case (= default)</i>	<i>Object (complement) case</i>
	<ul style="list-style-type: none"> • subject, left- & right-dislocations • “second complement” • complement of negative verb form • complement of a progressive verb form • complement in a subordinated clause • before a numeral (some optionality) 	<ul style="list-style-type: none"> • “first complement of an affirmative, non-subordinated verb” • after <i>kwéndá</i> and <i>la-</i> ‘and’; probably also after connective
		<ul style="list-style-type: none"> } [+F] TAM/polarity } [-focus] clause

The critical observation is that, quite consistently in such languages, the tone case is different on a post-verbal nominal (e.g. object) vs. subsequent nominals. Thus compare the following sentences, where (37a,b) involve two different verbs ‘to give’ (Schadeberg 1986: 433-4):

¹² Schadeberg states that “the augment is retained in all syntactic environments”, but that some nouns lack an augment, e.g. proper nouns, and there are morphological contexts where the augment does not occur (p.430).

- (37) a. o-njalí yá¹há ó-¹mála e-pako ‘the parent gave the children the fruit’
 b. o-njalí yá¹cá é-páko k-o-mála ‘the parent gave the fruit to the children’
 c. ndalúmáníwa k-ó-mbwá ‘I was bitten by a dog’¹³

As seen, in so-called object- or complement case the *H of the augment is preserved with a “strong link” between an appropriate verb and an IAV nominal, as in Tonga (recall (19a)).

Although the H tone which marks the first complement is clearly related to the augment, how do we account for its restriction to “first complement of an affirmative, non-subordinated verb”? While the non-H common case is as expected after negatives where objects lacked an augment, the H object case does not correlate with definiteness or specificity, as Schadeberg notes. This in fact appears to be the opposite of Luganda and Makhuwa, where it is the absence of the augment that correlates with IAV focus. Finally, if the H object case is like “strong link” conjoint marking, why isn’t it found in relative clauses? The inevitable conclusion is that there has been considerable restructuring of the original situation (which we independently know because of the innovated distribution of the segmental augment *o-*).

6. Summary and conclusion

In the above discussion we have seen that the effects on the verb or IAV constituent can be several:

- (38) a. verb morphology : prefix/suffix inflections, including tonal morphology
 b. noun morphology : presence vs. absence of the augment, tone cases
 c. phrasing : V + IAV functioning vs. not functioning as a prosodic domain, e.g. “tone group”, or perhaps being final vs. non-final within a syntactic constituent (Buell 2006)

There have been three intersecting issues concerning verb/IAV interactions:

- (39) a. typology : what and how many different phenomena are there?
 b. terminology : what should we call these phenomena?
 c. history : where do these phenomena come from?

Concerning the first issue, typology, we have seen the following variations, where the clause-mate IAV constituent can be any of the following:

- (40) a. anything : conjoint, Abo metatony, Haya tone reduction
 b. anything lacking an augment : Luganda H tone plateauing
 c. any nominal : complement tone case in Herero, Umbundu
 d. any (historically) augmented nominal : predicate lowering in Makhuwa
 e. an object only : original Meeussen metatony, only with *ku-* infinitive

Despite the above differences, in all cases the TAM/polarity is implicated and usually the clause type as well. In no case is there an interaction which affects ALL combinations of verb + IAV constituent, e.g. no across-the-board conjoint/disjoint verb morphology, “accusative” case, V + IAV co-phrasing, consistent tonal or focus marking etc.

While the above has dealt exclusively with the relation of a verb and what follows it, it is important to note that many of the same phenomena occur within the noun phrase: While there can be comparable effects between the noun and a following modifier, I have found no case where the head noun is affected before any and all IAN (“immediate after noun”) constituents. Recall Haya tone reduction in (9), where [-F] verbs lose their H tones when a constituent follows in

¹³ Note in (37c) that the verb need not end H.

the same clause. As seen in (41a), H tones are maintained on a noun when it occurs before a demonstrative or numeral, are reduced before a possessive pronoun or nominal or an adjective, as in (41b).

- (41) a. e-ki-kómbe kî-li ‘that cup’
 e-ki-kómbe kî-mo ‘one cup’
- b. e-ki-kombe kyáitu ‘our cup’
 e-ki-kombe kyaa káto ‘Kato’s cup’
 e-ki-kombe ki-lúngi ‘good cup’

Similarly, compare the following with the H tone plateauing (HTP) in (14b), which occurs between a [-F] verb and a [-A] nominal:

- (42) a. e-bi-kópò bi-sátù ‘three cups’
 e-bi-kópò bi-rî ‘those cups’
 bi-kópò binénè ‘(they are) big cups’
- b. e-bi-kópó byáá wálúsimbi ‘Walusimbi’s cups’

In (42a) there is no HTP between a noun and a numeral, demonstrative or adjective. However, (42b) shows that HTP applies between a noun and a following connective, e.g. *byaa* ‘cl. 8’ (cf. *byaa=* *Wálúsimbi* ‘(they are) Walusimbi’s’). Thus, while a verb + IAV constituent often constitutes a well-defined prosodic domain, a parallel domain typically exists within the noun phrase as well.

Turning to the second issue, terminology, the following can be noted:

- (43) a. *conjoint/disjoint* seems fairly entrenched now to refer to cases where the verb shows two forms in main clause affirmative clauses, different morphology and often different phrasing, as in Bemba, “long” vs. “short” verb forms in Sotho-Tswana and Nguni, but also potentially involving only the tone of the final (Creissels 1996a,b).
- b. *metatony* is considerably less clear; in its restricted sense, it refers to a -L ~ -H alternation on the final -a of the *ku-* infinitive, which can be conditioned only by an object; in its more general usage it refers to a -L ~ -H alternation with any TAM and followed by anything (but should it be used to refer to CJ/DJ final -L vs. -H in Tonga and Tswana (Creissels 1996a,b)?).¹⁴
- c. *tone cases*: as seen from Giphende, there is considerable variation; a key issue has been whether these are really “cases” and/or syntactically conditioned tonal alternations capturable in other ways; some are related to the tone of the augment or predication marker historically; probably good to keep the term, as we know what it refers to (vs. other more general terms such as *syntactic tone*, *tonal frames* etc.).
- d. other terms that will doubtless be needed include *relative TAMs*, *negative TAMs*, *marked* or *[+F] TAMs*, which may be implicated, but should be distinguished from the above

Finally, there is the question of history: where do all of these markings come from? What motivates them, and how do they evolve over time. My own conclusions and suspicions are the following:

- (44) a. all of the above have multiple historical sources and are at least potentially interrelated
- b. disjoint marking of TAMs is generally innovated in the main clause affirmative, with the conjoint being more conservative (typically preserved in negative and in relative clauses)
- c. the history of Meeussen’s metatony is less clear, but the Abo case shows that there can be a strictly phonological origin.

¹⁴ Jenneke van der Wal (pers.comm.) rightly points out that that metatony and the tonal marking of CJ/DJ differ in that metatony is automatic (in the appropriate TAMs etc.), whereas the same TAMs offer a CJ/DJ choice, a contrast in main clauses. In this sense metatony pairs with the [-F] TAMs, where the tonal effects are also obligatory.

- d. tone cases generally owe their existence to earlier prefixal and proclitic tones, as Blanchon (1999a,b) has shown; these include the *H augment and predicative tones, which have very different distributions: the definite article-like augment is expected on subjects, while predicators/focus markers are expected on the IAV.
- e. one should be careful not to equate metatony or any other final vs. non-final distinction on verbs to focus: as we have seen, verb + IAV effects can be quite varied, sometimes having to do with objecthood, sometimes with the position of the verb within the clause, the nature of the clause, or phonological phrasing.
- f. the best strategy in getting it right is to describe and analyze individual cases as systematically and exhaustively as possible.

In all of the above it is especially important to pay attention tone, which can be quite subtle. As Creissels (1996a: 115) puts it:

... it is vital to pay more attention to the tonal variations of verb forms (and to tonal variations in general) in the description of Bantu languages.

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