

The Nucleus as Tonal Domain

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1 Background

Kol is an under-researched Narrow Bantu language spoken in Eastern Cameroon.

A Role and Reference syntactic analysis has been useful in Kol because the domain of a grammatical floating H tone used to mark most tenses is best analyzed as being a syntactic unit that includes auxiliary verbs, aspect markers and main verbs but excludes any object noun phrases. This domain has been therefore analyzed as being the nucleus and not a verb phrase.

In this presentation, I will first walk through some facts about Kol grammar and then highlight the ways in which RRG has been useful and ways in which it might be useful in the future. All data in this paper comes from my own research in Cameroon over a period of 18 months in 2004-2005.

2 Verb Morphosyntax

Many Bantu languages are agglutinative. Typically, they have a verb stem preceded by subject and tense markers. This structure is illustrated by an example from Swahili (G.40), an eastern Bantu language.

	SM	Tense	OM	Verb Stem
(1)	ni-	na-	wa-	heshimu
	I	PRS	them	respect
	'I respect them.' (Mohammed 2001:ii)			

Of course, many Bantu verbs are even more complex. (2) gives an example from Cinsenga (N.40), a Bantu language spoken in Zambia and Malawi. This language allows for an initial negative marker, followed by a subject marker, tense morpheme, object marker, verb root, extension, and a final vowel. These slots are labeled above the illustrative morphemes in the example below.

(2)	Neg	SM	Tense	OM	Verb Stem		
					Root	Ext	Fv
	si-	ni-	ka-	mu-	lil-	il-	a
	NEG	I	FUT	him/her	cry	APPL	

'I will not cry for him/her.' (Miti 2001:79)

Kol (A.832), a previously undocumented language from eastern Cameroon, differs from eastern, central and southern Bantu languages in that verbs do not have prefixes marking subject agreement, tense or aspect. Rather, the preverbal elements fulfilling most of these grammatical functions are independent words or clitics.

Partial evidence for this more analytic or isolating structure comes from the grammatical tones which may occur after each element in the verbal complex, as shown in (3) below. These will be discussed in more detail in section 3. (For more information on wordhood in Kol, see Henson 2009)

- (3) η = jí náŋ l'é bwògá kwàn
 η - η + H náŋ + H lè + H bwòg + H kwàn
 he be still IPFV harvest (honey) honey
 'He still collects honey.'

The Kol verb structure is fairly templatic in that it has a relatively fixed ordering of the elements in the verbal sequence. A table below gives the typical ordering of verbal units, followed by an example. In natural discourse, it is difficult to find all slots attested in a single utterance, though when slots are filled, they occur in the relative order given below.

Tense	Tense2	Cop Aux	Asp/Mode	Aux	Verb
é <i>FUT</i>	bwó <i>FUT2</i>	bə 'be'	lè IPFV	ko 'go'	
ó <i>PRS</i>	lwándəbə 'just'	ndé 'be (loc)'	sè PRF	ncə 'come'	
é <i>PST1</i>		jì 'be (att)'	mbá COND	nìgò 'return'	
á <i>PST2</i>		mé 'be (chg)'	gò PROG		

Table 1. Ordering of Verbal Constituents.

Examples from Kol are given below in (4) - (6).

- Tense¹ Cop Asp Verb**
- (4) [η = í bə lé ncò... kǎbò η = í bì-yà.]
 / η = é bə + H lè + H ncò + H + L kǎbò η = é bì-yà + H + L /
 he-PST1 be IPFV come but he-PST1 seize-PASS
 'He was coming...but he got caught.'

- Cop Aux Aux Verb**
- (5) [bəsér bwó mē ncə tér fyàl mō məcì.]
 / bə- soeur bwó mé + H ncə + H tér + H fyàl + H mə məcì- /
 2- sister (nun) they be (chg) come first test (v) me 4-blood
 'The Sisters first tested my blood.'

¹ Kol has five tenses: present (PRS), near past (Pst1), far past (Pst2), near future (FUT), distant future (Fut2). See section 1.6.

- | | <u>Cop</u> | <u>Asp</u> | <u>Aux</u> | <u>Verb</u> | | | | | |
|-----|---|------------|------------|-------------|----------|------|------------|--------------|---------|
| (6) | mə = | mé | lê | kò | kúnjá | nə | títìtì, | ě-nàk | mə-cì. |
| | I | be (chg) | IPFV | go | defecate | with | regularity | INF-defecate | 6-blood |
| | 'I was having bloody diarrhea, all the time.' | | | | | | | | |

3 Grammatical Tones in the Predicate

One of the interesting things about the A.80 language family is that all of the language varieties which have been documented thus far (Kol, Makaa, Nzime, Badwe'e and Njyem) mark certain tenses with a particular tonal contour (Heath and Heath 1995, Beavon 1983, Beavon 1991, Beavon 2005). There are two things that are potentially typologically significant about this tonal contour.

One, the tonal contour consists of floating H tones after each word in the appropriate domain (and not the possibly more common case of one floating H tone which spreads throughout a domain). Two, the domain of the tonal contour is the nucleus and not a VP (or IP).

3.1 MULTIPLE FLOATING H TONES VS ONE SINGLE H THAT SPREADS

In Kol (and Makaa) all of the tenses except the far past (PST2) share a similar tonal contour, in that in addition to the tense marker, a H tone suffix is added. Compare an example of a sentence in the far past in (7) with sentences marked for other tenses in (8)-(11), namely the near past, the present, the future, and the distant future.

- | | | | | | | | | |
|-----|----------------------------------|-------------|---------|-----------------|--|-----------------|--|--------|
| (7) | [| ɲ = ǎ | | bwògə | | kwàn.] | | |
| | / | ɲ = á | | bwòg | | kwàn / | | |
| | | he/she-PST2 | | harvest (honey) | | honey | | |
| | 'He was harvesting honey.' | | | | | | | |
| (8) | [| nò | kùgú, | ɲ = í | | bwògə | | kwàn.] |
| | / | nò | kùgú, | ɲ = é | | bwòg + H | | kwàn / |
| | | with | evening | he/she-PST1 | | harvest (honey) | | honey |
| | 'Yesterday, he harvested honey.' | | | | | | | |
| (9) | [| ɲ = ǒ | | bwògə | | kwàn.] | | |
| | / | ɲ = ó | | bwòg + H | | kwàn / | | |
| | | he-PRS | | harvest (honey) | | honey | | |
| | 'He harvests honey.' | | | | | | | |

- (10) [émáné ɲ=ě bwògá kwàn.]
 / ɲ=é bwòg +H kwàn /
 tomorrow he/she-FUT harvest (honey) honey
 'Tomorrow, he will harvest honey.'

- (11) [ɲ=ě bwó bwògá kwàn.]
 / ɲ=é bwó +H bwòg +H kwàn /
 he/she-FUT FUT2 harvest (honey) honey
 'He will harvest honey [in a month].'

Not only is this H tone added after the verb as shown above, but it is also added after every preverbal element in the verbal sequence (and the main verb itself). Again, compare (12) with (13) where a H tone is added after both the imperfective marker and the verb stem in (13) but not in (12).

- (12) [ɲ=ǎ lè bwògè kwàn.]
 / ɲ=á lè bwòg kwàn /
 he/she-PST2 IPFV harvest (honey) honey
 'He was harvesting honey.'

- (13) [ɲ=ǒ l'é bwògá kwàn.]
 / ɲ=ó lè +H bwòg +H kwàn /
 he-PRS IPFV harvest (honey) honey
 'He harvests honey (habitually).'

This additional H tone triggers downstep in the imperfective marker which is underlyingly low. Specifically, the floating H delinks the underlying L of the imperfective marker. The underlying L cannot merge with the preceding tone because the preceding syllable is already hosting a complex contour tone. The underlying L must remain floating and thus triggers downstep.

Similarly, compare (14) with (15) where a H tone is added after the auxiliary verb and the main verb in (15) but not in (14). Since the auxiliary has an underlying L tone in (14), it surfaces with a downstepped H tone in (15).

- (14) [ɲ=ǎ ncè bwògè kwàn.]
 / ɲ=á ncè bwòg kwàn /
 he/she-PST2 come harvest (honey) honey
 'He came to harvest honey.'

- (15) [ɲ=í nc'ó bwògá kwàn.]
 / ɲ=é ncə + H bwòg + H kwàn /
 he/she = PST1 come harvest (honey) honey
 'He came to harvest honey.'

The grammatical H tone may be absorbed into a following lexical H tone as shown below in (17) where the floating H tone after the main verb merges with the lexical high tone of the object. (16) is a parallel sentence in the far past (P2) tense without the grammatical H tone.

- (16) [ɲ=á nìgò kò njáp.]
 / ɲ=á nìgò kò njáb /
 he/she-PST2 return go house
 'He went home.'

- (17) [nò kùgú ɲ=í nìgò kò njáp.]
 / nò kùgú ɲ=é nìgò + H kò + H njáb /
 with evening he-PST1 return go 3-house
 'Today he returned home.'

Example (17) also offers evidence that this is not a case of a single floating H tone which spreads throughout a tonal domain. If that were the case, then we would expect both syllables of the auxiliary *nìgò* to surface with H tones. Rather, the floating H after the auxiliary only surfaces on the final syllable of the auxiliary. The auxiliary's underlying L tone is retracted and remains on the first syllable.

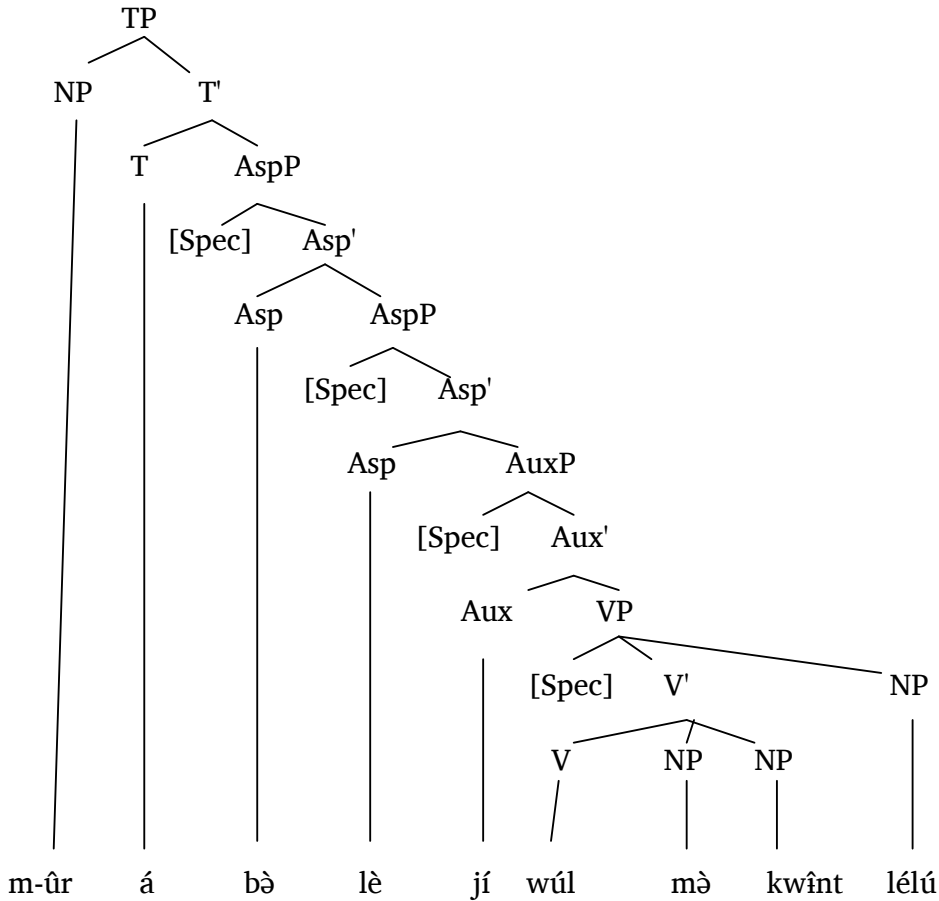
3.2 THE DOMAIN OF THE TENSE CONCORD FLOATING H TONES

In previous papers, this tonal behavior was used as evidence for an analytic (vs agglutinative) verbal structure, namely that *all* preverbal elements, full lexical items like auxiliaries and adverbs, and more grammatical items, such as aspect markers, are independent words, since the grammatical H tone appears after any and all of the elements which may appear in the verbal sequence.

Today though, I would like to point out another interesting thing about the domain of the tonal tense concord floating H tones, namely that they occur after all preverbal elements but **not** after the object noun phrase, suggesting that the correct scope of the this tense concord H tone is the nucleus and not a VP (or IP or AspP or TP).

Below is an example sentence followed by a generative style tree to illustrate the pertinent domains which will be rejected shortly.

- (18) m-ûr á b̀̀ lè jí wúl m̀̀ kwînt lélú
 m-ûr á b̀̀ lè jí wúl m̀̀ kwîndè lé-lú
 1-man P2 be IMPF want remove me hook in-head
 'The man wanted to take the hook out of my hair.'



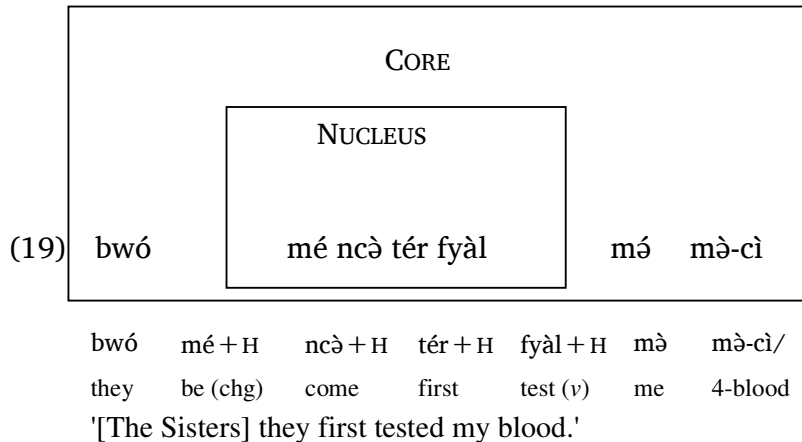
However, while the floating H tone may appear on a direct object, or any other lexically L tone word immediately following the verb, as shown below in (19), there is no evidence for any floating H tones **after** a direct object. Example (20) will illustrate the pertinent tonal context.

- (19) [b̀̀sár bwó m̀̀ nc̀̀ té_r fyàl m̀̀ m̀̀ci.]
 /b̀̀- soeur bwó mé + H nc̀̀ + H té_r + H fyàl + H m̀̀ m̀̀-çi/
 2- sister (nun) they be (chg) come first test (v) me 4-blood
 'The Sisters first tested my blood.'

In example (20) below, we would expect, if the tonal domain was the VP, to have a floating H tone appear after 'brother' (and potentially after the last two words as well), either affecting the final L tone of that word (which would presumably result in a downstepped H) or the initial L tone of the following word (also predicted to result in downstep, this time of the following syllable). However, this does not occur.

- (20) j̄ = ě jù míyòŋ lè-ǰú mwàné
 j̄ = é jù + H míyòŋ lè-ǰú mwàné
 he-FUT kill brother 5-sake money
 'He will kill his brother for money.'

This strongly suggests that instead of positing a domain of VP, AspP or TP (or IP), rather, the domain for the floating H tone tense concord is best described as the nucleus, as illustrated below, with the example sentence given above in (19).



4 Conclusion

Role and Reference Grammar provides a syntactic unit, i.e. the nucleus, which corresponds to the domain of the tonal tense concord seen in Kol and related languages.

However, areas for further research involve examining scopal differences of the various operators. Not all of the auxiliaries which appear in the nucleus (according to tonal behavior) are predicted to have scope over the nucleus. (Van Valin and LaPolla 1998) (See Henson 2007 for an initial discussion of these issues.)

5 References

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