

# The Linear Ordering of TAM/NEG Markers in the Bantu languages

Jouni Filip Maho

Partille, Sweden, maho@brevet.nu

## 1. Introduction

The inflectional morphology of the Bantu verb has been the subject of many previous comparative and descriptive studies. Despite this, however, we still lack a systematic descriptive model for the Bantu verb as well as many details in the description of the verb inflectional morphology of Proto-Bantu (cf. Meeussen 1967, Rose et al 2002, Schadeberg 2003, Nurse 2003, Nurse & Philippson 2006).

My intention here is to elaborate further on these issues. I will focus specifically on the morphosyntactic behaviour of tense-aspect-mood, focus and negation markers, be they inflectional or not.

By comparing morphological templates from a wide variety of Bantu languages, it is possible to make intriguing generalizations which have hitherto gone largely unnoticed. The present paper offers a preliminary presentation of these in the form of a Pan-Bantu Slot System (PBSS), a detailed morphological template applicable to all Bantu languages. I will also say a few words on related diachronic issues.

The data derives chiefly from the published literature on Bantu languages and covers some 120-ish Bantu languages from all so-called Guthrie Zones.

## 2. Comparative morphosyntax

The structural data that is of interest here comprise inflected verb forms, in fact any finite verb form marked for tense, aspect, mood, focus, negation, and so forth, be it by inflectional morphemes, auxiliaries, or both.

The actual morphemes that are of interest are those which do *not* occupy the SM, OM or STEM slots in a so-called slot system (or, morphological template). These typically include various TAM and NEG markers, and occasionally others, e.g. FOC markers. Hence the SM, OM and STEM slots can, for present purposes, be seen as morphosyntactic pivots. The relevant parts are what appears before the SM (initial markers), between the SM and OM (medial markers) and after the STEM (final markers). This can be schematized as follows:

(1) initial markers – SM – medial markers – OM – STEM – final markers

The specific slot system for any given individual language looks different from case to case. Most languages employ initial, medial as well as final markers, though individual languages can favour one or the other type. Many central and south-western Bantu languages, e.g. Mwenyi K352 (Yukawa 1987b), use a high amount of initial markers, while languages of the northwest and central north, e.g. Pagibete C401 (Reeder 1998), tend to favour final markers. Medial markers are used by the large majority of Bantu languages. From a comparative perspective, it is in fact the medial section that shows the largest variation in both form and function. Hence the present paper will focus on these medial markers.

Let us start with a few examples:

- (2) *nilikisoma* – Swahili G42 (Perrott 1957:35ff)  
 ni li ki som a  
 1SG PAST 3SG:7 read FV  
 ‘I read it (the book)’
- (3) *tutáaluile* – Lungu M14 (Kagaya 1987:384)  
 tu tá a lu ile  
 1PL NEG REM PAST fight PAST  
 ‘we did not fight’
- (4) *nicaali kugura* – Ruri JE253 (Massamba 2000:124)  
 ni ca a li ku gur a  
 1SG NEG PAST AUX INF buy FV  
 ‘I have not bought’
- (5) *naáré kóha* – Kuria JE43 (Yukawa 2002:247)  
 n N á ré kó h a  
 PROG 1SG PAST AUX INF give FV  
 ‘I was giving’

The above examples involve several sets of markers that are cognates. One such set comprises Swahili *-li-* (inflection), Ruri *-li-*, and Kuria *-ré* (auxiliaries), all deriving from PB \**di*. Another cognate set is made up of the negation markers *-ca-* in Ruri and *-tá-* in Lungu. A third set is composed of the past tense marker *-a/á-* in Lungu, Ruri, and Kuria.

If we transform the above-exemplified constructions into abstract templates, or slot systems, we can observe the following:

(6)	Swahili G40:	SM		<i>-li-</i>	OM	STEM	<i>-a</i>
	Lungu M14:	SM	<i>-tá-</i>	<i>-a-</i>		STEM	<i>-a</i>
	Ruri JE253:	SM	<i>-ca-</i>	<i>-a-</i>	<i>-li</i>	<i>ku-</i>	STEM <i>-a</i>
	Kuria JE43:	<i>n-</i>	SM	<i>-á-</i>	<i>-ré</i>	<i>kó-</i>	STEM <i>-a</i>

The remarkable thing is that the linear ordering of the various markers are comparable across the data. What is even more remarkable is that by applying the same process to an increasing amount of languages and data, we eventually arrive at a slot system applicable to the Bantu languages in general. I will refer to the resulting mega-slot system simply as the *Pan-Bantu Slot System*, or PBSS for short.

(Note that word boundaries are ignored here when they appear between the subject marker and the verb stem. Thus for all intents and purposes, a periphrastic construction involving an auxiliary followed by an infinitive is here equal to a single finite verb form.)

In its current form the PBSS recognizes 16 medial slots (labelled M1 through M16), seven final slots (F1-F7), and at least four initial slots (I1-I4). The present paper will mainly focus on the medial slots, which also form the most complex part of the PBSS. These can be summarized as follows:

(7) initials slots – SM – medial slots – OM – VERB – final slots

M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16
a	NEG(C)e		ki	nga	ka	NEG	nV	di	mV	ja,da	...	ka	...	...	NEG
a			Ca	ka	(ka)		a	ndV	ja,jo	da,do		ngu	ti	na	
V							mbV	da,Ci	ma			ku	ba		
H												LOC	bV		
													a		

In (7), each “box” appearing under the slot labels M1 through M16 represents a particular set of TAM/NEG-markers, most of which have been etymologically defined. Table 1 overleaf offers some additional comments to each of these “boxes”.

With respect to Table 1, each row represents a putative set of cognates that derive from a single historical source, except where noted otherwise. The form-column includes an abstraction of the most common forms found in current Bantu languages, while the comments-column includes attested functions and proposed historical origins. The Proto-Bantu forms in the table derive from either Meeussen (1967) or BLR3 (Bastin et al. 2003). Initial and final slots have here been largely ignored.

The easiest way to understand the figure in (7) is to see it as a predictive tool. If one were to pick a random finite verb form involving two or more medial markers, from any random Bantu language, then the figure in (7) will predict the linear ordering of the markers in question. Table 2 (p218/219) offers a few select examples illustrating this. For convenience, the object marker (OM) slot has been omitted from Table 2. In addition, some sources do not define all TAM markers or even translate all linguistic examples, which accounts for the use of the general grammatical label “TAM” in some examples, and why some examples appear with a grammatical definition instead of a proper translation.

Note that the vertical alignment within each slot in (7) is irrelevant. It is simply due to the fact that the data used does not include any verb forms that combine markers derived from, say, PB *\*bá* and PB *\*ti* (cf. slot M14).

The PBSS performs remarkably well. Currently it generalizes over data from some 120-ish Bantu languages, totalling ca. 3,200 morphological templates. Roughly 95% of the data displays expected morphosyntactic behaviour. Or, ca. 5% of the data displays an irregular and seemingly unusual morphosyntax. I return to this further below.

Table 1: The PBSS medial slots

Slot	Form	Comments
I1-I4	...	initial markers
SM	CV	subject markers
M1	a	PAST, cf. *a REC PAST (Meeussen 1967)
	a	subordinate marker?
	V	various forms, various functions
	H	H tones appearing on SM
M2	NEG	default slot for medial NEGs, cf. *tá/*tí NEG (Meeussen 1967)
M3	(C)e	IPFV? PROG?, poss. from a hypothetical *é PROG
M4	ki	PERS, PROG, FUT, various functions, cf. *kí PERS (Meeussen 1967)
	sa,Ca	PERS, poss. *kí+*bá > *kya > *tSa > sa
M5	nga	POT (+ open conditionals?), cf. *ngá COND (Meeussen 1967)
	ka	COND + counterfactuals (same as above?)
M6	ka	PROG,HAB,DUR,PRES,FUT, often <i>ka+di</i> , cf. *ka FUT (Meeussen 1967)
	(ka)	CONS
M7	NEG	secondary slot for NEGs, req. for double negations in the S Zone
M8	ni,nV	PRES, PROG, IPFV, others
	a,á	various functions, incl. PAST
	mbV	various functions
M9	di	often PROG, PAST, cf. *dɪ ‘to be’
	ndV	various functions, some from *genda ‘to go’
	da,Ci	rare, PRET, COMPL, cf. *cída ‘to be finished’
M10	ma,mV	ANT, PRF, PRFV, PRET, PAST, COMPL, cf. *mada ‘to finish’
	ja,jo	often given the meaning ‘to go’, poss. from a hypothetical *ja
	ma	FUT, PROG, HAB, OPT, others
M11	ja,da	often given the meaning ‘to come’, cf. *jija ‘to come’
	da,do	PROG, IPFV, PRES, DUR, FUT, PAST, cf. *taka, *caka ‘to want’
M12	...	extra slot for locally innovative AUXs
M13	ka	IT, MOT, DIST, SUBJ, IMP, PAST, cf. *ka MOT (Meeussen 1967)
	ngu	various functions
	ku	infinitive markers, locative markers, from *INF:15 and/or *LOC:17
	LOC	locative markers, seems to be rare
M14	...	default slot for locally innovative AUXs
	ti	various functions, cf. *tɪ ‘to say, quote’
	ba	often PAST, from *bá ‘to be, dwell’
	bV	poss. related to above
	a,á	various functions, incl. PAST
M15	...	additional slot for locally innovative AUXs
	na	COM=CONJ, from *na ‘and, with’
M16	NEG	NEG slot req. for A43a, A70, C41, maybe others
OM	CV	object markers, reflexive marker(s)
STEM	...	verb stems (as roots often CVC), incl. derivational extensions
F1-F7	...	final markers, incl. inflectional “extensions”

### 3. Cognate sets of markers, or not

Ideally, any given set of markers represented by a box in (7) should be etymologically defined, i.e. they should form cognate sets. However, for a variety of reasons, most of which emanate from a lack of sufficient data, this is not always possible to achieve. The difficulty in determining an etymological origin for many markers is an unavoidable methodological problem. Hence some boxes represent sets of markers characterized by (loose) form-meaning similarities, rather than a common historical origin.

There are, however, also practical reasons for keeping some slots etymologically “unclean”. There are many local innovations (esp. auxiliaries) with limited geographical distributions, appearing in few or even single languages only. Morphosyntactically, these invariably place themselves at the far right end of the PBSS medial section, specifically slots M12, M14 and M15. In order to keep the visual clutter in (7) at a minimum, they are conveniently represented simply by three dots “...”. Hence they function mainly as catch-all slots.

#### 3.1 Three negation slots

The three NEG slots M2, M7 and M16 have been functionally defined, a fact that may need to be changed in the future, but which serves practical purposes. The M2 slot is the default slot for medial NEG markers. The M7 slot is needed in order to accommodate the Bantu languages of southern Africa, especially those of zone S (cf. examples in table 2). For example, while the NEG markers most commonly appear to the left of any COND/POT markers derived from PB *\*ngá*, in Sesotho S33 their relative ordering is reversed.

- (8) *akaserate hoea* - Sesotho S33 (Guma 1971:179)  
 a ka se rate ho ea  
 3SG:1 COND NEG like INF go  
 ‘he may not like to go’

Similar untypical (from a comparative perspective) orderings are fairly common in most of the southern African Bantu languages. Hence in order to fit these languages into the PBSS, a second NEG slot in M7 needs to be recognized.

For similar reasons, the third NEG slot in M16 is required in order to accommodate a variety of languages, in particular Basaa A43a (Hyman 2003), Bulu A74a (Yukawa 1992b), Fang A75 (Raponda Walker 1995), Ngombe C41 (Yukawa 1992a), and possibly others as well. The NEG markers in question do not appear to be derived from the established PB forms *\*tí* or *\*tá* (Meeussen 1967:108). In fact, they seem to be fairly recently grammaticalized items, which probably also accounts for them being linearly ordered where they are, an issue I return to further below.

Note that the first medial slot M1 cannot be a NEG slot, as evident from the Changana S53 example in table 2. There exist in fact a whole range of Bantu languages where a NEG marker in slot M2 is preceded by some kind of TAM marker commonly displaying a V form, often *a*. Languages include Ngombe C41 (Yukawa 1992a), Jita JE25 (Kagaya 2004), Bukusu JE31c (Blois 1975), Mbaga Pare G22 (Kagaya 1989), Pangwa G64 (Küsters 1930s), Gciriku K332 (Möhlig 1967), Lomwe P32 (Venturini 1981), Venda S21 (Poulos 1990), Changana S53 (Sitoe 2001), and Copi S61 (Junod 1933).

Table 2: Selected examples slotted into the medial section of the PBSS.

Language	SM	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11
Londo A11	<b>à</b> 3SG:1		<b>sí</b> NEG								<b>mò</b> PRF	
Ngombe C41	<b>ná</b> 1SG											
Mashami E621	<b>shi</b> 1SG									<b>le</b> PAST	<b>mmee</b> PRF	
Mbaga Pare G22	<b>tu</b> 1PL								<b>ne</b> FUT	<b>re</b> CONT		
Soga JE16	<b>a</b> 3SG:1	<b>i</b> TAM										<b>dáá</b> TAM
Ruri JE253	<b>ni</b> 1SG		<b>ca</b> NEG						<b>a</b> TAM	<b>li</b> TAM		
Lungu M14	<b>tu</b> 1PL		<b>tá</b> NEG						<b>á</b> PST			
Ila M63	<b>ndi</b> 1SG		<b>i</b> NEG						<b>ná</b> TAM			
Zezuru S12	<b>ndi</b> 1SG				<b>ci</b> PER			<b>si</b> NEG		<b>ri</b> PROG		
Venda S21	<b>a</b> 3SG:1					<b>nga</b> POT		<b>si</b> NEG				
Changana S53	<b>ndz</b> 1SG	<b>a</b> TAM	<b>há</b> NEG			<b>ngá</b> POT						

The first medial slot is also needed for occasional H(igh) tones appearing on SMs. It is often convenient to recognize a high toned SM as being composed of two separate morphemes, i.e. SM+H, in which case the H needs to be slotted into the first medial slot M1.

### 3.2 The many a's

The most common form displayed by Bantu TAM markers is a simple *a*, which may vary in length and tone (Nurse & Philippson 2006:158ff). Many of these are past tense markers, but not all.

It is not possible to keep all *a*-markers in a single slot, not even all past tense markers. Nor is it possible to group them into semantically or functionally consistent sets, which is slightly problematic, but not devastating. At present, they appear in three different slots: M1, M8 and M14. Most of the *a*-markers in M1 are past tense markers, while the others are semantically less consistent.

Meussen (1967:109) reconstructs two separate *a*-markers with past tense reference for PB, while Nurse & Philippson (2006:164) seem to suggest a common origin for all past tense *a*-markers. Looking at how the various past tense *a*-markers behave in the PBSS, a multiple origin would seem likely, though nothing is written in stone.

M12	M13	M14	M15	M16	VERB-finals	Example+translation
					<b>sàkà</b> look for	<i>àsímòsàkà</i> (Kunerus 1985:154) definite past perfect negative
		<b>petá</b> TAM		<b>kíní</b> NEG	<b>sómba</b> buy	<i>nápetákínísómba</i> (Yukawa 1992a:287) 'I have not yet bought'
					<b>lyâ</b> eat	<i>shilemmeelyâ</i> (Yukawa 1989:253) past perfect
					<b>bigha</b> beat	<i>tunerebigha</i> (Kagaya 1989:185) 'we will continue to beat'
					<b>kuba</b> beat	<i>aidáákuba</i> (Yukawa 2000:258) future
	<b>ku</b> INF				<b>gura</b> buy	<i>nicaali kugura</i> (Massamba 2000:124) 'I have not bought'
					<b>lwile</b> fight	<i>tutáálwile</i> (Kagaya 1987:388) 'we did not fight'
<b>ú</b> TAM	<b>ká</b> TAM				<b>tanda</b> chase away	<i>ndiináúkátanda</i> (Yukawa 1987a:206f) prehodiernal past negative
	<b>ku</b> INF				<b>tora</b> take	<i>ndanga ndicisiri kutora</i> (Fortune 1955:278) 'I was no longer taking'
					<b>gude</b> study	<i>a nga si gude...</i> (Poulos 1990:276) 'he might not study...'
					<b>tírha</b> work	<i>ndzahángátírha</i> (Siteo 2001:227) 'let me work', def. as hortative-potential

It should be noted that there are a few *a*-markers that have been placed in other slots than the just-mentioned ones. However, this only concerns those that can be etymologically linked to something appearing in some other slot. For instance, the future tense *a*-markers in Banoho A32a (Adams 1907:1027) and Basaa A43a (Dimmendaal 1988:64) are clearly reduced from *ka* and *ga*, respectively, and hence belong in slot M6.

### 3.3 The many *ka*'s

There are several markers displaying a form like *ka* (Botne 1999). In the PBSS, these appear in three slots: M5, M6 and M13. In fact, their morphosyntactic behaviour is such that they cannot be lumped into one slot.

The ones in M5 are mainly potentials and conditionals, though a few appear atypically in M13. The ones in M6 are largely futures and progressives, which often appear with an auxiliary derived from PB *\*dì*. The *ka*-markers that end up in M13 tend to be itives, distals, pasts, subjunctives, etc. Some irregularities do occur, however.

Nurse & Philippson (2006:171ff) suggest tentatively that the ones which here appear in slots M6 and M13 all originate from a common historical source, a verb meaning 'to go', which if true would be slightly problematic for the PBSS.

However, their morphosyntactic behaviour, as caught by the PBSS, and the hints of a semantic/functional consistency (futures/progressives vs. pasts/itives) would

suggest otherwise. Still, if they do have a common origin, it would seem likely to pre-date Proto Bantu.

### 3.4 Irregularities and problems

There exists at least one problem associated with the conditional/potential *ka*-markers. In Chewa N31, we find the following constructions:

- (9) *tikadabwera dzulo...* - Chewa N31 (Hullquist 1988:26)

ti    **ka**    **da**    bwera dzulo...  
 1PL COND PAST come            yesterday ...  
 ‘we would have come yesterday, ...’

- (10) *chidakachitika...* - Chewa N31 (Hullquist 1988:26)

chi    **da**    **ka**    chitika ...  
 3SG:7 PAST COND happen ...  
 ‘it would have happened...’

Compare the ordering of the bold-printed markers in (9) and (10). The same two markers appear in both a common order (*ka+da*), displayed by several other languages, as well as an uncommon or irregular one (*da+ka*).

This creates an obvious problem for the PBSS, as it makes it impossible to slot all related markers in a single slot. However, as serious as this may seem from a theoretical point of view, in practice the problem is not very extensive, as such cases do not seem to be very common. Hence cases of such variable morphosyntactic ordering as displayed by Chewa N31 are best handled as “local idiosyncrasies”.

If they had been more wide-spread, it would not be possible to construct a comparative tool such as the PBSS. This is not an insignificant point to make, since the attested regularities captured by the PBSS imply that such variable orderings cannot have been very common even historically.

A slightly more serious problem is exemplified by Subiya K42, where we find a consistent atypical ordering.

- (11) *mukwaame aba ka nywi meenzi* – Subiya K42 (Baumbach 1997:337)

mu-kwaame a        **ba**    ka    nywi    ma-inzi  
 3SG:1+man 3SG:1 PAST TAM drink    3SG:6+water  
 ‘the man drank water’

In Subiya K42, the position of the *ba*-marker, presumably derived from PB \**bá*, is slightly unexpected. It seems always to appear at the far left-hand side of the medial PBSS. This is in stark contrast to most other languages, where anything even resembling a *bV*-form usually ends up at the far right-hand side.

Again, the best option is to regard cases like these as “local idiosyncrasies”. They are in any case not many. (A few languages from the A zone also display a similarly unexpected behaviour with regard to *ba*-like markers, an issue I will have to take up at some other point.)

A handful of languages display more irregularities than others. The languages that are hardest to fit into the PBSS include Yambasa A62 (Yukawa 1992c), Ewondo A72a (Haarpainter 1909), Fang A75 (Raponda Walker 1995), and Makaa A83 (Heath 2003). These languages display either or both irregular orderings and strange/obscure items that are difficult to relate etymologically to items in other Bantu languages.

In addition, besides utilizing several locally innovative auxiliaries, Venda S21 shows an unusual number of variable and/or irregular orderings involving the itive *yo*, the future *do* and the negative *sa* (cf. Poulos 1990:334, 340, 349, 359). From the viewpoint of the PBSS, these items have a tendency to pop up in atypical positions. Still, irregular/atypical morphosyntactic behaviour is statistically marginal. As already mentioned, only about 5% of the investigated data directly flout the generalizations captured in the PBSS. This fact alone would indicate that morphosyntactic idiosyncrasies of individual languages cannot have been very prevalent in the history of the Bantu languages, an issue I will try to elaborate upon next.

#### 4. The PBSS and diachrony

It would seem reasonable to apply a diachronic reading to the linear ordering captured by the PBSS. Among the medial markers, known local innovations (e.g. certain auxiliaries) are typically found closer to the OM+STEM slots, i.e. the right-hand side of the figure in (7), while known older markers (esp. inflections with wide geographical distributions) are found closer to the SM slot, or the left-hand side. This is suggestive of a diachronic process that builds up morphological material from the inside, so to speak.

Let us assume a (hypothetical) starting point with a simple periphrastic construction involving a finite auxiliary followed by an infinitive marked with an infinitive marker *ku*:

Stage 1: SM-TAM(1)-AUX *ku*-VERB

The multi-word construction develops into a one-word construction by dropping the *ku*-marker accompanied by a re-analysis of the word boundary as a morpheme boundary, resulting in a new, slightly more complex, template:

Stage 2: SM-TAM(1)-TAM(2)-VERB

The new template may then be applied to another auxiliary construction:

Stage 3: SM-TAM(1)-TAM(2)-AUX *ku*-VERB

From there, the process can start again, resulting in an even more complex template, building up more and more material, with the “insertion point” being just left of the verb stem:

Stage 4: SM-TAM(1)-TAM(2)-TAM(3)-VERB

The net result of this scenario is that we are able to “read” the linear ordering of medial TAM/NEG markers in a Bantu verb template as a kind of chronology of grammaticalizations. In the hypothetical example above, TAM(1) has grammaticalized earlier than TAM(2), which in turn has grammaticalized earlier than TAM(3). In other words, older grammaticalizations to the left, more recent ones to the right.

The current opinion among Bantuists seems to be that a detailed reconstruction of the verb inflectional system of Proto-Bantu is unlikely or at least very difficult due to the many cycles of grammaticalizations that are assumed to have occurred since Proto-Bantu times. Hence we can read about the “constant rebuilding of the

inflectional system” (Schadeberg 2003:151), grammatical categories that are “often and widely renewed” (Nurse 2003:98) or in “constant flux, and constant systemic and semantic permutation” (idem:100). Thus grammaticalization appears almost like a driver-less bulldozer leaving only chaos and debris in its trail.

Contrary to this seeming pessimism, I would claim that the PBSS can offer us a new and useful tool in our efforts to further disentangle the complicated history of TAM/NEG marking in the Bantu languages. However, the successfulness of the PBSS depends on the premise that the various sets of markers, i.e. the individual boxes in (7) above, are valid representations of etymons. While this is true for most boxes (cf. comments in table 1), especially those on the left-hand side, several boxes, especially among the ones to the right, still require some work in this respect.

Nevertheless, it is on the left-hand side where we find most of the already-established/proposed Proto-Bantu TAM/NEG reconstructions, e.g. persistive *\*kí*, negative *\*tá/\*tí*, conditional *\*ká*, past tense *\*á*, and so on (cf. Meeussen 1967:108ff, Nurse & Philippson 2006).

Obviously the full PBSS cannot be a retention of Proto-Bantu. However, accepting the diachronic reading, it would appear plausible to accept at least certain parts of it as being retentions; the assumption being of course that grammaticalization processes have not obliterated original Proto-Bantu features to any major extent.

In particular, what we see in slots M1 through M6 may indeed be the original Proto-Bantu verb inflectional template, or at least very close to it. Undeniably, there is still more work needed on various details, but there is no reason why it could not be acceptable as a useful starting point or working hypothesis.

### 5. An unnoticed Proto-Bantu progressive marker?

One interesting consequence of the above reasoning is that the PBSS may help us in identifying previously unrecognized Proto-Bantu items. For instance, there is a set of *i/e*-like TAM markers which consistently end up in either slot M1 or slot M3. The markers in question appear exclusively in progressive, habitual, future, and present tense constructions.

(12) *yelukaka* – Kele C55 (Stapleton 1906:291)

i e lukaka  
1SG FUT seek  
'I will seek'

(13) *twilima* – Pangwa G64 (Küsters 1930s)

tu i lima  
1PL PRES do/make  
'we do/make'

They are found in some 15 languages widely distributed across the Bantu area, specifically zones A, C, E, G, H, K, M, and S.

Their similarity in form, as well as function, plus their similar morphosyntactic behaviour (i.e. they appear in the same slot in the PBSS) and wide geographical distribution, may be taken to imply that they constitute a hitherto unrecognized group of cognates, perhaps going back to an old Proto-Bantu progressive marker. At present, however, this should be seen as suggestive rather than a definite claim.

## 6. Concluding remarks: what's it good for, then?

The present paper has comprised a (preliminary) description of the medial section of the Pan-Bantu Slot System (PBSS), a detailed morphological template serving as a tool for the comparative study of TAM/NEG-marking in Bantu languages. The main novelty and strength of the PBSS lies in the simple fact that it generalizes over morphosyntactic data, something that has not been done before, at least not with any consistency. Hence it manages to capture underlying morphosyntactic similarities that have hitherto gone largely unnoticed.

The PBSS could eventually be developed into a systematic catalogue of Bantu TAM/NEG markers. It could even provide us with an identificational tagging system similar to the so-called Bleek-Meinhof numbering used for noun class affixes, and which has proven highly practical in comparative studies.

The PBSS can also help us in identifying more confidently the cognacy of otherwise “obscure” morphological markers, simply by making it easier to isolate sets of markers that might otherwise not be recognized as being related (cf. the discussion in the previous section above).

Conversely, it may aid us also in separating sets of markers that would otherwise be treated as potential cognates due to form-meaning (but not morphosyntactic) similarities. For instance, the PBSS does not support a common historical origin for the many past tense *a*-markers found widely across the Bantu area.

In sum, the PBSS can function as a useful working tool in disentangling the many and complex diachronic processes that have affected the morphology of the Bantu verb, by making it easier to take morphosyntactic behaviour into account in comparative studies.

## References

- Adams, P.G.A. (1907) Die Banôho und Bapuku in Kamerun. *Anthropos* 2: 1022-1028.
- Bastin, Yvonne & Thilo C. Schadeberg (eds.) (2003) *Reconstructions lexicales bantoues 3 / Bantu lexical reconstructions 3*. Database available at <http://www.metafro.be/blr>
- Baumbach, Ernst J.M. (1997) Languages of the Eastern Caprivi. In Wilfrid Haacke & Edward D. Elderkin (eds.) *Namibian Languages: Reports and Papers*. Cologne: Rüdiger Köppe, 307-451.
- de Blois, Kornelis Frans. (1975) *Bukusu Generative Phonology and Aspects of Bantu Structure*. Annalen van het Koninklijk Museum voor Midden-Afrika, menselijke wetenschappen, 85. Tervuren.
- Botne, Robert D. (1999) Future and distal -ka-'s: Proto-Bantu or nascent form(s)? In Jean-Marie Hombert & Larry M. Hyman (eds.) *Bantu Historical Linguistics*. Stanford: CSLI, 473-515.
- Dimmendaal, Gerrit J. (1988) *Aspects du Basaa*. Bibliothèque de la SELAF (Société des Etudes Linguistiques et Anthropologiques de France), 96. Paris: Editions Peeters.
- Fortune, George. (1955) *An Analytical Grammar of Shona*. London: Longmans, Green & Co.
- Guma, Samson Mbizo. (1971) *An Outline Structure of Southern Sotho*. Pietermaritzburg: Shuter & Shooter.
- Haarpaintner, Max P. (1909) Grammatik der Yaundesprache. *Anthropos* 4: 684-701, 919-930.

- Heath, Teresa. (2003) Makaa (A83). In Derek Nurse & Gérard Philippson (eds.) *The Bantu Languages*. London: Routledge, 335-348.
- Hullquist, C.G. (1988) *Simply Chichewa*. Makwasa (Malawi): Malamulo Publishing House.
- Hyman, Larry M. (2003) Basaa (A43). In Derek Nurse & Gérard Philippson (eds.) *The Bantu Languages*. London: Routledge, 257-282.
- Junod, Henri Philippe. (1933) *Eléments de grammaire tchopi*. Lisboa: Tipografia e Papelaria Carmona; Sociedade de Geografia de Lisboa.
- Kagaya, Ryohei. (2004) Jita-go murangi-hoogen no dooshi onchoo bunseki [A tonal analysis of verbs of the Mrangi dialect of Jita]. *Journal of Asian and African studies/Ajia Afuriku gengo bunka kenkyu* 68: 49-96.
- Kagaya, Ryohei. (1989) A study of the tonal system of the Mbagha dialect of the southern Pare language. *Studies in Tanzanian Languages*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa (ILCAA), 95-204.
- Kagaya, Ryohei. (1987) Tonal patterns of Cilungu predicate terms. *Studies in Zambian Languages*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa (ILCAA), 379-472.
- Kuperus, Julie. (1985) *The Londo Word: Its Phonological and Morphological Structure*. Annalen van het Koninklijk Museum voor Midden-Afrika, menselijke wetenschappen, 119. Tervuren.
- Küsters, Meinulf. (1930s) *Kipangwa Grammatik, mit Übungstücken*. Typed manuscript available at the Hans Cory Collection, ref. EAF CORY 302. University Library of Dar es Salaam.
- Massamba, David P.B. (2000) Ci-Ruri verbal inflection. In Kulikoyela K. Kahigi, Yared M. Kihore & Maarten Mous (eds.) *Lugha za Tanzania*. Leiden: Research School of Asian, African and Amerindian Studies (CNWS), 111-126.
- Meeussen, Achille E. (1967) Bantu grammatical reconstructions. *Africana Linguistica* 3: 79-121.
- Möhlig, Wilhelm J.G. (1967) *Die Sprache der Dciriku: Phonologie, Prosodologie und Morphologie*. Ph.D. dissertation, Universität zu Köln.
- Nurse, Derek. (2003) Aspect and tense in Bantu languages. In Derek Nurse & Gérard Philippson (eds.) *The Bantu Languages*. London: Routledge, 90-102.
- Nurse, Derek & Gérard Philippson. (2006) Common tense-aspect markers in Bantu. *Journal of African Languages and Linguistics* 27.2: 155-196.
- Perrott, Daisy Valerie. (1957) *Teach Yourself Swahili*. Second edition. London: English Universities Press.
- Poulos, George. (1990) *A Linguistic Analysis of Venda*. Pretoria: Via Afrika.
- Raponda Walker, André. (1995) *Eléments de grammaire fang*. Rédigé par Ntong Honoré, Etoughe Albert et Mba-Nkoghe Jules. Libreville: Fondation Mgr Raponda Walker.
- Reeder, JeDene. (1998) *Pagibete, a Northern Bantu Borderlands Language: A Grammatical Sketch*. MA thesis, University of Texas at Arlington.
- Rose, Sarah, Christa Beaudoin-Lietz & Derek Nurse. (2002) *A Glossary of Terms for Bantu Verbal Categories, with Special Emphasis on Tense and Aspect*. *Lincom studies in African linguistics* 55. München: Lincom Europa.
- Schadeberg, Thilo C. (2003) Historical linguistics. In Derek Nurse & Gérard Philippson (eds.) *The Bantu Languages*. London: Routledge, 143-163.
- Sitoe, Bento. (2001) *Verbs of Motion in Changana*. Leiden: CNWS.
- Stapleton, Walter H. (1906) Note on the Kele verb. *Journal of the African Society* 5.19: 290-299.
- Venturini, Onorino. (1981) *Lições de língua lomwe*. Mwalama (Moçambique).

- Yukawa, Yasutoshi. (2002) Kuria-go dooshi akusento shiron [A tentative tonal analysis of Kuria verbs]. *Journal of Asian and African Studies/Ajia Afuriku gengo bunka kenkyu* 63: 229-264.
- Yukawa, Yasutoshi. (2000) Soga-go dooshi akusento shiron [A tentative tonal analysis of Soga verbs]. *Journal of Asian and African Studies/Ajia Afuriku gengo bunka kenkyu* 60: 249-290.
- Yukawa, Yasutoshi. (1992a) A tonological study of Ngombe verbs. *Studies in Cameroonian and Zairean Languages*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa (ILCAA), 269-302.
- Yukawa, Yasutoshi. (1992b) A tonological study of Bulu verbs. *Studies in Cameroonian and Zairean Languages*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa (ILCAA), 67-94.
- Yukawa, Yasutoshi. (1992c) A tonological study of Yambasa verbs. *Studies in Cameroonian and Zairean Languages*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa (ILCAA), 1-46.
- Yukawa, Yasutoshi. (1989) A tonological study of Machame verbs. *Studies in Tanzanian Languages*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa (ILCAA), 223-338.
- Yukawa, Yasutoshi. (1987a) A tonal study of Ila verbs. *Studies in Zambian Languages*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa (ILCAA), 185-256.
- Yukawa, Yasutoshi. (1987b) A tonal study of Mwenyi verbs. *Studies in Zambian Languages*. Tokyo: Institute for the Study of Languages and Cultures of Asia and Africa (ILCAA), 35-72.