

Auxiliaries and Analyticity in Northwestern Bantu

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Abstract

Northwestern Bantu (NWB) languages differ from Eastern/Southwestern Bantu languages in that their verb forms are more often analytic, with pre-stem inflectional material appearing in a complex that may be unbound from the main verb. This has resulted in NWB languages being described as having Aux V word order, where ‘Aux’ stands for ‘auxiliary’. At the same time, some verb forms are analysed as synthetic, and authors vary widely in their use of terminology and their orthographic representation of pre-stem material, even for the same language. In this paper, I first review the different terminology used for NWB predicates, highlighting the corresponding variation in wordhood analyses. I then review the structure of the pre-stem ‘auxiliary’ complexes. First, I discuss the internal structure of NWB pre-stem complexes, with regard to the order of elements. Secondly, I discuss the external structure of these complexes, reviewing diagnostics for considering them as independent from the main verb (analytic) or as bound to it (synthetic). The results show variation in the degree of separation between the pre-stem material and the lexical verb across NWB Bantu languages and constructions, consistent with them being in intermediate stages of a recurrent diachronic change between analytic and synthetic verbal predication.

Keywords: Northwestern Bantu, analyticity/syntheticity, wordhood, morphosyntax, verbs

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1 Introduction

Languages from the Bantu sub-family of Niger-Congo are generally described as having highly agglutinative verb forms (e.g., Nurse 2008, 28; Good 2012, 294), also referred to in terms of exhibiting a high degree of verbal synthesis. However, languages from the Northwest of the Bantu family, particularly those of Bantu zone A, are excluded from these generalizations on account of having different verb structures (Schadeberg and Bostoen 2019, 172). These Northwestern Bantu (NWB) languages contrast with other Bantu languages in showing much more analytic verb forms, with inflectional material often described as part of an ‘auxiliary’ which is written as a separate orthographic word from the main verb (<Aux V>), as exemplified in (1)–(2).¹

- (1) **Mé-ŋò** àŋó mímé fwálábi.
H:1SG-FUT you house build:CAUS
‘I’ll build a house for you.’ (Tunen (A44) [tvu];² Mous 2005, 9)

- (2) **Mèté** wô yén.
|**mà-Lté** wò L-jén
1SG-PR 2SG.NPPR INF-see
‘I see you.’ (Eton (A71) [eto]; Van de Velde 2008, 255)

This separation between pre-stem material and the main verb is also found in descriptions of closely-related (non-Bantu) Bantoid/Wide Bantu languages, as in (3)–(4) below.

- (3) **Ǻ** tà ka bon yenni.
he IPFP0 NEG them see
‘He doesn’t see them.’ (Tikar (N. Bantoid) [tik]; Stanley 1997, 441)

- (4) **Wù** à tǿ jántǿ.
CL1.PVB P2 come(b) yesterday
‘He arrived yesterday.’ (Mundabli (S. Bantoid) [boe]; Voll 2017, 195)

While there is variation here as to whether the authors represent the inflectional elements as bound to each other (as in (1)–(2)) or as a sequence of free forms (as in (3)–(4)), all these cases show a separation between the inflectional elements and the main lexical verb, with white-space used in the orthographic representation and non-verbal material intervening (i.e., object pronouns in (2)–(3) and both an object pronoun and an object noun in (1)). This analytic verbal morphosyntax contrasts with the highly synthetic simplex verb forms common to the rest of the Bantu family, as exemplified in (5)–(6).

¹ Throughout the paper, I leave the data presentation as in the original sources, with the exception of adding glosses to unglossed examples, changing lexical glosses and translations in other languages to English, standardizing punctuation and capitalization, adding boldface to highlight the points of interest, and italicizing and interlinearizing following the NJAS house style. A list of abbreviations is given at the end of the paper.

² I follow Bantuist convention in providing the Guthrie classification code for each Narrow Bantu language alongside examples and when a language is first mentioned in the main text, together with the ISO 639-3 code in square brackets. The Guthrie code is an alphanumeric code based primarily on the geographical position of the language rather than necessarily reflecting genealogical proximity (Maho 2003, 2009).

- (5) *Mkángó u-ma-ku-kónd-a.*
 3-lion 3_{SM}-HAB-2ND_{SING}OM-love-FV
 ‘The lion loves you.’ (Chichewa (N30) [nya]; Mchombo 2004, 34)
- (6) *Twáràkàbòòrà zyónà.*
 /tu-ára-ka-boor-a zyóna/
 SM1_{PL}-REM.FUT-DIST-return-FV tomorrow
 ‘We will return tomorrow.’ (Fwe (K402) [fwe]; Gunnink 2022, 309)

As some sources on NWB languages represent pre-stem inflectional elements as separate from the verb in constructions like (1)–(2), they have been considered as having Aux V word order, where ‘Aux’ refers to an auxiliary complex. Some languages like Tunen which also allow pre-verbal objects (OV word order) have therefore been likened to West African languages with so-called ‘S-Aux-Obj-V-Other’ word order (or ‘Aux-Obj-V’ in combination with ‘Obj-V-Other’; Creissels 2005; Gensler and Güldemann 2003; Güldemann 2008, 2018, 481–482), i.e., split predicate structure, where the main verb is separated from other material associated with it (the ‘Aux’ material).

However, there is a lot of variation in sources on NWB languages as to whether a construction is treated as analytic or synthetic, even for the same language. For example, while in (1) we saw the pre-stem material written in an auxiliary complex that was separate from the main verb in a ditransitive clause with pre-verbal object pronouns in Tunen (A44) [tvu], in clauses without intervening material the analysis is more ambiguous. Sources on Tunen differ considerably in how they represent wordhood in these cases. Dugast (1971, 1975) writes the subject marker separately and the tense marker conjoint with the verb (7), while the community orthography writes each element separately (Satre et al. 2008) (8). Kerr (2024a, 2024b) follows the community orthography in keeping each element as a separate orthographic word, adding parentheses to the surface transcription line to indicate vowel elision (9).

- (7) *A nákan ebàk’ òmbel.*
 SM.1 PST.leave 7.lizard 3.house
 ‘He went to the lizard’s house.’ (Tunen (A44) [tvu]; Dugast 1975, 61)
- (8) *Yowánese a n’ akána u nioní.*
 1.Jean SM.1 PST1 leave PREP 5.market
 ‘Jean went to the market.’ (Tunen (A44) [tvu]; Satre et al. 2008, 11)
- (9) *Hilóbi hé ná wéeya iti, isinjáka ɔndʒelé a n(á) ákan ase : (...)*
 /hɛ-lóbi hé ná wéeya itíá eséájáka ɔ-ndʒelé
 19-anger SM.19 PST2 PRN.EMPH.1 hold now 3-lizard
a ná akána a-séá (...)/
 SM.1 PST2 leave SM.1-say(...)
 ‘He became enraged, and now the lizard came by, and said: (...)’
 (Tunen (A44) [tvu]; Kerr 2024b, 186)

Which source is used may therefore influence how the language is interpreted in terms of its similarities to other Niger-Congo languages versus Narrow Bantu languages. In this paper I therefore aim to provide an overview of NWB pre-stem complexes, highlighting why they are sometimes considered as auxiliaries as part of analytic constructions resembling split predicate structures in other African languages, and sometimes considered as bound to the verb as part of synthetic constructions of the canonical Bantu type. I first discuss the terminological and analytical differences found in the literature (Section 3). Next, I turn to the structure of the auxiliary complexes. First, I consider their internal structure (Section 4), showing that the elements can be schematized as SM-{-NEG1-}TAM-{-NEG2-}DIR-PRN (where DIR = directional marker and PRN = a subject pronoun), which overlaps with the order of elements in synthetic Bantu verb forms. Next, I turn to the external structure of auxiliary complexes, viz. their relationship with the main lexical verb (Section 5). Here, I evaluate the evidence that can be used to support the treatment of pre-stem complexes as separate from the main verb (analytic) versus bound to it (synthetic), showing that interruptability is the most widely used criterion for justifying analyses of analytic verb structure. Finally, Section 6 concludes.

2 Methodology

The main data source for this paper is the data available in descriptive grammars and other sources on NWB languages and nearby Bantoid/Wide Bantu languages, with a focus on Bantu zone A. Here, NWB languages are considered in the narrow sense, i.e., corresponding to Bantu zone A and parts of Bantu zone B (Grollemund et al. 2015), as these languages, spoken closest to the Bantu homeland, are reported to have the most analytic verb forms.

I supplement these data with some primary data collected from fieldwork in Cameroon. The fieldwork was conducted in Feb–Apr 2025 and Jul–Aug 2025 for a period of four months, under a research permit granted by the Cameroonian Ministry for Scientific Research and Innovation (MINRESI). The fieldwork covered the four languages of the Western Mbam subgroup of Bantu languages (A40/A60), working with 28 consultants, aged 30–70, male and female, across seven field sites, and using French as a metalanguage.

The Bantu zone A and Bantoid languages discussed in this paper are shown in Table 1 and Figure 1. While I also consulted some further sources on zone B and C languages as a comparison, I do not cover them here for reasons of space.

Table 1: Languages for which examples are discussed in this paper, with classification and sources consulted

Language	Subgroup	Guthrie no.	ISO-639-3	Source(s) consulted
Akoose	Bantu	A15C	bss	Hedinger (2008)
Atomb	Bantu	A461	tff	Dihenou Djahappi (2021) + own data
Bafia	Bantu	A53	kdf	Guarisma (2003)
Basaá	Bantu	A43	bas	Hyman (2003); Makasso (2023)
Duala	Bantu	A42	dua	Ittmann (1978)
Eton	Bantu	A71	eto	Van de Velde (2008)
Ewondo	Bantu	A72	ewo	Redden (1979)
Gunu	Bantu	A62	yas	Rekanga (1989)

Language	Subgroup	Guthrie no.	ISO-639-3	Source(s) consulted
Gyeli	Bantu	A801	gyi	Grimm (2021)
Iyasa	Bantu	A33a	yas	Brown (2021)
Koonzime	Bantu	A842	ozm	Beavon (1983, 1991)
Kwakum	Bantu	A91	kwu	Njantcho Kouagang (2018); Njantcho Kouagang and Van de Velde (2019)
Makaa	Bantu	A83	mcp	Heath (2003); Ibrahīm (2021)
Mmala	Bantu	A62	mmu	Nzang-Bie (1989); Boyd (2015)
Mpiemo	Bantu	A86c	mex	Festen (2008); Thornell (2003)
Mundabli	Bantoid	N/A	boe	Voll (2017)
Nomaandé	Bantu	A46	lem	Wilkendorf (1986, 2001); Taylor (1999); Boyd (2015) + own data
Nuasúe	Bantu	A62	yav	Bébiné (2019); Boyd (2015)
Nyokon	Bantu	A45	nvo	Boyd (2015); Mous (2014, 2022); Kerr (2024a) + own data
Oroko	Bantu	A11	bdu	Kuperus (1985); Friesen (2002)
Tikar	Bantoid	N/A	tik	Stanley (1997)
Tuki	Bantu	A601	bag	Musada (1996); Boyd (2015)
Tunen	Bantu	A44	tvu	Dugast (1971, 1975); Mous (2003, 2014); Boyd (2015); Kerr (2024b, 2024c) + own data

3 Terminology

3.1 Pre-stem complexes and analyticity

In this section I define the two key terms of this paper, namely pre-stem complexes and analyticity.

I use ‘pre-stem complex’ as a descriptive term for all pre-verbal inflectional material. This inflectional material is dependent on the main verb, where the main verb contributes the lexical core of the predicate. The inflectional material expresses various grammatical features, such as subject indexation, negation, and tense. These features may be encoded using unbound morphological forms, agglutinative morphology, or fusional morphology. ‘Pre-stem complex’ is most useful as a term for languages in which these elements are separate from the main lexical verb. However, I will use ‘pre-stem complex’ as a descriptive term for all the Bantu languages considered, even if the actual degree of separation from the main verb is not yet proven. This parallels the use of ‘pre-stem cluster’ in some other sources. As we will see, (parts of) this pre-stem complex may also be referred to as an ‘auxiliary’ in certain sources.

The term ‘analyticity’ stems from work in the German philological tradition conducted by A. W. von Schlegel (1818) and F. von Schlegel (1808) and developed by linguists such as Sapir and Greenberg (see Arkadiev 2020 for a historical overview), where languages were grouped into different morphosyntactic types on the basis of the morphological complexity of the word,

analytic languages containing few morphemes per word. As this typology has been refined, analyticity is seen as the other end of a continuum from ‘syntheticity’, where syntheticity is defined as having a high number of morphemes expressed on the same word. Here I discuss analyticity with respect to split predication, a notion I will define further in Section 3.3 after reviewing previous treatments of Bantu verb forms along the analytic-synthetic continuum.

3.2 Bantu verb forms

As stated above, one of the hallmarks of the Bantu languages is the complexity of verb forms. Within the Africanist literature, Bantu verbs are usually described as ‘highly agglutinative’ (see, e.g., Good 2012, 294). In this paper I follow the general linguistic literature in using ‘synthetic’ as the more appropriate counterpart of ‘analytic’, as agglutination refers to the specific type of morphological realization (one morpheme per form, in contrast to ‘flexional’/‘fusional’ morphology), which is an independent axis of variation from the current issue of free versus bound forms (see, e.g., Comrie 1989, 42–52; Arkadiev 2020; Bostoen to appear).

Based on the high syntheticity observed across Bantu languages, the Bantuist Achille Meeussen reconstructed a highly synthetic verbal template for the proto-language (Meeussen 1967, 108–111), as represented in Table 2 below (cf. Güldemann 2022, 388; Nurse 2008, 226–283).

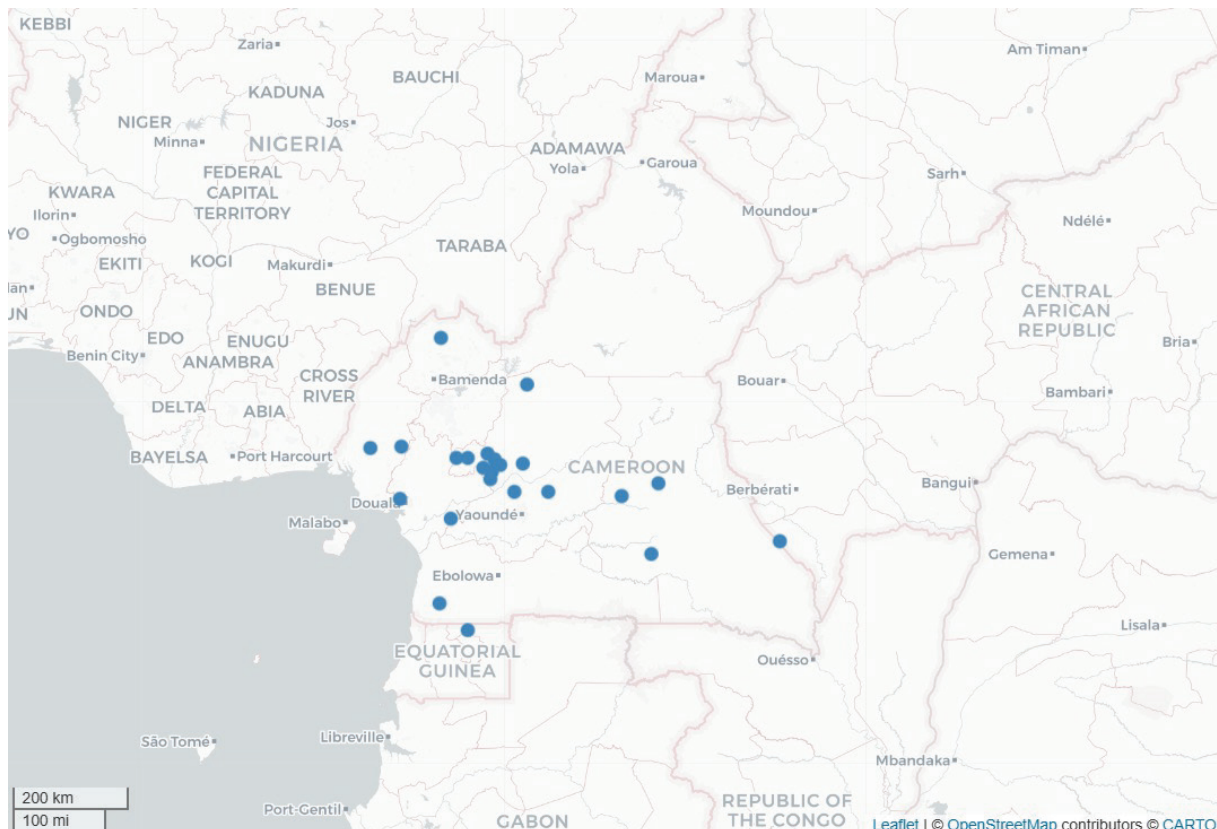


Figure 1: Languages for which examples are discussed in this paper, based on coordinates in Glottolog (with Dimbong used as proxy for Atomb). Plotted in R using lingtypology (Moroz 2017)

Table 2: Meeussen’s (1967) schema of Bantu finite verbs, as represented in Güldemann, (2022, 388), where (...) indicates optional material, + indicates the possibility of recursion, T = tense, A = aspect, M = mood, and P = polarity

Prefix aka pre-stem cluster				Stem cluster			
-4	-3	-2	-1	0	1	2	3
(pre-initial)	initial	(post-initial) +	(pre-radical)	radical	(pre-final) +	final	(post-final)
	subject		object	verb	derivation		participant
TAMP		TAMP			TAMP	TAMP	P
clause		clause					clause
type		type					type

More recent work on Proto-Bantu (PB) reconstruction has profited from the larger and higher-quality data that has become available since Meeussen’s time. In discussions of PB reconstruction in Bostoen et al. (2022), a common observation is that Meeussen’s reconstructions, while often still considered valid, most likely represent the ancestor language of a slightly later time point than PB itself. This is related to the fact that Meeussen’s sample contained fewer examples from NWB languages (and non-Bantu Niger-Congo), which form the first branches of Bantu and show a high degree of linguistic diversity (see, e.g., Bostoen to appear; Marten 2020). A resultant question is whether the synthetic verbal template reconstructed in Table 2 is valid for PB, or whether it represents a later development, which would mean that present-day NWB verb forms did not descend from it. While syntheticity going back to PB is still assumed in various sources (e.g., Hyman 2011; Nurse 2008, 231), Güldemann (2011, 2022) instead argues that NWB analytic verb forms show the conservation of split predicate structure types already found in the proto-language (see also Gensler 1994, 1997; Gensler and Güldemann 2003; Güldemann 2003), the present-day syntheticity observed in canonical Bantu being a later development.

A final nuance is that analyticity/syntheticity should be defined at the level of the construction, rather than the language. As pointed out by Van de Velde and Idiatov (2025, 183), the reconstruction presented by Meeussen in Table 2 should not be interpreted as a statement that Proto-Bantu had no auxiliary constructions existing alongside such simplex verb forms. The same is true synchronically, as shown by the discussion of auxiliary verb constructions in present-day Narrow Bantu languages in the other contributions to this special issue. In any language, it is to be expected that there are constructions varying in the degree of V>AUX>TAM grammaticalization, resulting in different degrees of synthesis (see, e.g., Ledgeway 2012, 12–15 for parallel discussion about synchronic variation in Romance varieties).

3.3 Split predicates and STAMP morphs

As pre-stem complexes are treated as unbound from the lexical verb in many constructions found in NWB languages, pre-stem complexes are sometimes discussed under the terms ‘split predication’ and ‘STAMP morphs’. I discuss these here.

‘Split predication’ refers to constructions in which the main verb is phonologically and syntactically separated from other verbal elements associated with it. The term is used by Güldemann (2011) and attributed to Bearth (1995), who used it in the description of Mande languages of West Africa (Güldemann 2011, 123, fn. 7). Examples (10)–(11) below shows a split predicate structure in the Mande languages Soninke [snk] and Koranko [knk], where the

main verb *qóbó* ‘buy’ / *lábùì* ‘throw’ is split from the pre-stem material (glossed in (10), following Mandeist tradition, as PM for ‘predicative marker’).

- (10) *Fààtú dà tíjè-n qóbó sáχà-n ḡá.*
 Fatou PM meat-DEF buy market-DEF Po
 ‘Fatou has bought meat at the market.’ (Soninke (Mande) [snk]; (Creissels 2005, §0)

- (11) *Û sí wò lá-bùì yí rò.*
 1SG PROSPECTIVE that.one CAUS-fall water in
 ‘I’m going to throw her into the water.’
 (Koranko (Mande) [knk]; Kastenholz 1987, 117 via Güldemann 2008, 160)

Split predicates in African languages have been argued to be an areal feature of languages in the Macro-Sudan Belt/Central Sudanic Zone linguistic area (Güldemann 2008, 2011). Some authors have argued that the African cases of split predication are cross-linguistically rare, differing from split predication in languages such as Germanic varieties in that material such as adjuncts consistently follows the verb (see, e.g., Gensler and Güldemann 2003). In terms of the distribution of split predication, some authors include NWB languages from Bantu zone A, extending the area southwards to Cameroon. However, one question is where the cut-off point is between split predication and bound verb forms, given the variation in data sources. As most Narrow Bantu languages are taken to have synthetic verb forms, where does the split occur? Güldemann (2022, 389) acknowledges the “important caveat” that his conclusions about split predication are based on orthographic wordhood in the sources, which we will see in the next subsection is an unreliable proxy to linguistic boundedness.

A related term is ‘STAMP morphs’ (or ‘STAMP morphemes’), which has been particularly employed recently in work by Anderson (2016, 2025a, 2025b), who defines it as “portmanteau subject-tense-aspect-mood-polarity morphs exhibiting functional and formal properties of both pronominals and auxiliary verbs” (Anderson 2016, 513). Anderson’s definition is bipartite, relying on (i) fusional morphology, and (ii) separation from the verb. Examples (12)–(13) show canonical STAMP morphs, with multiple STAMP features expressed in non-clearly decomposable morphology, and with the STAMP morph written as separate from the main verb.

- (12) *Mân hé ò-kót.*
 1.FUT.NEG go to-bush
 ‘I won’t go to the bush.’
 (Duka (Kainji) [dud], Bendor-Samuel et al. 1973, 13 via Anderson 2016, 517)

- (13) a. *náá soo Gindiríḡ.*
 1.PRF go Gindiri
 ‘I went to Gindiri.’

- b. *ín soo dirámméka.*
 I.IPFV go farm.your.OBLQ
 ‘I will go to your farm.’

(Fyem (Plateau) [pym], Nettle 1998, 32, 35 via Anderson 2016, 518)

Like split predicates, STAMP morphs have been proposed as an areal morphosyntactic characteristic of languages spoken in the Macro-Sudan Belt. However, authors differ in their operationalization of the term, which affects the validity of conclusions about areal distribution. While the canonical STAMP morph expresses multiple grammatical features (viz., subjecthood, tense, polarity, etc.) via fusional morphology, some authors use ‘STAMP morphs’ to refer to clearly agglutinative sequences within pre-stem complexes. For example, Güldemann (2022, 389) treats Ewondo *a-kad* in (14) as a “STAMP morpheme”, while the form is clearly segmentally decomposable into two morphemes, *a* ‘SM.1’ and *kad* ‘HAB’.³

- (14) *A-kad mə soób bī-yé.*
 3SG-HAB 1SG wash 8-cloth
 ‘He washes clothes for me.’

(Ewondo (A72) [ewo]; Redden 1979, 56 via Güldemann 2022, 389)

STAMP morphs *sensu stricto* involve fusional morphology: under that part of the definition, Ewondo fails. However, there is no hard-and-fast cut-off point between fusional and agglutinative morphology, as fusional morphology may result from the merger of erstwhile agglutinative morphology, as is commonly assumed (e.g., Croft 2003, 252; cf. Haspelmath 2018 for some scepticism). Rolle (2022) moreover shows that even forms in the Nigerian language Epira [igb] that appear to be highly fusional may be morphologically decomposed, provided a certain level of abstraction and irregularity is allowed in the analysis. Still, there is a qualitative difference in the degree of fusion observable in canonical STAMP morphs found in West African languages and in the pre-stem material found in NWB/Bantoid languages. And if NWB/Bantoid pre-stem material is described as a STAMP morph, this raises the question of where the cut-off point is with other Bantu languages – do (5)–(6) also involve STAMP morphs combining with a lexical verb, and if so, what is different about NWB languages? This issue is raised by Van de Velde and Idiatov (2025):

Güldemann (2022: 395) points out that subject indexes hardly ever attach directly to the stem in Benue-Congo languages outside of Bantu, where they are often integrated into a so-called STAMP cluster (or “morph”). This, however, is not a difference between Bantu and the rest of Benue-Congo, as subject indexes typically precede a TAM marker or auxiliary in the Bantu languages, rather than directly the stem of the main verb. The main difference is that STAMP clusters show a greater degree of fusion, generally suggestive of older morphology (i.e. older combinations of specific forms).
 (Van de Velde and Idiatov 2025, 190–191)

Similarly, Rolle (2022) points out that his use of the term ‘STAMP marking’ “has the potential to show a lack of areal clustering within the Macro-Sudan Belt, which would warrant rejecting

³Note here that the morphological segmentation was added by Güldemann, with the original source having *Akad mə soób bīyé* with no glosses (Redden 1979, 56).

STAMPs as a defining feature of this macro-area” (Rolle 2022, 174). As a permissive definition of ‘STAMP morph’ loses the insight into the areal distribution of fused forms found in the Macro-Sudan Belt, I propose that the more restrictive definition is kept and thus not applied to NWB languages, unless there is clear evidence for fusional morphology, i.e., a single morph expressing multiple STAMP features. Moreover, it needs to be evaluated as to whether a given source provides good motivation for the orthographic wordhood choices made before these are taken as evidence for areal generalizations regarding STAMP material being separate from the main verb.

As a final note, Grimm (2025) extends the term ‘STAMP morpheme’ to six NWB languages from zone A, based on tonal alternations on segmental forms encoding TAMP. I discuss in Sections 4.4 and 4.7 how some of these may be considered as agglutinative.

3.4 Orthographic wordhood

We have seen that discussions of analyticity, split predication, and the identification of STAMP morphs relate to the identification of separate words. In transcribing NWB languages in Roman orthographic systems, it is necessary to decide where to use whitespace in order to mark word boundaries, meaning that sources contain implicit analyses of wordhood boundaries. These orthographic word boundaries may vary between authors based both on their interpretation of the linguistic evidence for bound versus unbound word forms as well as arbitrary factors such as personal preference or research tradition. Indeed, Nurse (2008) highlights that sources for the NWB languages in particular vary considerably in orthographic wordhood demarcations:

The phrase ‘have a tendency to’ [use analytic strategies] is used advisedly, partly because they don’t all behave in the same way, partly because it is necessary to distinguish morphological analysis from writing conventions. Francophone countries in West Africa have a strong francographic convention to write as separate words what would be written as one word in the anglographic tradition. (Nurse 2008, 169)

Besides this influence of francophone versus anglophone orthographic conventions, a case can be made for a difference in practice between scholars working in the Bantuist tradition and scholars working on non-Bantu Niger-Congo languages from other traditions: due to the large number and geographical spread of Bantu languages, a Bantuist tradition has developed which has its own notational conventions. Overrepresentation of Eastern/Southwestern languages may bias analyses of Northwestern languages towards synthetic analyses, as discussed above regarding Meeussen’s reconstruction in Table 2.

Some sources provide other non-linguistic justifications for wordhood decisions. Friesen (2002), for example, contrasts with Kuperus (1985) in writing Oroko (A11) [bdu] pre-stem material as separate from the verb stem, which he advocates for the following reasons: (i) to follow a precedent set by Duala (A24) [dua]; (ii) to appear more familiar to readers literate in English; and (iii) due to an idea that longer words are harder to read, with synthetic verb forms suggested to be “inordinately long” (Friesen 2002, 64–65, 95). However, Friesen notes explicitly that phonetic and phonological criteria do not support such a separation, meaning that this orthographic wordhood convention proposed for the community orthography does not reflect phonological wordhood (Friesen 2002, 95, 98–99).

Orthographic wordhood is therefore not fully reliable as a proxy to linguistic boundedness. While this is a perennial problem cross-linguistically, the case is particularly striking in NWB/Bantoid languages, as they appear to be in intermediate stages between highly synthetic Narrow

Bantu verb forms and highly analytic West African Niger-Congo patterns (Hyman 2004). It is therefore pertinent to examine the justifications provided in the literature for the orthographic wordhood divisions made, which I will do in Section 5 of this paper.

3.5 Auxiliary verb constructions and quasi-/semi-auxiliaries

A final point of terminological confusion is the use of the terms ‘auxiliary’, ‘quasi-auxiliary’, and ‘semi-auxiliary’ and the relation between these and the auxiliary verb constructions of the type found in Narrow Bantu.

The use of ‘auxiliary’ common to descriptions of NWB languages refers to the sequence of functional elements that appear before the verb stem and encode STAMP features, i.e., the pre-stem complex (see Section 3.1). These elements do not necessarily have to derive from verbs (although they regularly do via V>AUX>TAM grammaticalization; Heine and Reh 1984). Such auxiliaries can appear with a single lexical verb, which is what contributes the core semantic meaning to the predicate, and therefore the constructions can be seen as simplex predicates.

These simplex predicates can be differentiated from auxiliary verb constructions which involve a main verb with one or more verbs co-occurring with it in an auxiliary relation (Anderson 2006). For this reason, the latter are also known as ‘multi-verb constructions’ (e.g., Brown 2021, 88–89) and are also discussed in terms of ‘complex predicates’ (e.g., Van de Velde 2008, 331–343) and ‘complex tenses’ (e.g., Kerr 2024c, 112–14). The Basaá example in (15) shows a multi-verb construction, where *-tìϕ* ‘conclude, finish’ is analysed as an auxiliary verb that co-occurs with the main verb *l̥* ‘come’, the latter appearing without a SM. In the Tunen example (16), habituality is expressed with the auxiliary verb *bá* ‘be’ and the main verb *ǎndók* ‘buy’, each appearing with a SM.

- (15) *Màlér à βí-tìϕ l̥.*
 1.teacher SM1 PST2-finish come
 ‘The teacher had just arrived.’ (Basaá (A43) [bas]; Makasso 2023, 109)

- (16) *Maliá a bá-aka a belama betótó ǎndók.*
 /Maliá a bá-aka a be-lama be-tótó ǎndók-aka/
 1.Maria SM.1 be-DUR SM.1 8-vegetable 8-young buy-DUR
 ‘Maria (regularly) buys fresh vegetables.’ (Tunen (A44) [tvu]; Kerr 2024c, 112)

For reasons of space, I restrict myself to the discussion of simplex Aux V constructions in this article, rather than also discussing different types of complex predicates. In other words, I investigate the extent of analyticity in the canonical expression of simplex predicates in NWB.

However, as verbal affixes may develop from verbs through cycles of V>AUX>TAM grammaticalization, the analytical distinction between pre-stem material being an auxiliary verb as part of a complex predicate versus a grammaticalized marker within a simplex predicate is not clear-cut. This is particularly relevant in assessing the analysis of TAM markers and directional markers, which are sometimes treated as affixes/clitics and sometimes as auxiliary verbs within auxiliary verb constructions. Some authors propose an intermediate stage. For example, Van de Velde (2008) uses the term ‘quasi-auxiliary’ to refer to the pre-stem element that may be followed by a non-finite form in Eton, and Grimm (2021) uses the term ‘semi-auxiliary’ for similarly intermediate forms in Gyeli, such as the aspectual semi-auxiliary *sile* ‘finish’ in (17).

- (17) *Nà wè sɪlé wòmbèlè?*
 nà wɛ sɪle-H wòmbele
 Q 2SG.PST1 finish-R sweep
 ‘Have you finished sweeping?’ (Gyeli (A801) [gyi]; (Grimm 2021, 425))

These terms refer to material that is in an intermediate stage of V>AUX>TAM development, for example in still having some lexical meaning while also being able to combine with a non-finite main verb. Languages also differ here in whether the main verb is explicitly marked as non-finite: while Eton and Gyeli have non-finite marking (see Section 5.4), in languages like Tunen and Basaá, the verb is a bare form with no additional marking (e.g., (15)).

Having reviewed the necessary terminology, I turn now to consider the internal structure of pre-stem complexes across NWB languages, i.e., the component elements and their respective order.

4 The internal structure of NWB pre-stem complexes

4.1 Schema of NWB pre-stem complexes

NWB pre-stem complexes have a strict order of segmental material, as shown in (18) below.⁴

- (18) **Generalized schema of segmental material in NWB pre-stem complexes**
 SM- {NEG1-} TAM- {NEG2-} -DIR-PRN

Here, there is variation in which elements may be found in a given utterance (e.g., the negation slots are only filled in negative clauses) and between languages (e.g., there is variation in whether the subject marker (SM) is obligatory, and whether the subject pronoun (PRN) occurs). However, the elements that occur are found in the order of this general template. This order closely matches the one found in synthetic Bantu verb forms, as seen in Table 2 above, corresponding to the initial, post-initial, and pre-radical slots within Meeussen’s (1967) template.

The schema in (18) represents segmental material. One point of complexity is that TAMP features may be expressed suprasegmentally via tonal alternations. I come back to this in Section 4.7, after first discussing each segmental slot.

4.2 The SM slot

The SM slot is the slot for the subject marker, i.e., subject indexation. The treatment of the SM as a prefix, a (pro)clitic, or a pronoun is often not motivated in descriptions (Grimm 2025b, 6, fn. 9). In this paper I use the term ‘SM marker’ as a general term, following common practice within Bantu linguistics. There is variation between NWB languages as to whether this SM is always present or only found when there is no lexical subject (i.e., no noun phrase subject). For example, non-dislocated lexical subjects can co-occur with SMs in Tunen (19).⁵

⁴ This is the maximal schema for segmental material; the inclusion of DIR and PRN is debatable, as I will discuss in Sections 4.5 and 4.6 respectively.

⁵ These data from present-day Tunen differ from the data in Dugast (1971, 1975), where non-dislocated subjects do not co-occur with SMs, as observed in Kerr (2024c, 363–365).

(19) *Elisabete a ná məkóló bénókó.*

/elísabete a ná mɔ-kóló bé-nókó/
 1.Elizabeth SM.1 PST2 3-foot MID-break

‘Elizabeth broke her foot.’

(Tunen [A44] [tvu]; own data)

However, in other languages, the SM only appears when there is no lexical subject. For example, Bébiné (2019, 388) writes that it is ungrammatical to have both a lexical subject and the SM in Nuasúe (A462A) [yav], with no SM found if a lexical subject is present in the same prosodic domain. This is illustrated in (20), where a class 1 SM is used for the 3rd person singular in the absence of a nominal subject, while no SM is used in example (21) where the 3rd person singular subject *Yésús* ‘Jesus’ appears.

(20) *òsòólò ókwàsìkòttí.*

ò-sàà-ól á= kò-àsì=-kòt-ít
 S3S-P2-come.SGL.SIT LOC=INF-VTF =work-SGL.MOT

‘He came to work in the morning.’

(Nuasúe (A462A) [yav]; (Bébiné 2019, 525)

(21) *Yésús mó¹ólíní Násálèt.*

Yésús má-ól-[-Ø-m-ə]H Násálèt
 Jesus P2-come-[SGL-APPL-VF]PFT Nazareth

‘Jesus came from Nazareth.’

(Nuasúe (A462A) [yav]; (Bébiné 2019, 372)

When the SM co-occurs with a non-dislocated nominal subject, it can be considered as agreement. When it appears by itself, it can be considered as a pronoun. The variation could be seen as NWB languages showing different stages of the common evolution of pronominal subject markers into agreement markers; see Creissels (2006, 44–45) for further discussion.

For some languages, class 1/2 (i.e., 3rd person human) SMs behave differently, in that they may be omitted while other SMs are required (see, e.g., Heath 2003, 344 for Makaa). In Kwakum (A91) [kwu], SMs are optional with plural noun phrases and disallowed after singular ones (Njantcho Kouagang 2018, 274). A final type of variation in subject indexation observed in zone A languages is seen regarding the presence of a subject pronoun in the PRN slot, which I return to in Section 4.6.

4.3 The NEG slots

The NEG slots are slots in which segmental negation markers appear. There is a large amount of variation in where negation is expressed, both in terms of the position of negative markers within the pre-stem complex and in terms of the use of negation markers in other positions, such as clause-final negation markers (which may be the sole marker of negation or may co-occur with pre-stem negation marking). In some languages (e.g., Londo (A11) [bdu] – Kuperus 1985, 146–148; Tunen – Mous 2003; Kerr 2024c), NEG1/NEG2 is the only position for segmental negation markers; in other languages, negation may also be expressed using markers outside of the pre-stem complex, e.g., via a final negative marker that appears after the verb. As this paper’s focus is on the pre-stem complex, I do not consider these alternative negative strategies

here. I also exclude the pre-initial negation marker found in languages like Nsong (B85d) [soo] from discussion (which is incidentally a less common negation strategy in that language).⁶

Restricting ourselves to consideration of where negation is expressed within the pre-stem complex, negative markers can be found directly before TAM marking (NEG1) or directly after it (NEG2). The segmental form and the tone of the negative marker may vary depending on the TAM context (see, e.g., Grimm 2025, 365 for Gyeli (A801) [gyi]), but the position with respect to other elements of the pre-stem complex is consistent. Example (31) below illustrates negation via the NEG1 slot. In other languages, negation follows the tense marker, marked in the NEG2 slot. For example, Hedinger (2008) shows the negative marker as following rather than preceding the tense marker in Akoose (A15C), and Kwakum also has negation following the tense marker (along with a negative marker that appears after the verb stem) (22).

- (22) *Àfèéwéédzi búpà.*
 /à-fèéL-wééL-dziH búpà/
 3SG-FUT1-NEG-eat 1.meat
 ‘He will not eat meat.’

(Kwakum (A91) [kwu]; Njantcho Kouagang and Van de Velde 2019, 411)

4.4 The TAM slot

NWB languages are known for having a large number of tenses, often with three or four past tense distinctions, present tense, and multiple future tenses (Nurse 2008). The TAM slot in the pre-stem complex refers to the position in which segmental tense markers (TMs) are found; aspect and mood are typically marked by other strategies (although see Guarisma 2003 for the argument that aspect is more relevant than tense for the pre-stem complex in Bafia). TMs appear consistently after subject indexation, matching the order found in synthetic Bantu verb forms (cf. (5)–(6)).

It should be stated that the TAM slot is far from being the sole marker of TAMP information, as TAMP is reflected by a complex interplay of tonal changes in other parts of the pre-stem complex (such as the subject marker; Grimm 2025) and the main lexical verb, with NWB languages matching other Bantu languages in using melodic tone on verb stems to encode this inflectional information (Odden and Bickmore, 2014). Gyeli (A801) [gyi] is exceptional in that there are no segmental TMs at all (Grimm 2021, 370), with tonal changes therefore taking on a higher functional load of tense marking (Grimm 2022, 2025b). At the same time, Gyeli suprasegmental markers (e.g., the present tense high tone -H ‘PRS’ in (23)) appear in the same position as segmental TMs in other NWB languages, namely after the SM. This is consistent with the idea of the tone being preserved after the loss of segmental material in the TAM slot (which is still visible in the very closely-related language Kwasio (A81); cf. Grimm 2022, 487, 2025b, 24).

⁶ Note also that Koni Muluwa and Bostoen (2019) present Nsong verbs as synthetic, with the negation markers treated as verbal prefixes and written as part of the same orthographic word as the main verb. Pre-initial negation marking may also be considered for zone A languages if tonal markers are included in the schema, as I return to in Section 4.7.

(23) *Mé dè.*

/mɛ-H dè/

1SG-PRS eat

‘I eat.’

(Gyeli (A801) [gyi]; (Grimm 2021, 370))

In many cases, the interaction between tone and tense marking presents challenges for glossing, resulting in different glossing practices. There is also variation in whether TMs are analysed as affixes, auxiliaries, or semi/quasi-auxiliaries. I use ‘tense marker’ as a general term.

4.5 The DIR slot

The DIR slot refers to markers of directionality. These are sometimes referred to as ‘auxiliaries’ or ‘semi-auxiliaries’ and sometimes treated as affixes or clitics. In Nomaandé, there is a general directional marker *ka* (24). In other languages, there are multiple directional markers, with a distinct andative (hither) marker and venitive (thither) marker, e.g., Tunen *nda* ‘VEN’ and *ka* ‘AND’ (25).⁷

(24) a. *Ba-násé ḡá ka bó tǎkɔna əhəníá.*
 2-child PRS DIR PRN.SBJ.2 play DEM.LOC.DIST
 ‘The children go to play over there.’

b. *Ba-násé ḡá ka bó tǎkɔna aaha.*
 2-child PRS DIR PRN.SBJ.2 play DEM.LOC.PROX
 ‘The children come to play over here.’ (Nomaandé (A46) [lem], own data)

(25) Context: You went to visit the house, and are now close by.

a. *Mi nú ndə húl(ə) ú miím.*
 /mɛ nó nda húlə ɔ miímə/
 SM.1SG PST1 VEN come_from PREP 9.house
 ‘I just made a visit to the house (over here).’

Context: You went to visit the house, and are now far away from it.

b. *Mi nú kə húl(ə) ú miím.*
 /mɛ nó ka húlə ɔ miímə/
 SM.1SG PST1 AND come_from PREP 9.house
 ‘I just made a visit to the house (over there).’ (Tunen (A44) [tvu], own data)

Directional markers are commonly found with a main lexical motion verb and generally derive historically from motion verbs via V>AUX grammaticalization. Eton has the forms *zù* and *ke*, which Van de Velde (2008) treats as ‘quasi-auxiliaries’ (26). Similarly, Grimm (2021, 366) treats the Gyeli form *kè* ‘go’ as a “non-grammaticalized semi-auxiliary”, which encodes that the action took place at another location.

⁷ Here, the Tunen directional markers are realized in +ATR form due to regressive vowel harmony from the following +ATR verb *húlə* ‘come from’. I will come back to this vowel harmony process in Section 5.3 as a potential diagnostic of phonological wordhood. Parentheses around the end of the verb indicate vowel elision in fast speech.

(26) a. *Dgwàn yě yô ìngázû bá vá.*

|ngòn j-ě jò ì-ngá-zù L-bá vǎ|
 [9]daughter IX-her IX.SUB IX-RP-VEN INF-marry here
 ‘It’s her daughter who came to marry here.’

(Eton (A71) [eto]; Van de Velde 2008, 418)

b. *Mǎnyǎň wòbni ángákê bó nyòň ná: [...]*

|mòHnyǎň wòbni à-ngá-kê bǒ L-nyòň nâ|
 brother I-their I-RP-AND II.PPR INF-take CMP
 ‘Their brother went to take them and said: [...]

(Eton (A71) [eto]; Van de Velde 2008, 143)

Often, directional markers can also occur as the main lexical verb (e.g., Redden 1979, 119 for Ewondo and Heath 2003, 245 for Makaa), supporting their analysis as instantiating V>AUX grammaticalization. While I indicate directional markers in the pre-stem complex, they may be treated as auxiliary verbs (or semi-auxiliaries/quasi-auxiliaries) in languages in which they are less grammaticalized.

In other Narrow Bantu languages, directional markers appear as prefixes in the same slot with respect to the other verbal elements, as seen in the Fwe example in (6) and further illustrated in the Chichewa example below, where *ká-* is glossed as DIR and analysed as a prefix as part of a synthetic verb form (27).

(27) *Anyani a-ku-ká-b-á mikánda.*

2-baboons 2SM-PRES-DIR-steal-FV 4-beads

‘The baboons are going to steal some beads.’

(Chichewa (N30) [nya]; Mchombo 2004, 28)

As with the NWB languages, directional markers in other Bantu languages can co-exist with cognate main verbs (e.g., Chichewa *-muka, -mka* ‘go’), showing that this V>AUX grammaticalization path is recurrent across Bantu and not unique to languages of the Northwest. What is different about NWB languages is that directional markers can be treated as unbound.

4.6 The PRN slot

Some Mbam Bantu languages are unusual in having a second slot for the expression of subject indexation, in the form of a PRN slot which appears after the other pre-stem elements and does not correspond to a slot in Meeussen’s synthetic verb template (Table 2). These PRN elements may or may not be considered as part of the pre-stem complex. They consist of a subject pronoun which is co-referential with the SM, as with *nú* in (28).

(28) *Nu ɲə nú bǎǎbǎ aamba.*

SM.2PL PRS PRN.SBJ.2PL PRN.OBJ.2 want

‘You (pl.) want them.’

(Nomaandé (A46) [lem]; Taylor 1999, §1.0)

Following a reviewer’s suggestion, I refer to this as the ‘double subject construction’, (cf. the use of ‘split subject construction’ in Kerr 2024b, 99, 261), on account of subject indexation being expressed in two places within the pre-stem complex. This double subject construction

was reported for Nomaandé (Taylor 1999; Wilkendorf 2001) and was previously considered unique to that language (Mous 2005, 412; Philippson 2022, 255). However, it is also found in the neighbouring language Tunen, albeit to a more limited extent: it is found in natural speech (Kerr 2024c, 2024b), as in example (29), where speakers report that it is optional.

(29) Context: “Because I knew it was his funeral today, I passed by.”

Me nó ka áme beleŋa bé- bí- bíúŋúnání, me nó básuala [...]

/mɛ nó ka ámɛ bé-leŋa bé-úŋúnání mɛ
SM.1SG PST1 AND PRN.SBJ.1SG 8-clothes MID-change SM.1SG

nó bé-sáá-ala/
PST1 MID-wash-DIM

‘I went and got changed, I had a quick wash,’ (Tunen (A44) [tvu]; Kerr 2024b, 262)

This subject pronoun is presented in basic overviews of the Nomaandé TAM system (Taylor 1999; Wilkendorf 1986, 2001). In Tunen, it appears much less frequently, and is not mentioned in basic overviews (e.g., Mous 2003). The two languages also differ in the form of the subject pronoun: in Nomaandé, it is monosyllabic, while in Tunen it is generally disyllabic. The forms are given in Table 3, which shows that the PRN is formally distinct from the subject marker.

Table 3: Forms of the subject marker and subject pronoun in Nomaandé and Tunen, showing –ATR and +ATR forms, with <ə> used rather than <e> for [ə]. The data for Nomaandé are taken from Taylor (1999, §1.2) together with my own fieldnotes; the Tunen data are from Kerr (2024b) and my own fieldnotes.

	Nomaandé		Tunen	
	SM	PRN.SBJ	SM	PRN.SBJ
1SG	ɛ/i	mɛ/mi	mɛ/mi	ámɛ
2SG	ɔ/o	ɔ/o	ɔ/o	aŋóá
1	ɔ/u	a/ə	a/ə	áyɛ
1PL	tɔ/tu	sɔ/su	tɔ/tu	ásu
2PL	nɔ/nu	nó/nu/nú	nɔ/nu	ánu
2	bá/bá	bá/bá/bó	bá/bá	ábu

While PRN could itself be considered as intervening material between the pre-stem complex and verb, in parallel with pre-stem object pronouns, it has also been analysed as bound to the rest of the pre-stem complex, which is why I include it in the general schema in (18). For example, Wilkendorf (1986) treats the SM, TM and PRN in Nomaandé as three morphemes that together comprise a “pronominal complex”, written as a single word in the examples in the appendix (e.g. (30)), with each element separated by a hyphen in the paradigmatic overview of the main text (Wilkendorf 1986, 67).

(30) *Tu-ŋe-sú* *bume.*

SM.1PL-PRS-PRN.SBJ.1PL hunt

‘We are hunting.’

(Nomaandé (A46) [lem], Wilkendorf 1986, 73, adapted)

On account of this wordhood representation, Nomaandé has been described as analysable as having TM and subject suffixes (Julien 2002, 222–223). Analysing the PRN as bound to the preceding pre-stem material is possible as all material that may intervene between auxiliaries and the main lexical verb follows the pronoun (as seen for the nominal object in (29)). The PRN does not have a parallel position within synthetic Bantu verb forms (Table 2). Instead, it may be a relic of former subject marking as part of an auxiliary verb construction.

4.7 Tone slots

While I have limited this overview to the order of segmental elements and how this parallels the order of elements found in synthetic Bantu verb forms, some authors describe additional slots for suprasegmental material. For example, Hedinger (2008) includes both a pre-initial and a final slot for tones in his description of Akoose (A15C) [bss] pre-stem complexes (which he analyses as prefixed to the verb stem), Kuperus (1985, 146–147) analyses Oroko H-toned subjunctive SMs in terms of a floating H tone in a pre-initial mood slot, and Beavon (1983) gives a non-linear representation of Koonzime (A842) [ozm], with both a segmental and a tonal tier.

Analyses differ as to whether tones are taken to be linearly before or after segmental material, versus analysed as co-occurring in the same slot (as in Grimm’s 2025 description of STAMP morphemes in NWB). In other cases, tone from neighbouring elements can affect the tone of another element. For example, the Tunen present tense marker ^H*ndɔ* has a floating H tone which docks onto the preceding tone-bearing unit (Kerr 2024b; Mous 2003). This results in underlyingly L-toned SMs appearing with a H tone in the present tense (31).⁸ However, if the example is negated, the floating H tone is realized on the NEG marker and the SM therefore surfaces with its underlying L tone (31b). This shows that the H tone can be treated as part of the TAM slot, rather than as portmanteau marking of SM+TAM in the SM slot, supporting the sequential analysis in (18).

(31) a. *Mé ndɔ many.*

/mɛ	^H ndɔ	many/
SM.1SG	PRS	know
‘I know.’		

b. *Mɛ lé ndɔ many.*

/mɛ	lɛ	^H ndɔ	many/
SM.1SG	NEG	PRS	know
‘I don’t know.’			

(Tunen (A44) [tvu]; own data)

Another complication is whether floating tones are considered morphemic (encoding STAMP features) or whether they function as boundary tones serving to mark the phonological phrasing of the verbal complex (as in Ibrahīm’s 2021 discussion of floating H tones as phrasal tones delineating intonational phrases in Makaa (A83) [mcp]; cf. Grimm 2022, 488–489 for arguments against a L% boundary tone analysis in Gyeli). Yet another issue is that not all descriptions take care to note tonal changes, often only transcribing surface tones without analysing

⁸ As pointed out by a reviewer, another point of variation in tonal analyses of NWB pre-stem material is whether material is treated as underlying L-toned or underlyingly toneless, receiving default L tone dependent on the surrounding material. Makasso et al. (2016) apply the latter type of analysis to pre-stem TMs in Basaá, assuming a ternary opposition between /H/, /L/ and /Ø/ tone bearing units, in contrast to the binary opposition between /H/ and /L/ described in Mous (2003) and Kerr (2024c) for Tunen.

the underlying tonal behaviour (see, e.g., Grimm 2025b, 26–27; Odden and Bickmore 2014, 12). General principles relevant for interpreting such forms are that tones survive longer than segmental material (and so tonal TMs may develop from previous segmental material) and material on the edges of the verb may have developed more recently than material closer to the stem, which is likely to be older.

5 The external structure of NWB pre-stem complexes

Having seen the internal structure of NWB auxiliary complexes in the previous section, we can turn now to their external structure, i.e., their relationship to the rest of the predicate. The goal of this section is to evaluate the accuracy of different orthographic wordhood conventions by considering syntactic and phonological wordhood tests, i.e., evidence for the pre-stem complex behaving as part of the same versus a separate syntactic and phonological word as the main verb.

5.1 Testing for a wordhood boundary

A battery of morphosyntactic and phonological constituency tests have been developed as part of the general linguistics literature on wordhood (Haspelmath 2011, 2015; Schiering et al. 2010; Tallman 2020, 2021; Tallman et al. 2024; Zingler 2020, i.a.). There is little consensus on which tests are most reliable or even whether all tests are valid – some authors for example only use morphosyntactic criteria, arguing that there is no strong evidence for a phonological word. Here, I report on the morphosyntactic and phonological justifications provided in the literature on NWB languages, with some further evidence from my own fieldwork data.

5.2 Morphosyntactic wordhood tests

5.2.1. *Non-interruptability*

One of the most widely used morphosyntactic wordhood tests – and often the only one that is explicitly mentioned in discussions of NWB languages – is non-interruptability (also known as ‘uninterruptability’). This test identifies a word on the basis of the inability of another word to interrupt its component parts: a word should not be able to be interrupted (with a small number of potential exceptions, such as expletive insertion in English; see, e.g., McCarthy 1982; Zingler 2024).

In NWB/Bantoid languages, pre-stem complexes and the verb can be interrupted by some objects and certain adverbials, as seen already for objects in (1)–(2) above. The ability for such material to intervene therefore provides evidence that there are multiple morphosyntactic words in these constructions, hence their frequent classification as split predicates (Section 3.3). I discuss the extent of interruption here.

5.2.1.1 Interruption by objects

Interruption of the pre-stem complex and the verb by full noun phrase objects has been considered to be a unique feature of Tunen (Dugast 1971; Mous 1997, 2003, 2005, 2014, i.a.). As Kerr (2024b, 2024a) shows, the canonical word order in Tunen is S-Aux-O-V-X, regardless of the TAM context, information-structural context, object type, or clause type. Moreover, ‘O’ here includes modified objects which are clearly syntactic phrases and not bound prefixes, as in the modified noun phrase example in (32), and both objects precede the verb in ditransitive constructions, as indicated in the additional line in (33).

- (32) Context: Your friend asks what happened at church. (thetic)

Motát a ná imbónu ye fəkin né Yəsəs ɔ Yerúsalem nəɣɔnak.

/mɔ-táta a ná ɛ-**mbónu** ye **fəkinə** **né**
1-pastor SM.1 PST2 9-news ASSOC.9 5.entrance ASSOC.5

Yəsəsu ɔ **Yerúsalem** nəɣɔnə-aka/

Jesus PREP Jerusalem tell-DUR

‘The pastor told the news of Jesus’ entrance into Jerusalem.’

(Tunen (A44) [tvu]; Kerr 2024b, 225)

- (33) Context: ‘What is the woman returning to the child?’ (term focus on theme object)

Muəndú á ndɔ məná imítá túmbi.

/mɔ-əndú a ^Hndɔ **mə-ná** **ɛ-mítá** túmbiə/
1-woman SM.1 PRS 1-child 9-calabash return

‘The woman returns [the calabash]_{FOC} to the child.’

(Tunen (A44) [tvu]; Kerr, 2024b, 221)

While Tunen is indeed the most extreme example of Aux-O-V word order in NWB, Aux-O-V order is found in particular TAM or information-structural contexts in several other surrounding languages (Kerr 2024b, 2024c; Mous 2014). Aux-O-V with nominal objects is found for some TAM contexts in Nyokon (A45) [nvo], with the alternate order Aux-V-O found in other TAM contexts. Examples (34)–(35) illustrate this TAM-dependent Aux-O-V/Aux-V-O alternation; Aux-O-V order is used in the subjunctive and Aux-V-O order in the present continuous (see Kerr 2024a; Mous 2022 for more details).

- (34) *M̃ mir mɔ.*
1SG:SBJV wine drink(:SBJV)

‘I should drink wine.’

(Nyokon (A45) [nvo]; Mous 2022, 12)

- (35) *M̃ nə swə́ ákín.*
/m̃ nə swə́\ LH **ákín/**
1SG PROG wash/PR calabash

‘I am washing the calabash.’

(Nyokon (A45) [nvo]; Mous 2022, 18)

Aux-O-V order was also found in preliminary fieldwork on Atomb (also known as ‘Tuotomb’; A461 [tff]), an endangered Bantu language closely related to Nyokon and spoken by <300 speakers in the village of Boneck, which borders Tunen- and Yambasa-speaking regions in the Mbam-et-Inoubou department of central Cameroon. As shown below, modified noun phrase objects can appear between the pre-stem material and the lexical verb (35a), although objects follow the verb in the present continuous tense, which is formed by the auxiliary verb *naŋ* ‘be’ and an infinitival verb form (35b).⁹

⁹ While there is no published work on Atomb grammar, there is an unpublished PhD thesis by Dihenou Djahappi (2021). Dihenou Djahappi considers Atomb to have SVO word order, but this is based on treating examples like (36) as SVO, without considering the infinitival marker or the SOV found in other TAM contexts.

(36) Context: You went to the shop and bought various things.

a. *Tám mám pe-há káf-ak.*
 SM.1SG.PST PRN.POSS.1SG 8-thing share-DUR
 ‘I shared my purchases.’

b. *Mé nan ɔ-káf mám pe-ha.*
 SM.1SG:H COP INF-share PRN.POSS.1SG 8-thing
 ‘I am sharing my purchases.’

(Atomb (A461) [tff]; own data)

Besides these NWB languages from the Mbam subgroup, TAM-based Aux-O-V/Aux-V-O word order alternations are also found in Wide Bantu/Bantoid languages such as Tikar (Stanley 1997), as well as in languages from West Africa (although many of those are likely to be due to independent developments; Creissels 2005; Sande et al. 2019; Kerr 2024c).

Other NWB languages show Aux-O-V in the sense of pronominal objects occurring pre-verbally. Such a pattern was seen already for Eton in (2): pronominal objects precede the verb, while nominal objects are post-verbal. This same pattern of Aux-O_{PRN}-V/Aux-V-O_{DP} is found in various languages of Bantu zone A and Bantoid.¹⁰ Here, the pre-stem position of the object pronoun mirrors the pre-stem position of object markers (OMs) in Narrow Bantu, which has been used to support a univerbation account (Güldemann 2022; cf. Van de Velde and Idiatov 2025 for some complications).

One nuance here is that given objects (i.e., objects whose referents are easily retrievable in the discourse context) can be dropped completely (i.e., zero-expressed) in some NWB/Bantoid languages, meaning that object pronouns may have a low textual frequency (see, e.g., Van de Velde 2008, 300–301 for Eton; Kerr 2024b, 196–198, 2025, 109–111 for Tunen; Voll 2017: 270, 274 for the Grassfields Bantu language Mundabli). This lowers the number of cases in which the pre-stem complex and verb will be interrupted. However, the fact that pronominal objects are pronounced in pre-verbal position in these languages when they are present shows that Aux and V can be interrupted, providing evidence against a synthetic analysis in these cases.

One further analytical nuance is whether the pre-verbal object pronouns are free forms or bound to the verb. The pronouns are almost always written as separate orthographic words, and zone A languages are not generally considered to have object markers (although see Musada 1996, 116–122; Nzang-Bie 1989, 212–213; Rekanga 1989, 136–137 for a synthetic presentation of verb forms in Tuki (A601) [bag], Mmala (A62) [mmu], and Gunu (A62) [yas] respectively, with object pronouns treated as ‘infixes’).¹¹ Some evidence in favour of treating pre-verbal objects as unbound is that they can be prosodically heavy, as seen in the Nomaandé example (28) above and further illustrated in (37)–(38) below, where the theme object pronoun is disyllabic and trimoraic.¹²

¹⁰ This is not to say that all object pronouns are pre-verbal in NWB languages. Gyeli for example has Aux-V-O_{DP}/Aux-V-O_{PRN} word order (see, e.g., Grimm 2021, 458) and post-final and post-verbal object pronouns are reported by Nurse (2008, 49) for zones B, C, D, and H20–30. See also Güldemann (2011, 125–126) on variation between pre-verbal and post-verbal object pronouns dependent on what pre-stem material is present.

¹¹ Note here that all three sources were written following the same scholarly tradition, all being theses supervised by Claire Grégoire at the Université Libre Bruxelles / Royal Museum for Central Africa in Tervuren. The term ‘infix’ was used in early work for what would now be referred to as a prefixal object marker (see, e.g., Polak 1986, who notes that such forms are very rare in zone A).

¹² Note here that Nomaandé has a phonological distinction between long and short vowels (Boyd 2015, 43).

- (37) Context: ‘Did you find these three chickens?’ (NB: *ekoké* ‘chickens’ = class 10)
Éé, í mǝ mí tʃítʃi pǝŋ.
 /éé é ma mé tʃítʃi pǝŋ/
 yes SM.1SG PST0 PRN.SBJ.1SG PRN.OBJ.10 find
 ‘Yes, I found them.’ (Nomaandé (A46) [lem]; own data)

- (38) *U ŋe mí wuúci tǝŋie.*
 3s p3 1s 3s show.
 ‘He showed it to me.’ (Nomaandé (A46) [lem]; Wilkendorf 2001, 9)

In sum, then, various NWB languages allow pre-stem material to be separated from the verb by nominal or pronominal objects, with multiple pre-verbal objects possible in ditransitive constructions (e.g., (1), (38)). The intervening nominal objects in particular show clear evidence for a morphosyntactic word boundary between the pre-stem complex and the main verb; for intervening pronouns, it should be considered whether these are bound or unbound forms.

5.2.1.2 Interruptability by adverbials

Interruptability is not just limited to objects. Pre-stem material may also be separated from the verb by certain adverbials, as with *cáŋa* ‘first’ in (39).

- (39) *Tǝ ŋa cáŋa esú súéte.*
 we p3 first we left
 ‘We left first.’ (Nomaandé (A46) [lem]; Taylor, 1999, §1.0)

While Kerr (2024b) classifies Tunen as V-Adv, on account of this being the canonical position for adverbials, new fieldwork data show that a limited class of adverbials occupies the same pre-verbal position in Tunen as in Nomaandé (40). Unlike in Nomaandé, pre-verbal adverbials may co-occur with pre-verbal nominal objects, in which case the adverb is accepted either before or after the object (41).¹³

- (40) *Kalébe a ná hǔtú hǝŋyǝ.*
 /kalébe a ná hǔtú hǝŋyǝ/
 1.Caleb SM.1 PST2 early wake
 ‘Caleb woke up early.’ (Tunen (A44) [tvu]; own data)

- (41) *Emalamanda yé ná {hǔtú} Kalébe {hǔtú} hunyíǝ.*
 /ε-malamanda yé ná {hǔtú} kalébe {hǔtú} hunyíǝ/
 7-thunder SM.7 PST2 quickly 1.Caleb quickly wake.CAUS
 ‘The thunder made Caleb wake up early.’ (Tunen (A44) [tvu]; own data)

Adverbial interruption is also used as motivation for an analytic analysis of certain TAM constructions in Van de Velde (2008)’s grammar of Eton, which discusses these in terms of

¹³ These items were elicited using the discourse contexts in the questionnaire on the noncausal/causal alternation developed by Dom et al. (2021).

‘quasi-auxiliaries’, as in (42), where the adverbial/quasi-auxiliary *pwágó* ‘really’ occurs between the pre-stem material and the main lexical verb *yálnà* ‘answer’.

(42) *Àvúl pwágó mà yálnà.*

à-H-vúl-H	póǵá	mà	L-jálnà
I-PST-do.quickly-NF	really	1SG.NPPR	INF-answer

‘He really answered me quickly.’

(Eton (A71) [eto]; Van de Velde 2008, 331)

Wilkendorf (2001, 18) hypothesizes that the Nomaandé pre-verbal adverbials developed recently from verbs (i.e., V>Adv) existing as relics of previous serial verb constructions. This would explain their different position from other adverbials (which are generally in V-Adv order). Although not all adverbials have clear verbal sources, some do, e.g., *sike* ‘suddenly’ < *o-sike* ‘to remain’ (Wilkendorf 2001, 18).

5.2.2 Other morphosyntactic wordhood tests

While the general linguistics literature includes other tests for morphosyntactic wordhood besides non-interruptability – such as the coordination, ellipsis, and fragment tests – it is rare for these to be discussed in the literature on NWB languages. Although coordination is discussed in grammars, the examples provided involve the conjunction of entire clauses, which is found in NWB languages with or without overt coordinators (see, e.g., Guarisma 2003, 321 for Bafia). Such data only show that clauses as a whole are constituents, rather than identifying their internal constituency. What would be relevant for the current discussion about analyticity would be to test whether two verbs can be conjoined together without pre-stem material, i.e., [Aux [V CONJ V]], which would provide evidence for a morphosyntactic separation between Aux and V. I am not aware of any examples of such lower-level coordination in the literature on NWB languages.

Similarly, ellipsis (i.e., the deletion of material) is generally thought to be restricted to constituents and is therefore used in the general linguistics literature as another test for syntactic constituency, but I am not aware of any examples of data applying this to NWB verbs.

In terms of the fragment test – also termed the ‘minimal free form’, ‘minimum free form’, or ‘minimal free occurrence’ test (see, e.g., Auderset et al. 2024) – several sources state that the imperative verb is the minimal free form, but I ignore this here as it does not help diagnose the relationship between pre-stem material and the main verb in the indicative and subjunctive moods. Looking then at indicatives, it is common for [Aux V] to appear by itself, as seen in answers to questions (43a). In contrast, it is not possible for pre-stem material to be omitted here (43b–c).

(43) Context: ‘What did Chantelle do this morning?’ (subject and tense = given)

a. *A n(á) éfěnye taleak.*

/a n(á)	ε-fěnye	talea-aka/
SM.1 PST2	7-couscous	cook-DUR

‘She [cooked couscous]_{FOC}.’

b. **Éfěnye taleak.*

c. **N(á) éfěnye taleak.*

(Tunen (A44) [tvu]; own data)

These data from Tunen show that [Aux V] acts as a constituent, as answer (43a) can stand alone, but they do not provide evidence for the verb stem or verb phrase as a subconstituent, as these smaller parts cannot stand alone (43b–c).

In sum, then, there is very little work on morphosyntactic wordhood diagnostics in NWB languages besides non-interruptability. The scarce data available do not provide any further evidence for Aux and V as syntactically separate, as Aux and V group together, even in languages such as Tunen where we saw in Section 5.2.1 that Aux and V can be interrupted by other material.

5.3 Phonological wordhood tests

Having seen that interruptability is the main morphosyntactic criterion used to motivate an analytic treatment of pre-stem material in NWB, I turn now to consider what phonological justifications have been made to support wordhood analyses, starting with vowel harmony, which is explicitly discussed in some authors' presentation of orthographic wordhood decisions for NWB languages.

5.3.1 Vowel harmony

Although ATR harmony is not common to Bantu languages and is instead more common in non-Bantu languages of West Africa (Rolle et al. 2017), some languages from Bantu zone A have ATR systems, including many from the Mbam subgroup (A40/A60), in which ATR harmony interacts with vowel height harmony and rounding harmony (Boyd 2015). The behaviour of pre-stem material with respect to vowel harmony is therefore often used as a diagnostic of phonological constituency in these languages. Here, the logic is that pre-stem complexes should harmonise if they are part of the same phonological word as the main verb.

In Bébiné's (2019) analysis of the Mbam Bantu language Nuasúε (A462A) [yav], vowel harmony is taken to be the criterion *par excellence* for determining phonological wordhood (Bébiné 2019, 74), which Bébiné in turn takes as the criterion to follow when deciding on orthographic wordhood (Bébiné 2019, 104). Vowel harmony applies regressively from the main verb throughout the pre-stem material, and so he writes Nuasúε verb forms synthetically. Boyd (2015) similarly privileges phonological criteria, including vowel harmony, for deciding upon orthographic wordhood in the 10 Mbam languages of her study (Ginger Boyd, p.c.).

There is some variation in the data as to whether ATR harmony applies between the verb and the pre-stem material. For Iyasa (A33a) [yas], pre-stem material does not harmonise (Brown 2021, 44–45), which can be taken as evidence of it belonging to a separate phonological constituent (note however that Brown writes pre-stem material as prefixed to the verb). For Nomaandé, pre-stem material always harmonises, as seen in e.g. (38) (cf. Table 3), indicating phrasing together with the verb despite being written separately in the orthography. For Tunen, ATR harmony of pre-stem material has been reported to be possible but not obligatory (Bancel 1991). Fieldwork results confirm this, as shown in the intransitive example (44) (see also (25)), where boldface indicates vowels from the +ATR set ([i ə u o]) and unbolded forms indicate –ATR ones ([ε a ɔ]).

- (44) a. *Mε nó nda húlǎ.*
 b. *Mi nó ndǎ húlǎ.*
 /mε nó nda húlǎ/
 SM.1SG PST1 VEN come_from
 ‘I came over here.’ (Tunen (A44) [tvu], own data)

Harmonising cases like (44b) could be taken as evidence for the pre-stem complex and the verb being part of the same word. However, ATR harmony can also be triggered on the pre-stem complex in Tunen when a +ATR object intervenes (a –ATR object blocks harmony) (45). This phenomenon is independent of the ATR value of the verb, as shown by the fact that the +ATR object can trigger harmony on the pre-stem complex in (46) even though the main verb *ǎnd* ‘buy’ is –ATR.

- (45) *Mi ndu mǎlukǎ hikǎkia embát.*
 /mε ^Hndǎ ma-lukǎ hikǎkia embáta/
 SM.1SG PRS 6-wine like.DUR excessively
 ‘I really love palmwine.’ (Tunen (A44) [tvu], own data)

- (46) *Mi ná mǎlukǎ ǎnd.*
 /mε ná ma-lukǎ ǎndǎ/
 SM.1SG PST2 6-wine buy
 ‘I bought palmwine.’ (Tunen (A44) [tvu], own data)

While I leave a more detailed account to other work, the basic observation is that Tunen pre-stem material can harmonise with any +ATR element immediately following it, regardless of its morphosyntactic status, which suggests that vowel harmony does not match (morphosyntactic) constituency. We therefore see variation between languages as to the robustness of vowel harmony as a test for wordhood, potentially due to ongoing changes in predicate structure (cf. Boyd 2015, 375–376) or to there being vowel harmony processes that operate at a larger level of constituency, e.g., the phonological phrase (cf. Bancel 1991 for the idea of multiple different vowel harmony processes applying in Tunen).

5.3.2 Other phonological wordhood tests

Few authors explicitly discuss other phonological criteria for treating pre-stem material as synthetic or analytic. One exception relates to phonological effects sensitive to stem boundaries. For example, Van de Velde (2008) shows that Eton consonants differ in realization in stem-initial position; Hyman (2003, 259–260) and Makasso (2023, 34–36) describe similar spirantization of non-stem-initial consonants in Basaá. For example, /t/ can only appear stem-initially in lexical stems in Eton, appearing as /d/ elsewhere, which surfaces as [r] in affixes. While /t/ is found for present tense marking, supporting its treatment as an auxiliary, the Southern dialect has [r], indicating reanalysis as a prefix as part of a synthetic verb form (Van de Velde and Idiatov 2025, 183–184). Other sources similarly report phonological processes that are sensitive to morphosyntactic position, i.e., sensitive to material’s status as affixal, a clitic, or a separate word. While generally not stated explicitly, some authors seem to use such rules as justification for their orthographic wordhood decisions. See for example Rekanga (1989,

46–62) for the presentation of various phonological processes in Gunu as sensitive to whether there is a stem or word boundary.

Stem-initial prominence effects arguably show evidence for a boundary between the start of the verb and the preceding material. However, this does not necessarily have to be interpreted as a word boundary, as a parallel constituent boundary exists below the word level in Narrow Bantu languages, where certain phonological effects are restricted to the so-called ‘macro-stem’, consisting of the object marker and verb base to the exclusion of pre-stem material (Myers 1990, 1995; Hyman 1998). Still, stem-initial prominence effects appear to be stronger in NWB languages (including zone B languages; see, e.g., Paulian 1975 for Teke (B77) [kkw]) than in other Bantu languages (see, e.g., Lionnet and Hyman 2018, 651–662; Hyman et al. 2019, 196–198).

Other possibly applicable phonological criteria involve tonal phenomena, such as the reset of tonal downstep and the domain of tone spread, in addition to evidence for prosodic phrasing. In the next subsection I will return to the use of L-toned non-finite marking and link tones in Eton and Gyeli. Downdrift is reported for the level of the clause (see, e.g., Guarisma 2003, 312 for Bafia), and therefore does not tell us about smaller phonological constituents. For downstep, Hamlaoui and Makasso (2019) write that floating L tones trigger downstep on following H material in Basaá, a process they argue is found within the domains of prosodic words, phonological phrases, and intonational phrases, and can be used as a diagnostic of recursive phonological constituency. However, their discussions focus on downstep between the verb and following material, and as such do not bear on the current question of the status of pre-stem material.

When applying tonal tests in fieldwork on the Mbam languages, pre-stem material was generally phrased together with the main verb. For example, the third-degree past tense in Tunen is marked by *ka* PST3 in main clauses and ^L*ná* PST3.REL in dependent clauses (Kerr 2024c, 110). The floating low tone of the ^L*ná* PST3.REL TM triggers non-automatic downstep, with the H tone realized at a mid pitch level. Subsequent H tones of a H-toned following verb are realized at the same mid height, with the pitch not resetting until afterwards (47).

(47) *Ǿmbáná á bá ^Lná háǵíníá ǾwónǾ naáneǵol.*

/Ǿ-mbáná	á	bá	^L ná	háǵíníá	Ǿ-wónǾ	naáneǵola/
3-knife	COP	SM.2	PST3.REL	decide	INF-buy	yesterday

‘It was [a knife]_{FOC} that they decided to buy yesterday.’ (Tunen (A44), own data)

Here, the fact that the downstepped pitch height continues from the TM throughout the lexical verb could be taken as evidence for synthetic rather than analytic predicate structure, as in Dugast’s transcriptions (see (7)). In any case, it does not show any phonological separation between the pre-stem material and the main verb.

We therefore see that while some phonological processes indicate analytic structures due to stem-initial effects, other phonological tests such as vowel harmony and downstep show that pre-stem material is phrased together with the verb stem. This conjoined phonological phrasing runs contrary to the expectation of pre-stem material being in a separate phonological word from the verb in a split predicate structure (Güldemann 2011).

While the conclusion could be that these NWB predicates are actually synthetic, it is likely that these phonological processes apply to a larger constituent than the word, such as the phonological phrase, and therefore are not diagnostic of word-level constituency. This point factors into the broader theoretical debate about the validity of phonological ‘wordhood’ diagnostics

and the domain they identify; see, e.g., Aikhenvald and Dixon (2002) and Bickel et al. (2009) for relevant discussion.

5.4 The degree of ambiguity in wordhood analyses

We have seen that while the general order of pre-stem material is consistent, there are various analyses of this material as bound versus separate from the verb, both within and across languages. One relevant question is how many constructions are ambiguous between a bound and an unbound analysis, given the varying test results. This is not just a question for the linguist looking for a good description, but could also factor into language change.

An illustrative example is Eton, as Van de Velde (2008) is rare in providing a thorough description with fully glossed examples and clearly stated justifications for the analytical decisions made. Certain TAM constructions are consistently analysed as analytic, with a (semi-) auxiliary form co-occurring with a main verb that is marked as non-finite by a L-tone prefix ‘INF’ together with link tone (LT) on any following object. The L-tone ‘INF’ prefix is visible in that it triggers downstep on H-toned verbs when it follows H-toned pre-stem material, as in (48), where the underlyingly H-toned verb *sá* ‘work’ is realized with a downstepped H tone due to the prefix, which follows a H-toned present tense marker. However, this INF prefix is not visible on the surface if the verb is L-toned, or if it follows a L-toned element in the pre-stem complex, as in (49).

- (48) *Àá'té 'sá.*
 |à-ǎ:-**Lt**é **L-sá**|
 I-NEG-PR INF-work
 ‘He’s not working.’ (Eton (A72) [eto]; Van de Velde 2008, 283)

- (49) *Ɖgũngúgô ìngâ vín.*
 |ngũngúgô ì-**ngâ** **L-vín**|
 [9]evening IX-INC INF-be.black
 ‘The evening falls. (lit. becomes black)’ (Eton (A72) [eto]; Van de Velde 2008, 275)

Other evidence used by Van de Velde (2008) for an analytic analysis is the presence of link tone (glossed LT) following non-finite but not finite verb forms. This means that the link tone can carry the functional load of indicating split predication if the L-tone prefix is not visible in the surface realization due to the surrounding tonal context. Again, however, link tone is not observable in all environments. Firstly, it is only visible when material follows the verb, and therefore not applicable in many cases. Secondly, even if material follows the verb, only cases where the following element begins with a L-tone are non-ambiguous; the link tone is thus visible from the surface realization in (50) but not in (51).

- (50) *Àngâ tìl b̂ kálâdà.*
 |à-**ngâ** L-tìl **H** **b̂** kálâdà|
 I-INC INF-write LT PL letter
 ‘S/he is writing letters.’ (Eton (A72) [eto]; Van de Velde 2008, 206, 275)

(51) *Mèèy gbè mál.*

mè-è:j	L-gbè	H	m-ál
1SG-FUT	INF-grasp	LT	6-canoe

‘I will have a canoe.’

(Eton (A72) [eto]; Van de Velde 2008, 263)

Not all TAM constructions in Eton are analysed as involving analytic verb forms, as Van de Velde (2008) also analyses some TAM forms as fully synthetic, discussing ongoing changes between analytic and synthetic constructions. The indefinite future tense is an intermediate case: Van de Velde (2008, 261–262) provides a synthetic analysis, presenting it as “VP-LṅgáL-STEM-H”, as in (52).

(52) *Àṅgá>wé yô.*

à-LṅgáL-wé-H	jô
I-IF-kill-IF	IX.PPR

‘He will slaughter it (i.e. the animal).’

(Eton (A72) [eto]; Van de Velde 2008, 262)

However, he notes that this construction is reminiscent of Aux V structures with a L-prefix marking the verb as non-finite (i.e., VP-Lṅgá # L-STEM-H). Van de Velde argues against this analysis based on the interruptability criterion and the lack of following link tone (Van de Velde 2008, 262). Here again we see the use of non-interruptability as a key criterion for wordhood demarcation (cf. Section 5.2.1).

The Eton case study therefore shows that there are various constructions in which particular wordhood criteria are not applicable, with an interplay of evidence needed to motivate a split predication analysis. While link tone helps disambiguate some constructions in Eton, this phenomenon appears to be rare within NWB: Grimm (2025b) suggests that such linking tone phenomena are recent innovations within languages such as Eton and Gyeli. Other NWB languages lack this kind of supporting evidence for the main verb to be taken as the non-finite element of a split predicate structure, perhaps making them more readily (re-)interpreted as part of a synthetic predicate.

6 Conclusion

In conclusion, we have seen that Northwestern Bantu languages are sometimes described as having analytic predicate structures, in which pre-stem inflectional material appears in a complex that is semantically auxiliary to, and syntactically and phonologically separate from, the main lexical verb. The internal structure of these pre-stem complexes can be schematized as SM-{-NEG1-} TAM-{-NEG2-}-DIR-PRN, with some cross-linguistic variation in terms of which of these slots are filled and the latter two slots being of more debatable status. Whether such pre-stem complexes are analysed as forming a separate word has been influenced partly by variation in orthographic conventions, both for arbitrary reasons related to researchers’ preference and due to variation and ambiguities in the data between a free versus bound analysis. In some cases, intervening material (such as objects or adverbials) provides strong evidence for NWB pre-stem material not being part of the same syntactic word as the verb stem. However, evidence from phonological constituency tests such as vowel harmony generally shows that the pre-stem material may be phrased in the same phonological constituent as the main verb, and little supporting morphosyntactic evidence for analytic analyses of pre-stem complexes has been provided besides interruptability. These mixed results are compatible with the idea

that NWB constructions are in transitional stages between more synthetic and more analytic verb forms, highlighting the relevance of NWB languages for diachronic studies of Bantu verb forms. Given the continuous processes of change between analytic and synthetic predication, it is not surprising that sources on NWB languages vary so much in how they present pre-stem material.

Abbreviations

Abbreviations aside from those covered by the Leipzig glossing rules are given below.

[]_{FOC} = scope of focus; 1, 2, 3... = Bantu noun class; I = agreement class 1; II = agreement class 2, IX = agreement class 9; 1s, 1SG = 1st person singular; 2NDSING, 2^{SG} = 2nd person singular; 3s, 3SG = 3rd person singular; (b) = verb tone class B; AND = andative (thither); ASSOC = associative/connective/genitive; CL = noun class; CMP = complementizer; DEF = definite; DEM = demonstrative; DIM = diminutive; DIR = directional marker; DP = determiner phrase (≈ noun phrase); DUR = durative/pluractional; EMPH = emphatic; FUT1 = 1st degree future; FV = final vowel; H = high tone; HAB = habitual; INC = inceptive; IF = indefinite future; IPF = imperfective; IPFP0 = non-past imperfective; L = low tone; LT = link tone; MID = middle; MOT = motional; NEUT = neuter; NF = suffix of the non-final form of the hesternal and hodiernal past perfective; NPPR = non-final form of the personal pronominal; OBLQ = oblique; OM = object marker; P2 = 2nd degree past tens; PFT = perfect (*parfait*); PM = predicative marker; PO = postposition; POSS = possessive; PPR = personal pronominal; PR = present shape of verb with object; PREP = preposition; PRES = present; PRN = pronoun; PROG = progressive; PST0 = immediate past tense; PST1 = 1st degree past tense; PST2 = 2nd degree past tense; PVB = pre-verbal; Q = question marker; R = realis mood; REM = remote (tense gradation); RP = remote past; s3s = 3rd person singular; SGL = singulative (*singulactionnel*); SIT = situational; SM = subject marker; SUBJ = subject; TAM(P) = tense/aspect/mood(/polarity); VEN = venitive (hither), VF = final vowel; VTF = venitive (hither).

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