

Auxiliary Stacking in Southern Bantu Languages

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Abstract

Auxiliary constructions in Southern Bantu exhibit a feature in which two or more auxiliaries appear alongside a single lexical verb. We term this construction ‘auxiliary stacking’. The goal of the paper is to outline the phenomenon of auxiliary stacking in Southern Bantu and raise questions about its features and limits. We focus on what we currently know in terms of features of variation associated with auxiliary stacking, namely a) ordering of stacked auxiliaries, b) number of auxiliaries permitted, c) subject marking properties, and d) the semantics of these auxiliary stacking constructions. We also look at other features such as tense-aspect-mood, as well as modality and negation. The article then sets out areas for further investigation via a systematic study of auxiliary stacking constructions in Southern Bantu and serves as a call for future targeted research on these constructions.

Keywords: multiple-auxiliary constructions, auxiliary chains, Bantu Zone S, auxiliary order

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1 Introduction

Auxiliary constructions are an important feature of Bantu languages. However, these constructions are often under-documented and under-described. This may in part be due to focus on the complex agglutinative morphology of single-verb forms. It may also be due to the more complex and often subtle nuances associated with the interpretations of compound constructions. It is also naturally part of the under-described nature of the Bantu languages more broadly.

This paper examines the co-occurrence of auxiliary forms in a single construction, found commonly across Southern Bantu, which we term ‘auxiliary stacking’ (following Gibson 2025). In these construction types, two or more auxiliaries can appear alongside a single-verb form. An example of this from siSwati is shown in (1) below, where the verb *shona* ‘set’ is preceded by two auxiliary forms *hlala* and *sheshe*.

- (1) siSwati (Nkuna et al. 2021, 231; example and glosses adjusted)¹
Lilanga li-hlala li-sheshe li-shon-e ebusika.
5.sun SM₅-AUX[HAB] SM₅.SIT-AUX[quickly] SM₅-set-SBJV LOC.14.winter
‘The sun always sets quickly in winter.’

Another example of auxiliary stacking can be seen in (2), from Sesotho sa Leboa, where a construction of two auxiliaries preceding a perfective-marked verb expresses the meaning ‘had already X-ed’.

- (2) Sesotho sa Leboa (Mphasha et al. 2021, 364)
Ba-be ba-šetše ba-sepetš-e.
SM₂-AUX[be(PST)] SM₂.SIT-AUX[already] SM₂.SIT-leave-PFV
‘They had already left.’

We define auxiliaries as verbal forms that modify a lexical verb, share its subject, and form a single predicate with it. They are ‘bound’ to the lexical verb (see Haspelmath 2024) and cannot appear without it when used with their auxiliary (grammatical) functions.² A set of stacked

¹ We have added glosses when none were given, and in all cases have adjusted authors’ original glossing to match our conventions, as listed in the abbreviations section at the end of this article. Sometimes, our morphological analyses differ from those of the original works (e.g., what we gloss as PFV is sometimes described as PERF or PST, based on our typological understanding of the category; see Crane and Persohn 2019). We adopt the orthographic conventions of the original works, but we adjust word boundaries to represent (to the best of our ability) linguistic rather than orthographic words where necessary. Our orthographic representations do not represent an analysis. We have attempted to characterize the functions of the auxiliaries in our examples, putting their functions in square brackets. These should be understood as rough approximations, because many auxiliaries are multi-functional and context-dependent, or have meanings that are difficult to pin down. For multifunctional auxiliaries, we attempt to indicate the contextually relevant function, so the function given in brackets for a specific auxiliary form may differ from example to example. We repeat some examples across sections when they best illustrate the phenomena under discussion, and because the examples are used to illustrate different phenomena, we do not always explicitly note these repetitions. We note that one of the most illustrative examples, for which we do not currently have an alternative example, refers to gender-based violence in a problematic manner (see Kotek et al. 2021 for more discussion of these issues and on how to avoid biased and stereotyping examples).

² Some auxiliaries also function as lexical verbs with meanings distinct from their grammatical functions. For example, the isiZulu lexical verb *buya* ‘return’ has a corresponding auxiliary form *buye* ‘[do] again’ (Mkhatshwa 1991, 126). A few, mostly modal, auxiliaries are less obligatorily bound to the following lexical verb, in that they can appear on their own in cases of ellipsis (as with English *I can [do it]*).

auxiliaries also forms a single predicate with a main verb. Auxiliaries are nearly always followed in Southern Bantu languages by one or more of three verb forms: situative (often called ‘participial’), subjunctive (a type that is closely related to and frequently alternates with past ‘consecutive’ verb forms), or infinitive-marked verbs. A full description of the formal properties of auxiliaries as a class in Southern Bantu languages is beyond the scope of this paper. For extensive details of how these systems can play out, see, for example, Creissels (forthcoming, this volume) on Setswana.

Auxiliary stacking constructions are common in Southern Bantu. This article draws on data from eleven major Southern Bantu varieties, all of which exhibit extensive auxiliary stacking, as evidenced in the descriptive literature and in our own investigations: Tshivenda (‘Guthrie’ code S21, ISO 639-3 ven), Silozi (K21, loz), Setswana (S31, tsn), Sesotho sa Leboa (S32, nso), Sesotho (S33, sot), isiNdebele (Southern Ndebele, S408, nbl), isiXhosa (S41, xho), isiZulu (S42, zul), siSwati (S43, ssw), Ndebele (Ndebele of Zimbabwe, S44, nde), and Xitsonga (S51, tsc).³ There are comparable constructions in languages of the North-West Bantu zone (Mark Van de Velde, conversation with authors, September 23–24, 2025; Van de Velde 2008) and in African languages outside of Bantu, such as Dinka (Western Nilotic; see Andersen 2007). However, auxiliary stacking constructions do not appear to be widespread in Eastern Bantu languages, Southern Bantu’s nearest relatives.

This article provides an overview of auxiliary stacking in Southern Bantu. We introduce the phenomenon, locate it within the broader context of auxiliary constructions in Bantu more widely, and describe regularly occurring features and potential points of variation. Systematic, in-depth data on auxiliary stacking constructions are lacking for most of Southern Bantu, so an additional goal of this paper is to lay out a set of investigative questions we believe are important for understanding auxiliary stacking in Southern Bantu and beyond.

The article is structured as follows. Section 2 describes morphosyntactic properties of auxiliary stacking constructions, including the possible orderings of auxiliaries, whether it is possible for intervening elements to occur within stacking constructions, the number of auxiliaries that can co-occur in a stacking construction, subject-marking properties, selectional properties, and tense/aspect/mood/polarity (TAMP) inflections. Section 3 briefly addresses other relevant topics for which we have little comparative data, but which seem likely to be significant for the understanding of auxiliary stacking constructions. These include semantic (non-)compositionality, the co-occurrence of auxiliaries with similar meanings, and the morphophonology and prosody of auxiliary stacking constructions. Section 4 constitutes a concise summary and summarizes avenues for future research.

The examples in this paper come from published descriptions, from corpora (often based on translated texts), and from personal communications with collaborators.

2 Morphosyntactic properties of stacked auxiliaries in the languages of the study

This section lays out the morphosyntactic properties of auxiliary stacking constructions as they occur in the descriptive literature and online data we consulted. As noted, these include the potential limits of stacking constructions in terms of the number of auxiliaries (Section 2.1), the ordering of auxiliaries (Section 2.2), whether intervening elements can occur (Section 2.3), subject-marking properties of auxiliaries (Section 2.4), complement selecting properties (Section 2.5), and how elements can be inflected for TAMP (Section 2.6), all with a focus on

³For more information on these languages and their historical relationships, see, e.g., Gunnink et al. (2023).

- (8) Sesotho (Gowlett 2003, 635)
ǎ-nè *á-k'è* *à-láli*
 SM₁-AUX[PST] SM₁.SIT-AUX[occasionally] SM₁.CSC-AUX.HAB[at_night]
á-ithút'-à
 SM₁.SIT-study-FV
 'He used occasionally to spend the night studying.'

An example with four auxiliaries is given in (9). In our data, stacking constructions with four auxiliaries are attested in isiNdebele, isiXhosa, and Setswana.

- (9) isiNdebele (M. P. Mabena, email, January 28, 2025)
A-ngekhe *a-be* *a-sa-kwazi*
 SM₁-AUX[NEG.FUT/POT] SM₁-AUX.SBJV[be] SM₁.SIT-PERS-AUX[POSSIBILITY]
uku-buya *a-sebenz-e.*
 INF-AUX[again] SM₁-work-SBJV
 'S/he will never be able to work again.'

For Setswana, there is a published example with five auxiliary forms in a construction (10). We do not know how common such constructions are in natural contexts, but this example shows that stacking constructions with five auxiliaries are possible, at least in Setswana.

- (10) Setswana (Setshedi 1974, 51)
Monna yola *o-nê* *a-bile* *a-ise*
 1.man DEM₁ SM₁-AUX[PST] SM₁.SIT-AUX[furthermore] SM₁.SIT-AUX[NEG]
a-ke *a-bo* *a-tsene* *mo-moweng*
 SM₁.SIT-AUX[POT/never] SM₁.SIT-AUX[impatience] SM₁.SIT-enter.PFV LOC-1.air.LOC
wame.
 POSS.PRON_{1/1SG}
 'For that matter, that man had never really appealed to my feelings.'
 More literal translation: 'That man has never even got into my spirit.' (Kearabetswe Rammala, email to authors, December 8, 2025)

We suggest the following questions for a future systematic, dedicated study of the number of auxiliaries that can co-occur in stacking constructions:

1. Do all languages exhibit the same distribution in terms of the number of auxiliaries permitted in a stacking construction? That is, is it possible to have two, three, four, and five auxiliaries combined in a single complex in all Southern Bantu languages?
2. What is the relative frequency of the number of auxiliaries in auxiliary constructions (both single-auxiliary constructions and stacking constructions), within varieties and in Southern Bantu as a group?
3. Can all auxiliary forms combine with the same number of other auxiliaries or are there any restrictions by auxiliary type or by specific auxiliary?

2.2 Order of auxiliaries

Little appears to have been written about restrictions, or lack thereof, on the ordering of auxiliaries within these stacking constructions in Southern Bantu. In at least some languages, varying orders are attested, but there is also evidence for restricted (or at least preferential) ordering with certain collocations.

Pietraszko (2018) proposes a distinction between auxiliaries in Ndebele (Zimbabwe) that select for subjunctive complements and those that select for situative (which she terms *participle*) complements. She proposes that the latter “realize functional heads” (2018, 315) and are bound by the same ordering constraints that apply to these heads, so that *se* ‘already’ (which Pietraszko 2018, 315 analyses as PerfP) cannot appear before *hlezi* ‘constantly’ or *lokhe* ‘still’, both of which Pietraszko (2018, 315) analyses as realizing AspP (Aspectual Phrase). Pietraszko (2018, 315) also notes that the order of *hlezi* and *lokhe* with respect to one another is not fixed.⁴

Lee and Hlungwani (2015) note cases in Xitsonga where the order of two auxiliaries is variable and affects their relative scopes, and therefore also the utterance’s interpretation (11). In (11a), *hatla* ‘quickly’ takes scope over *engeta* ‘again’, and the utterance refers to the quick recurrence of the drinking situation. In (11b), on the other hand, the drinking itself is done quickly.

(11) Xitsonga (Lee and Hlungwani 2015, 131–132)

- a. *Ndzi-hàtlà* *ndzi-éngétá* *ndzi-nw-à* *màti*.
 SM_{1SG}.SIT-AUX[quickly] SM_{1SG}.SIT-AUX[again] SM_{1SG}.SIT-drink 6.water
 ‘I quickly drink water again.’
- b. *Ndzi-èngètà* *ndzi-hátlá* *ndzi-nw-à* *màti*.
 SM_{1SG}.SIT-AUX[quickly] SM_{1SG}.SIT-AUX[again] SM_{1SG}.SIT-drink 6.water
 ‘I again quickly drink water.’

Lee and Hlungwani (2015) further note that in at least some constructions involving three auxiliaries, several orders are possible, although there are also ordering restrictions. For example, *tlhèlà* ‘once, again, also’ cannot appear in the last position, as in (12e) and (12f). This restriction may be caused by the interactions of ‘again’ and the ‘once’ reading of *tlhèlà*. According to Lee and Hlungwani, the licit orders shown in (12) do not affect the interpretation of the utterance. Since both *hatla* and *engeta* are also involved in (11), where the interpretation is not clearly affected by their relative ordering, we assume that the involvement of a third auxiliary (*thela* ‘once [again]’) either changes the interpretive calculus or renders the distinction between the different orderings too subtle to straightforwardly elicit, or to convey in English translation.

(12) Xitsonga (Lee and Hlungwani 2015, 132)

- a. *ndzi-tlhèlà* *ndzi-hátlá* *ndzi-èngètà*
 SM_{1SG}-AUX[once_again] SM_{1SG}.SIT-AUX[quickly] SM_{1SG}.SIT-AUX[again]

⁴Pietraszko (2018, 316) further predicts that situative-selecting auxiliaries cannot follow subjunctive-selecting auxiliaries, a point we return to in Section 2.5. Pietraszko does not discuss the relative ordering of subjunctive-selecting auxiliaries or the behaviour of situative-selecting auxiliaries beyond *se*, *hlezi*, and *lokhe*. The other generalizations she proposes for situative-selecting auxiliaries (they cannot be inflected for tense or negation; see Pietraszko 2018, 316–317) do not hold for situative-selecting auxiliaries across Southern Bantu, although they may well apply to specific auxiliaries. We have not investigated Ndebele (Zimbabwe) further in this regard.

ndzi-nw-à *màti*
SM_{1SG}.SIT-drink-FV 6.water
‘Once again, I quickly drink water again’

- b. *ndzi-hàtlà ndzi-tlhéla ndzi-éngétà ndzi-nwà màti*
- c. *ndzi-tlhèlà ndzi-éngétá ndzi-hàtlà ndzi-nwà màti*
- d. *ndzi-èngètà ndzi-tlhéla ndzi-hàtlà ndzi-nwà màti*
- e. **ndzi-hatla ndzi-engeta ndzi-tlhela ndzi-nwa mati*
- f. **ndzi-engeta ndzi-hatla ndzi-tlhela ndzi-nwa mati*

Other auxiliary combinations appear to have fixed (or at least preferred) orders, possibly related to semantic restrictions on scope, but also to conventionalized collocations, perhaps akin to adjective ordering in many varieties of English (see, e.g., Wulff 2003), where *the beautiful old grey mare* is licit, but **the grey beautiful old mare* sounds odd, at best. For example, auxiliaries expressing negation frequently appear as the first element in auxiliary stackings, as in (13) (but cf. (14), where an auxiliary with negation semantics appears in the third position). Both *buye* and *phinde* are often translated as ‘again’ when used as auxiliaries. We are not sure how each of these contributes to the meaning here.

- (13) isiXhosa (du Plessis and Visser 1992, 247)
- | | | |
|----------------------------------|--|---------------------------------|
| <i>Ló mfázi wám</i> | <i>à-ká-zángè</i> | <i>á-bè</i> |
| DEM 1.wife | ASSC ₁ .POSS _{1SG} | NEG-SM ₁ -AUX[never] |
| | | SM ₁ -AUX.SBJV[be] |
| <i>á-bùyé</i> | <i>á-phíndè</i> | <i>á-béth-w-è.</i> |
| SM ₁ -AUX.SBJV[again] | SM ₁ -AUX.SBJV[again] | SM ₁ -beat-PASS-SBJV |
- ‘This wife of mine was never again given a hiding.’

Setshedi (1974) suggests two tendencies in Setswana. First, temporal auxiliaries precede what Setshedi terms *modal* auxiliaries (Setshedi uses *modal* as a cover term for non-temporal uses, including negation, manner, and attitude, among other functions; see Setshedi 1974, 20). Second, within the ‘modal’ domain, there is a “preferential sequence” of “(i) co-ordination, (ii) negation, (iii) potentiality and (iv) impatience or surprise” (Setshedi 1974, 52). This proposed order is based on examples such as those in (14) below, where *nê* indicates the past tense; *bile* means ‘furthermore’ or ‘for that matter’; *ise* is a negative auxiliary meaning ‘not yet’ or ‘never [before]’; *ke* is a potential (possibility) marker; and *bo* marks impatience or surprise.

- (14) Setswana (Setshedi 1974, 51)
- | | | | |
|-------------------------------|--------------------------------------|---------------------------------------|-------------------------------|
| <i>Monna yola</i> | <i>o-nê</i> | <i>a-bile</i> | <i>a-ise</i> |
| 1.man DEM ₁ | SM ₁ -AUX[PST] | SM ₁ .SIT-AUX[furthermore] | SM ₁ .SIT-AUX[NEG] |
| <i>a-ke</i> | <i>a-bo</i> | <i>a-tsene</i> | <i>mo-mow-eng</i> |
| SM ₁ .SIT-AUX[POT] | SM ₁ .SIT-AUX[impatience] | SM ₁ .SIT-enter.PFV | 18-1.air-LOC |
- wame.*
ASSC₁.POSS_{1SG}
‘For that matter, that man had never really appealed to my feelings.’
More literal translation: ‘That man has never even got into my spirit.’ (Kearabetswe Rammala, email to authors, December 8, 2025)

Some Setswana data suggest that the auxiliaries in question do tend to occur in the order noted by Setshedi (1974).⁵ Creissels (forthcoming) gives an example where *bo* appears before *ne* (15), but this may not constitute a counterexample, since the function of *bo* appears to be different from the “impatience” function in (14).⁶

(15) Setswana (Creissels forthcoming, 13)⁷

Re ka bo re ne re lema tshimo.

<i>rí-ká-bò</i>	<i>rí-né</i>	<i>ʹrí-límá</i>	<i>ʹtshí:mò</i>
SM _{1PL} -POT-AUX[be]	SM _{1PL} .SIT-AUX[PST]	SM _{1PL} .SIT-cultivate-FV	9.field

‘We might have been cultivating the field.’

Example (16) shows *bo* with an impatience reading preceding a different set of auxiliary verbs, the functional status of which is not entirely clear to us in this context.⁸

(16) Setswana (Setshedi 1974, 43)

<i>O-bo</i>	<i>o-tla-ne</i>	<i>o-sale</i>
SM _{2SG} -AUX[impatience]	SM _{2SG} .SIT-FUT-AUX[CONT?]	SM _{2SG} .SIT?-AUX[when?]

<i>o-bots-a</i>	<i>motho.</i>
SM _{2SG} .SIT-ask-FV	1.person

‘You take a long time asking a person questions.’

⁵The data in question come from the website *glosbe.com*, which describes itself as an “online dictionary” and includes a searchable corpus of parallel sentences in many languages, based on a large set of human-translated texts. The corpus does not show context beyond the sentence level, but most of the source material can be found on the internet. Searches for combinations of the auxiliaries in (14) (e.g. *ne*, *ise*, and *ke*) show results that correspond with Setshedi’s (1974) ordering.

⁶The contribution of *bo* in this latter context is not clear, because the possibility meaning can be traced to the potential prefix *ka-*, and *bo* might be semantically bleached (and probably traceable to a verb meaning ‘be’). Rather than suggesting evaluative meaning, as in (14), the main function of *bo* in (15) seems to be hosting the potential prefix and fixing the time (here, present) against which the following auxiliary is evaluated. That is, from the present perspective, it is possible that we have (earlier) been cultivating the field. If *bo* has a different meaning, it may not represent a true counterexample to Setshedi’s (1974) generalization. It may also be that the location of *bo* in a stacking construction at least partly affects its interpretation. Whatever the semantics of *bo*, a modal meaning seems to precede a temporal reference (past [imperfective] ‘have [been]’) in this example, suggesting at least some flexibility beyond the broader generalizations Setshedi gives. Thanks to Denis Creissels (email to authors, September 22, 2025) for discussing this example with us. Any misinterpretations remain our own.

⁷When citing examples from Creissels, we follow his practice of reproducing the first line in the official orthography of Setswana and the interlinearized line phonemically and with tone marking.

⁸In particular, the function of future-marked *-ne* is unclear to us, as it seems to differ from past *-né* (represented in standard orthography as *-ne*, as in (15)) and may be an alternate spelling of *-nne* (continuative/habitual; see, e.g., Creissels forthcoming 17).

Checking all possible orderings of all auxiliary forms in languages with 20 or more auxiliary forms quickly becomes challenging from a combinatorial perspective. In future work, AI-assisted corpus-based research might be a fruitful avenue to explore, where reliable corpora are available.

We suggest several general research questions with respect to the ordering and semantics of stacked auxiliaries in Southern Bantu:

1. Are there any restrictions or tendencies related to semantic macro-type? For example, auxiliaries might be grouped based on whether they primarily express temporal (including sequentiality), aspectual, modal, negation, or other (e.g., manner, evaluative, epistemic/mirative) contrasts. Do these – or other possible – macro-types have ordering preferences, or do ordering restrictions apply at a more specific lexical level?
2. What scope effects can be seen with auxiliary stacking, and when can these be overridden? For example, this section showed scope differences in at least one language corresponding to orderings like QUICKLY AGAIN (i.e., the repetition happened promptly) versus AGAIN QUICKLY (i.e., the action itself was executed quickly); what about contrasts like TRULY NEVER VERSUS NEVER TRULY? Under what circumstances can preferred orderings take precedence over scopal effects?
3. Are any specific auxiliaries or classes of auxiliaries prohibited from certain positions in auxiliary chains due to their nature, i.e., not being able to take certain inflectional morphology, appear in infinitive form, etc.?

2.3 Intervening elements

There is evidence that at least some Southern Bantu languages allow intervening elements between the auxiliary and the lexical verb (e.g., Lee and Hlungwani 2015, 118 for Xitsonga; Setshedi 1974, 54 for Setswana). An example of the phenomenon in Xitsonga is shown in (17). The comitative phrase *na munghana* ‘with a friend’ can appear after the auxiliary construction, as in (17a), or it can appear between the auxiliary and the main verb, as in (17b). A pause after the comitative phrase renders the utterance with the intervening comitative phrase ungrammatical, as in (17c).

(17) Xitsonga (Lee and Hlungwani 2015, 118)

- a. *ndzi-hàtlà ndzi-nw-à byàlwà nà múnghá:nà*
 SM_{1SG}-AUX[quickly] SM_{1SG}.SIT-drink-FV 14.beer with 1.friend
 ‘I quickly drink beer with a friend’
- b. *ndzi-hàtlà ná múnghá(:)nà ndzi-nwá byàlwà*
- c. **ndzi-hatla na mungha:na // ndzi-nwa byalwa*

We propose the following questions for future research:

1. Which languages allow intervening words and phrases between the auxiliary and the main verb?
2. What kinds of intervening elements (adverbials, objects, obliques...?) are allowed in these constructions?
3. Can the same elements that intervene between auxiliaries and lexical verbs also appear between stacked auxiliaries, and if so, what restrictions or tendencies exist?

2.4 Subject marking

To the best of our knowledge, subject (or infinitive) marking on stacked auxiliaries is determined by the general selectional properties of the preceding auxiliary. As illustrated with data from Sesotho in (18) below, multiple stacked auxiliaries can all be inflected for an agreeing subject (which is not lexically expressed in (18)). In (19), agreement on all verbal elements is with the expletive class 17 rather than the subject *bafana* ‘boys’. The difference in the agreement pattern observed here is due to the position of the subject with respect to the verbal complex: the subject appears in the ‘Immediately After Verb’ (IAV) position in (19). When subjects occur in IAV position, subject agreement on the verb is not possible in Nguni languages (see Halpert 2019; Zeller 2006, 2008, but cf. Bloom Ström 2017). Thus, the subject marking pattern observed here is not caused by the auxiliary but by general syntactic rules.

(18) Sesotho (Gowlett 2003, 635)

<i>ó-nè</i>	<i>á-k’è</i>	<i>à-láli</i>
SM ₁ -AUX[PST]	SM ₁ .SIT-AUX[occasionally]	SM ₁ .CSC-AUX.HAB[at_night]
<i>á-ithút’-à</i>		
SM ₁ .SIT-study-FV		
‘He used occasionally to spend the night studying.’		

(19) siSwati (Thwala 2006, 332)

<i>Ku-ngeke</i>	<i>ku-phindze</i>	<i>ku-hamb-e</i>	<i>bafana</i>
SM ₁₇ -AUX[NEG]	SM ₁₇ -AUX[repeat].SBJV	SM ₁₇ -go-SBJV	2.boy
‘The boys will not leave/go again.’			

Regarding subject marking in auxiliary stacking constructions, we propose the following research question:

1. What patterns of subject marking are attested in each variety? Specifically, are there any restrictions on subject markers, such as whether infinitive-marked auxiliaries can be followed by subject-marked auxiliaries (see Section 2.5)?

2.5 Selectional properties

Auxiliaries in Southern Bantu typically select the form of the following verb, which, while inflected for the subject, is generally less finite or non-finite, including subjunctive (SBJV, also including consecutive [CSC], as explained in the next paragraph), infinitival (INF), and situative (SIT) forms. The restriction to a single fully finite form is similar to what is reported for sequences of auxiliaries in Spanish (Bravo et al. 2015), where all auxiliaries except for the leftmost are marked as infinitival or participial forms. It might be possible in some cases for a finite/indicative verb to follow the auxiliary in Southern Bantu (as is common beyond Southern Bantu; see Nurse 2008, 29–30, 167–177), but this possibility seems to be limited to a relatively small subset of auxiliaries (see the data in Carbo et al. 2025).

In this section, we examine the ordering of subjunctive, infinitival, and situative complements in stacked auxiliary constructions. We treat subjunctive and consecutive forms together because – amongst other functions, which do not always overlap (see, e.g., Savić 2020, §7.4) – both are used in narrative sequences (clause chains) to describe sequences of events, where consecutives typically have past orientation and subjunctives have non-past orientation (see

Riedel and Gibson 2024). The same auxiliaries often select for both subjunctive and consecutive forms, depending on the overall temporal orientation of the clause. We treat subjunctives and consecutives as interchangeable for this question, until further data are available, as our relatively constrained dataset has not allowed us to find both subjunctive and consecutive examples for each ordering possibility.

We looked for examples of all logically possible orders of inflectional categories for the second and third elements in verbal complexes with at least two auxiliaries and one main verb. For example, in (13), repeated as (20), the first auxiliary *àkázàngè* ‘never’ selects a subjunctive second element *ábè* (roughly, ‘was’), which in turn selects a subjunctive third auxiliary element *ábùyé* ‘again’. This construction has two more elements, the auxiliary *àphindè* ‘again’ and, finally, the lexical verb *ábéthwè* ‘beaten’, both of which are also subjunctive-marked; however, for the current purposes, we only consider the first three elements in a stacking construction, whether they be three auxiliaries or two auxiliaries and a lexical verb. In the examples in this section, we also mark the relevant glosses (SBJV, CSC, INF, SIT) in bold to make them easier for readers to locate.

- (20) AUX–SBJV–SBJV: isiXhosa (du Plessis and Visser 1992, 247)
- Ló mfázi wám à-ká-zàngè á-bè*
 DEM 1.wife ASSC₁.POSS_{1SG} NEG-SM₁-AUX[never] SM₁-AUX.SBJV[be]
á-bùyé à-phindè á-béth-w-è.
 SM₁-AUX.SBJV[again] SM₁-AUX.SBJV[again] SM₁-beat-PASS-SBJV
 ‘This wife of mine was never again given a hiding.’

We have so far found examples of seven of the nine combinatorial possibilities. As auxiliaries select for complement type, they are not sensitive to the form of the first auxiliary in a stacking construction, although in most cases it will be a main-clause indicative verb.

Table 1: Inflectional form of verb by position

First aux	Second aux	Main verb/Third aux	Example language (example number)
Main clause indicative	SBJV/CSC	SBJV/CSC	isiXhosa (20), Setswana (21)
	SBJV/CSC	SIT	Setswana (22), Sesotho (23)
	SBJV/CSC	INF	<i>none found</i>
	SIT	SBJV/CSC	siSwati (24)
	SIT	INF	isiNdebele (25)
	SIT	SIT	Xitsonga (26)
	INF	SBJV/CSC	<i>none found</i>
	INF	SIT	Xitsonga (27)
	INF	INF	Tshivenda (28)

Examples of each of the constructions corresponding with those in Table 1 are given below. Example (21) shows a consecutive-marked second auxiliary followed by a consecutive-marked lexical verb (see also example (20) above, with subjunctive forms). Examples (22) and (23) show a consecutive-marked second auxiliary followed by a situative-marked lexical verb.

(21) AUX–CSC–CSC: Setswana (Creissels forthcoming, 39)
Tshenyo e ka nna ya se ka ya felela foo.
tshínó í-kà-ínà jà-sì-ká já-fêlél-à fô:ò
 9.harm SM₉-POT-AUX[stay] SM₉.CSC-NEG-AUX[never] SM₉.CSC-end.APPL-FV here
 ‘The harm may not stop here.’

(22) AUX–CSC–SIT: Setswana (Creissels forthcoming, 29)
Ga ba ka ke ba lala ba feditse tiro ya bone.
χà-bá-kà-kí bà-lálà bá-fédítsé
 NEG-SM₂-POT-AUX[never] SM₂.CSC-AUX[HOD.FUT] SM₂.SIT-finish.PFV
tírò jábò:né
 9.work POSS.PRON_{9/2}
 ‘They won’t be able to finish their work today.’
 ‘They are never able to finish their work.’

(23) AUX–CSC–SIT: Sesotho (Doke and Mofokeng 1957, 247)
Ke-ile ka-batla ke-e-shw-a.
 SM_{1SG}-AUX SM_{1SG}.CSC-AUX SM_{1SG}.SIT-EPEN-die-FV
 ‘I nearly died.’

Examples (24), (25) and (26) show a situative-marked auxiliary followed by an auxiliary or lexical verb marked for the subjunctive, infinitive, and situative, respectively.

(24) AUX–SIT–SBJV: siSwati (modified from Nkuna et al. 2021, 231)
Lilanga li-hlala li-sheshe li-shon-e e-busika
 5.sun SM₅-AUX[always] SM₅.SIT-AUX[quickly] SM₅-set-SBJV LOC-14.winter
 ‘The sun always sets quickly in winter’

(25) AUX–SIT–INF: isiNdebele (M. P. Mabena, email, January 28, 2025)
Ilanga lebusika li-hlala li-rhaba uku-tjhing-a.
 5.sun POSS₅.14.evening SM₅-AUX[always] SM₅.SIT-AUX[quickly] INF-set-FV
 ‘The evening sun always sets quickly.’

(26) AUX–SIT–SIT: Xitsonga (Lee and Hlungwani 2015, 132)
Ndzì-tlhèlà ndzì-hátlá ndzì-èngètà ndzì-nw-à
 SM_{1SG}-AUX[once] SM_{1SG}.SIT-AUX[quickly] SM_{1SG}.SIT-AUX[again] SM_{1SG}.SIT-drink-FV
màtì.
 6.water
 ‘Once again, I quickly drink water again’ [sic]

Finally, examples (27) and (28) show infinitival forms followed by a situative-marked form and a second infinitive, respectively.

(27) AUX–INF–SIT: Xitsonga (Hlungwani et al. 2021, 173)
Ndzi-dzumbela ku-hatla ndzi-nw-a mati.
 SM_{1SG}-AUX[always] INF-AUX[quickly] SM_{1SG}.SIT-drink-FV 6.WATER
 ‘I always quickly drink water’

(28) AUX–INF–INF: Tshivenda (Netshisaulu et al. 2021, 113)
Ndi-dzulela u-tavhanya u-nw-a maḁi.
 SM_{1SG}-AUX[always] INF-AUX[quickly] INF-drink-FV 6.water
 ‘I always quickly drink water’

Our present data give rise to the following questions:

1. Are any selectional orderings more common across Southern Bantu, or within particular varieties?
2. Are any selectional orderings prohibited across Southern Bantu, or within particular varieties?
3. Are certain auxiliaries unable to take part in particular selectional orderings due to their defective nature (i.e., are they unable to take particular morphological forms; see also Section 2.6)?

2.6 Inflectional possibilities (tense, aspect, mood/modality, negation/polarity)

In Southern Bantu, most tense, mood/modality, and negation (TMP) morphology is hosted by the first element in an auxiliary construction, probably because the TMP value often has scope over the whole construction. Aspect marking is a slightly more complex case, as we discuss in Section 2.6.2. However, T(A)MP morphology does not seem to be completely restricted to the first element in an auxiliary construction. We discuss the different categories of inflection in the subsections below.

2.6.1 Tense marking

In most auxiliary constructions, tense marking appears on the auxiliary, while the lexical verb is marked for aspect (although the prevalence of the perfective form, which often doubles as a near-past and frequently appears both on auxiliary forms and on the lexical verb, complicates this assertion). That said, there are cases in which both the auxiliary and the lexical verb are marked for tense, as in (29), where both forms are marked with future tense to give a future prospective reading. According to Ziervogel and Mabuza (1976, 98), *ta-* and *tawu-* are stylistic variants of the same marker.

(29) siSwati (Nichols 2011, 58)
Ngi-ta-be ngi-tawu-nats-a.
 SM_{1SG}-IMM.FUT-AUX SM_{1SG}.SIT-IMM.FUT-drink-FV
 ‘I shall be about to drink.’

There are also cases where tense marking appears on only the lexical verb, as in (30), where the first auxiliary, *phinda*, is marked with an aspectual marker *se* (persistive) and a modal marker *noku* (possibility), but the subsequent lexical verb *suleleka* ‘be infected’ has a future-marking prefix.

(30) isiXhosa (Eiselen and Puttkammer 2014, cited in Crane et al. 2025)

<i>... u-se-noku-phinda</i>	<i>w-o-sulelek-e</i>	<i>futhi</i>
SM _{2SG} -PERS-POSSIB-AUX	SM _{2SG} -FUT-be_infected-SBJV	again
<i>ku-funeka u-phinde</i>	<i>wa-nyang-w-a.</i>	
SM ₁₇ -AUX	SM _{2SG} -AUX.SBJV	SM _{2SG} .CSC-treat-PASS-FV

‘...as you can [lest you] get infected again and need to be re-treated.’

The question, then, is what restrictions, if any, are found on stacked auxiliaries. In most of the auxiliary stacking examples in our collected data, tense marking appears on the first auxiliary, as in (31).

(31) Sesotho (Creissels forthcoming, 20)

<i>Ke tlaa bo ke ntse ke bereka</i>		
<i>ki-tlâà-bò</i>	<i>ki-ńtsi</i>	<i>ki-bêrê:k-à.</i>
SM _{1SG} -FUT-AUX	SM _{1SG} .SIT-AUX[DUR]	SM _{1SG} .SIT-work-FV

‘I will be working.’

However, there is some evidence that future marking can also appear on the second auxiliary (31). (As mentioned in Section 2.1, where it first appears as example (16), we do not fully understand the compositional semantics of this example.)

(32) Setswana (Setshedi 1974, 43)

<i>O-bo</i>	<i>o-tla-ne</i>	<i>o-sale</i>
SM _{2SG} -AUX[impatience]	SM _{2SG} .SIT-FUT-AUX[CONT?]	SM _{2SG} .SIT?-AUX[when?]
<i>o-bots-a</i>	<i>motho.</i>	
SM _{2SG} .SIT-ask-FV	1.person	

‘You take a long time asking a person questions.’

Note that in (32), the future marker (assuming we are correct in analysing it as such) appears on a situative form, which, as Creissels (forthcoming, 4) notes, “express[es] temporal subordination”. That is, its temporality is evaluated against some other reference time – in auxiliary constructions, the time provided by the preceding element. Situatives can have imperfective (26) or perfective (22) aspect. In at least some languages, there is also a past situative form (see Savić 2020, 176–179 on isiXhosa). We do not know whether this form ever participates in auxiliary constructions.

Further in-depth examination of these constructions would seek to address the following questions:

1. Where in auxiliary stacking constructions can tense morphology appear?
2. What tenses are available in non-initial position?
3. If tense marking appears in non-initial position, what are its semantic effects?

2.6.2 Aspect marking

This section deals with aspect marking beyond basic perfective and imperfective contrasts. Many auxiliaries seem themselves to be derived from perfective-marked verb forms (see the

data in Carbo et al. 2025),⁹ and, while it may be possible to identify the effects of perfective marking on an auxiliary in a particular language or construction (see, e.g., Creissels forthcoming), auxiliaries derived from perfective forms of lexical verbs often develop idiomatic readings, and we do not know of a foolproof way, based on current data, of distinguishing perfective-marked from perfective-derived auxiliaries when looking at Southern Bantu as a whole.¹⁰ Perfective morphology is mostly suffixal and often ‘imbricated’, changing the verb stem itself. In a language like Tshivenda, where perfective-like morphology is prefixal rather than suffixal (33), the difference between productive perfective marking on auxiliaries and frozen perfective-like auxiliary morphology might be easier to distinguish.

- (33) Tshivenda (Heine 1993, 38)
- | | |
|----------------------------|-----------------------------------|
| <i>Ndo-vha</i> | <i>ndo-vhon-a.</i> |
| SM _{1SG} .PFV-AUX | SM _{1SG} .PFV.SIT-see-FV |
| ‘I had seen.’ | |

In any case, it is common across Bantu that more than one verb in an auxiliary construction can be marked with the perfective (see Nurse 2008, 96, who refers to the relevant aspect as “anterior”, which he contrasts with “perfective”).

Other forms related to aspectuality, such as the persistive (meaning roughly ‘still’), have at least some flexibility regarding where they appear in auxiliary stacking constructions; that is, they are not restricted to the first element. For example, persistive *sa-* in (34) appears on the third auxiliary. However, the possibility auxiliary *kwazi* falls at the less grammaticalized end of the spectrum of Southern Bantu auxiliaries (it is arguably still a lexical verb rather than an auxiliary; see Crane et al. 2025). Note that the negation of persistive *sa-* generally has a ‘no longer’ reading in isiNdebele and other Nguni languages, and this sense seems to carry across the auxiliary stacking construction in (34).

- (34) isiNdebele (M. P. Mabena, email, January 28, 2025)
- | | | |
|--|-------------------------------|--|
| <i>A-ngekhe</i> | <i>a-be</i> | <i>a-sa-kwazi</i> |
| SM ₁ -AUX[NEG.FUT/POT] | SM ₁ -AUX.SBJV[be] | SM ₁ .SIT-PERS-AUX[POSSIBILITY] |
| <i>uku-buya</i> | <i>a-sebenz-e.</i> | |
| INF-AUX[again] | SM ₁ -work-SBJV | |
| ‘S/he will never be able to work again.’ | | |

We propose the following research questions regarding aspect marking in auxiliary stacking constructions:

1. How can we characterize the role of perfective and imperfective morphology in auxiliary stacking constructions?
2. What other aspectual morphology can appear in auxiliary stacking constructions, and what are its restrictions?

⁹For discussion of the term ‘perfective’, see Crane and Persohn (2019, 314) and Crane and Persohn (2021). These forms are referred to variously across descriptions and are often given labels such as ‘anterior’, ‘perfect’, or ‘past’.

¹⁰Perhaps a criterion could be whether a corresponding imperfective (usually zero-marked) form is also available for the same auxiliary, and whether the perfective meaning is transparently derivable from it, i.e., if the semantic difference is one that corresponds to general perfective–imperfective semantics in the language.

2.6.3 Negation marking

Some auxiliaries encode negation meanings directly, and these tend to appear at or towards the beginning of auxiliary stacking constructions in our data (see Section 2.1). Other auxiliaries host negation morphology, either optionally or obligatorily. An example of a negation-marked auxiliary is given in (35).

(35) Setswana (Cole 1955, 293)

Ga-ke-bolo *go-rêk-a*
NEG-SM_{1SG}-AUX[REM.PST] INF-buy-FV
‘I have not recently bought.’ (i.e., ‘I bought [only] quite some time ago.’)

In at least some cases (some of which are likely to be marginal), negation marking can appear both on an auxiliary and its lexical complement (36).¹¹

(36) isiXhosa (O. Slater, email, November 26, 2024)

A-ndi-soloko *ndi-nga-bhal-i*.
NEG-SM_{1SG}-AUX[always] SM_{1SG}.SIT-NEG-write-NEG
‘I don’t always not write.’ [i.e., sometimes / usually I *do* write]

Our dataset includes at least a few examples where the second auxiliary in a stacking construction is marked for negation (37).

(37) Setswana (Setshedi 1974, 42)

Re-ka-bo *re-sa-ka* *ra-robal-a*.
SM_{1PL}-POT-AUX[perhaps?] SM_{1PL}.SIT-NEG-AUX[POT?] SM_{1PL}.SIT-sleep-FV
‘We, in a way, should not have slept.’

We propose the following questions:

1. What are the restrictions on negation marking within auxiliary stacking constructions, and do they vary according to variety, specific auxiliary, auxiliary type, position, or some other factor?
2. How does negation marking in auxiliary stacking constructions interact with semantic compositionality?
3. What do the properties of negation marking in auxiliary stacking constructions show about their clausal structures?

¹¹ The number of negation markers allowed is sometimes taken as a test for whether auxiliary constructions are monoclausal or biclausal. We do not take a stance on the clausal status of auxiliary constructions in Southern Bantu here (though see Creissels forthcoming, this volume for arguments for their monoclausality), despite monoclausality sometimes being seen as a criterion for auxiliary status (as in Anderson 2006, 2011, who also includes Southern Bantu auxiliary constructions in his analysis). As noted, we believe the more relevant issues to be boundedness (i.e., the auxiliary not appearing on its own with grammatical meaning) and the fact that all auxiliaries and the lexical verb form a single predicate together.

2.6.4 Mood marking proper

The subjunctive can occur at any point in an auxiliary chain. For imperative mood, we have only seen a few examples, and in these, imperative (lack of) morphology appears on the first verb in the auxiliary construction (38). We expect this property also to hold for stacking constructions. For the infinitive, we expect it to require licensing by a finite verb but otherwise to be able to appear in various places in an auxiliary chain.

- (38) Xitsonga (Cuenod 1967, 60)
- | | | | |
|--------------|--------------------------------|--------------|--|
| jinga | <i>u-tirh-a</i> | <i>hambi</i> | <i>va-ku-hlek-a</i> |
| AUX.IMP | SM _{2SG} .SIT-work-FV | although | SM ₂ -OM _{2SG} -laugh-FV |
- ‘Go on working although they laugh at you.’

We propose the following research question:

1. Are there any plausible scenarios in which imperative mood would be marked on a non-initial verb in an auxiliary (stacking) sequence? (For example, could an imperative form be preceded and modified by another auxiliary with manner semantics?) If the scenarios are plausible, are such constructions, in fact, licit?

2.6.5 Modal markers (possibility)

In all the examples we have found so far, inflectional possibility markers (potential *ka-/nga-*, isiXhosa possibility prefix *noku-/nako-*) are found on the first element of a stacking construction (39)–(40), even when, as in (40), one of the auxiliaries itself marks possibility.

- (39) Setswana (Creissels forthcoming, 13)
- | | | | |
|--------------------------------|---------------------------------|-------------------------------------|-----------------|
| <i>ri-ká-bò</i> | <i>ri-né</i> | <i>ʼri-límá</i> | <i>ʼtshî:mò</i> |
| SM _{1PL} -POT-AUX[be] | SM _{1PL} .SIT-AUX[PST] | SM _{1PL} .SIT-cultivate-FV | 9.field |
- ‘We might have been cultivating the field.’

- (40) isiXhosa (Eiselen and Puttkammer 2014, cited in Crane et al. 2025)
- | | |
|--|--|
| <i>a-ka-naku-ze</i> | <i>a-kwazi</i> |
| NEG-SM ₁ -POSSIB.NEG-AUX[eventually?] | SM ₁ -AUX[POSSIBILITY].SBJV |
- | | | |
|------------------|----------------------------|-----|
| <i>ku-phinda</i> | <i>a-sebenz-e</i> | ... |
| INF-AUX[again] | SM ₁ -work-SBJV | |
- ‘...s/he will/might never be able to work again...’

However, there are examples of single-auxiliary constructions where both the auxiliary and the main verb are marked with potential *ka-* (41), a construction Doke and Mofokeng (1957, 263) describe as “potential emphatic”. It is unclear to us whether such constructions are possible with anything other than the semantically ‘empty’ auxiliary *be*, which usually serves to mark a point against which the temporality of the subsequent verb is evaluated.

(41) Sesotho (Doke and Mofokeng 1957, 263)

N-ka-be *n-ka-rek-a.*
 SM_{1SG}-POT-AUX[be] SM_{1SG}-POT-buy-FV
 ‘I might possibly buy.’

We propose the following research question:

1. Can inflectional modal marking appear on non-initial elements in auxiliary stacks, either with *be* or with other auxiliaries?

3 Other topics

This section briefly introduces a few other topics for which we do not have extensive data, but which we believe to be of importance for fully understanding auxiliary stacking constructions. Section 3.1 raises the issue of compositional vs. non-compositional semantics. Section 3.2 notes that, sometimes, several auxiliaries with similar English translations can appear in the same stacking constructions and asks how such cases should be analyzed. Section 3.3 brings up the need for incorporating tone and prosody into investigations of auxiliary stacking constructions.

3.1 Semantics: compositional vs. non-compositional

In most of the auxiliary constructions presented in this short overview, the contribution of each auxiliary is relatively clear, and utterance semantics are compositional, although some constructions and their semantics are quite complex. We have not yet found any examples where the collocations are conventionalized with idiomatic, non-decomposable readings, although we imagine these would be possible.

We propose the following research question:

1. Do any specific collocations have idiomatic readings, where the semantics are not straightforwardly decomposable?

3.2. Auxiliaries with reduplicated or similar meanings

Some of the examples of auxiliary stacking in our dataset include two different auxiliaries with identical or at least overlapping meanings, as in (42), which is repeated from (13) for ease of reference. As far as we understand it, the second ‘again’ can add emphasis, but some speakers we consulted preferred a version without the repetition. These types of patterns require further study to understand whether the semantic contributions of auxiliaries with different forms but similar translations are truly identical; it is also important to investigate how these auxiliaries interact with adverbials with the same meaning.

(42) isiXhosa (du Plessis and Visser 1992, 247)

Ló mfázi wám à-ká-zúngè á-bè á-bùyé
 DEM 1.wife ASSC₁.POSS_{1SG} SM₁-NEG-AUX[NEVER] SM₁-AUX SM₁-AUX[again]
à-phíndè á-béth-w-è.
 SM₁-AUX[again] SM₁-beat-PASS-PERF
 ‘This wife of mine was never again given a hiding.’

We propose the following research questions:

1. How do multiple auxiliaries with similar meanings interact?
2. What is the relative frequency of examples with more than one auxiliary expressing a similar meaning?

3.3 Tone, lengthening, and constituency

In many, if not all, Southern Bantu languages, tone and lengthening can be important markers of shared constituency, although prosodic structure does not always align perfectly with syntactic structure (see Selkirk and Lee 2015). Only a few studies of auxiliary constructions (e.g., Creissels forthcoming) systematically mark tone and lengthening. Studies taking prosody into account are likely to be important for a full understanding of the syntax of auxiliary stacking constructions.

We propose the following basic but broad-ranging research question:

1. How do prosodic systems interact with auxiliary stacking constructions?

4 Summary and steps for future research

This paper has provided a brief introduction to what we currently know about auxiliary stacking in Southern Bantu in terms of ordering, morphosyntax, semantics, and compositionality. We hope that this overview will form the foundation for further investigations of these constructions. The paper developed here is based on existing descriptive accounts and a survey of auxiliary forms developed by Carbo et al. (2025). As such, while we have identified several features and patterns which we think are of interest, future dedicated research which constitutes a systematic study of auxiliary stacking constructions would naturally be able to address further questions or reveal insights which were not able to achieve in the current paper. We hope that future research will answer the questions posed here – and others – and further our understanding of auxiliary stacking constructions in Southern Bantu.

Abbreviations

Glossing and abbreviations follow the Leipzig Glossing Rules with the following additions: 1,2,3 = noun classes, ANT = anterior, ASSC = associative (usually: possessive prefix + connective *a-*), AUG = augment, AUX = auxiliary, COMP = complement, CONJ = conjunction, CONT = continuative, COP.LOC = locative copula, CSC = consecutive, DEM = demonstrative, EPEN = epenthetic vowel; FV = final vowel, IMM.FUT = immediate future, INF = infinitive, IPFV = imperfective LOC = locative, NECESS = necessity NEG = negative, OM = object marker, SIT = situative, SM = subject marker, PERS = persistent ('still'), PRON = pronoun, POSSIB = possibility prefix (modal), POT = potential (modal)

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Editorial note

Thera Marie Crane is currently serving as an Editor-in-Chief of the *Nordic Journal of African Studies* and as an editor of this special issue. This article was subject to the same double-blind review process as all other articles in this issue, and none of the authors had access to reviewer information.

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